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LATIN AND GREEK IN AMERICAN EDUCATION

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LATIN AND GREEK
IN
AMERICAN EDUCATION

WITH SYMPOSIA ON
THE VALUE OF HUMANISTIC
STUDIES

EDITED BY
FRANCIS W. KELSEY

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PREFACE

The papers which are brought together in this volume have been published in the *School Review* or the *Educational Review* within five years. The number of requests for reprints of the articles and symposia has far exceeded the supply; and the volume is put forth in response to a suggestion which was first made in the *Classical Weekly*, and afterward reinforced from many quarters.

With the exception of the first three chapters, which grew out of an address at the University of Kansas, the papers and discussions were prepared for the meetings of the Michigan Classical Conference and were presented on the program of the Conference or of the Michigan Schoolmasters' Club, of which the Classical Conference is a section; an account of the origin and earlier activities of the Conference is given in the *School Review* for May, 1905. The first two Symposia formed a part of the same program of the Conference, in 1906; they were translated into German by Professor von Arnim, of the University of Vienna, and published in 1907 in the *Mitteilungen des Vereins der Freunde des humanistischen Gymnasiums*, under the title "Der Wert des Humanismus, insbesondere der klassischen Studien als Vorbereitung für das Studium der Medizin und der Ingenieurkunde vom Standpunkt der Berufe." All the papers were revised for the volume by the writers except that on "The Peculiar Quality of Classical Training," by the Honorable Harlow P. Davock, who died in 1910.

Hearty thanks are due to the contributors to the volume for their cordial co-operation in the effort to set

forth, from different points of view, the just claims of classical study; to the Commissioner and Acting Commissioner of Education in Washington for kind assistance not only in furnishing statistics yet unpublished but in submitting proofs of the statistical chapters to the criticism of an expert statistician; and to the generous donors to the fund which made the publication of the volume possible, Mr. D. M. Ferry, Jr., Mr. Frederick M. Alger, Mr. A. C. Bloomfield, Dr. J. B. Book, Mr. Lem W. Bowen, Mrs. Theodore D. Buhl, Mr. F. J. Hecker, Mr. J. L. Hudson, Mr. J. C. Hutchins, Mr. Clarence A. Lightner, Mr. Philip H. McMillan, Mr. W. H. Murphy, Mr. John R. Russel, Mr. Walter S. Russel, and Mr. Charles B. Warren.

FRANCIS W. KELSEY

ANN ARBOR, MICHIGAN
April 10, 1911

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CHAPTER I

THE PRESENT POSITION OF LATIN AND GREEK

The heat of the strife over the position of the ancient classics in our curricula has died away. Only rarely nowadays does either the advocate or the opponent of the study of Latin and Greek indulge in polemics. The latter is satisfied because he knows that in most schools and colleges the student has no reason to take instruction in Latin unless he elects the study of his own free choice, and that in the great majority of public high schools, now more than 10,000 in number, no opportunity is afforded to study Greek even if the pupil desires to do so; and the friends of the classics, engaged meanwhile in adjusting themselves so far as may be to the new conditions, have observed that the questions relating to the status of Greek and Latin are, for the most part, merely phases of a much broader problem, which has to do not only with the determination of educational values but also with the adjustment of the limits of prescription and election of studies. The chaotic condition of the courses in many of the larger institutions of secondary as well as of collegiate rank must eventually, for administrative if not for educational reasons, give place to a more systematic grouping of subjects; and a general movement in that direction has already begun. The time has come for the fresh consideration of course-making along constructive lines; we are justified, therefore, in entering upon an inquiry as to the place which Latin and Greek now have, and should have, in our courses of study.

The statistics giving the enrolment of students in the

studies of secondary schools, which have been published in the Reports of the Commissioner of Education since 1890, have been much discussed and variously interpreted. Whatever may be the difficulty of drawing from them correct inferences in regard to matters of detail, it is safe to use them as a gauge or register of general tendencies; but before presenting the figures showing the enrolment in Latin and Greek it will be necessary to take account of the statistics of attendance.

In 1889–90 the total attendance in public and private high schools and academies in the United States was reported as 297,894; fourteen years later, 1903–4, it had reached the surprising number of 739,215.[1] While the population of the country in this period increased about 28 per cent, the attendance of the secondary schools was more than doubled. The rate of increase, however, was not the same in the two classes of schools. In 1889–90 202,963 students were enrolled in 2,526 public high schools, and there were 94,931 students in 1632 private high schools and academies; in 1903–4, the public high schools numbered 7,230, their students 635,808, while the other secondary schools were only 1,606 in number, with 103,407 students. The rate of increase in the enrol-

[1] In the *Report of the Commissioner of Education for 1908–9* the total enrolment of secondary students in the United States is given as 1,034,827; in 1909–10, the number 1,131,466 was reported. In this number are included students in "public high schools, public normal schools, public universities and colleges," "private" high schools, normal schools, universities and colleges, "private colleges for women," and manual-training schools. "While the number of secondary students in the preparatory departments of colleges and other institutions is given," says the *Report* for 1904 (Vol. II, p. 1729), "it has been found impracticable to collect complete statistics of such departments." For this reason statistics showing the number of secondary students enrolled in various studies are limited to the public and private high schools and academies. In 1908–9 the students enrolled in public and private high schools and academies numbered 934,929.

ment of students in the private high schools and academies fell considerably below the rate of increase of population; but there were more than three times as many students in public high schools in 1903–4 as there were in 1889–90.

In 1909–10 the total attendance in public and private high schools and academies was 1,032,461;[1] 915,061 (398,525 boys and 516,536 girls) in 10,213 public high schools, and 117,400 (55,474 boys and 61,926 girls) in 1,781 schools of private support. In the decade 1900 to 1910 the population of the continental United States increased about 21 per cent; the enrolment in public high schools more than 60 per cent. The enrolment reported in public high schools in 1909–10 was more than four and one-half times as great as that reported twenty-one years earlier, in 1889–90.

The phenomenal growth of the public high schools is significant from several points of view. The causes to which it is due cannot even be enumerated here; but of immediate bearing upon our subject is the consequence that the drain upon the resources of taxpayers occasioned by the necessity of providing buildings, equipment, and instruction to meet unanticipated demands has been so great as to retard the normal increase in the compensation of teachers, which should keep pace with the increase in the cost of living and of professional preparation. The inadequacy of compensation has driven from the high schools many of the strongest men on the staff of instruction, who have been forced to abandon teaching for less congenial but more lucrative pursuits; and it tends to deter young men of promise from entering the profession.

[1] The writer is indebted to Mr. Elmer E. Brown, Commissioner of Education, and to Mr. L. A. Kalbach, Acting Commissioner, for these and other statistics kindly furnished in advance of publication.

The enrolment of students in Latin in the secondary schools of the United States in 1889–90 was 100,144, or 33.62 per cent of the attendance; in 1898–99 the number had risen to 291,695, or 50.29 per cent; in 1903–4 to 369,329, or 49.96 per cent; in 1909–10 to 405, 502, or 49.59 per cent of the attendance in the schools reporting enrolment by studies.[1] In 1889–90, then, one student in three was studying Latin; from 1898 to 1906 about one-half of all the students were enrolled in Latin classes. But here again there is a line of cleavage between the public high schools and the private high schools and academies. Up to 1905–6 the proportion of the students who took Latin was slightly lower in the latter than in the former; the Latin students in the public high schools from 1898 to 1906 averaged more than 50 per cent of the entire attendance. In 1903–4, 46,301 students were enrolled in Latin in the private high schools and academies, less than one-half of the number being girls; in the public high schools 323,028 were enrolled, of whom, in round numbers, 198,000 were girls and 125,000 boys. For the three years 1906–7, 1907–8, and 1908–9 data relating to the enrolment in secondary studies were not collected. In 1909–10, 362,548 students (147,598 boys and 214,950 girls) were reported as studying Latin in the public high schools, and 42,954 (20,976 boys and 21,978 girls) in the private schools.

A relatively large enrolment in Latin in private high schools and academies might have been anticipated, because the work of these institutions as a class is definitely

[1] The number of public high schools reporting enrolment by studies in 1909–10 was 8,097; of private high schools, 1,281. Of these, 7,298 public high schools and 1,191 private schools reported students in Latin; only 353 public high schools and 413 private high schools and academies reported students in Greek.

specialized in the direction of preparation for college, and the college-entrance requirements have generally made Latin a leading subject. The large enrolment in Latin in the public high schools is not so easily explained.

In the central and western states the majority of the public high schools have from the beginning aimed to give preparation for college; and as high-school systems were developed in the Atlantic states they too shaped their courses in conformity with college-entrance requirements. Nevertheless in 1889–90 only 14.44 per cent of the students in this class of schools were recorded as preparing for college, and in 1903–4 the proportion was less than 10 per cent, while in other secondary schools between a fourth and a third of the boys and about one-eighth of the girls were enrolled in preparatory courses; in 1908–9 less than 7 per cent of the students in the public high schools were preparing for college. The enrolment in Latin in the public high schools has beyond doubt been greatly influenced by the prominence of this subject as a college-entrance requirement; even in schools in which the percentage of preparatory students is small, the classical preparatory course, though more diversified than formerly, presents a standard of attainments attractive to ambitious students who do not look forward to collegiate work. At the Michigan Classical Conference in 1906 Principal F. L. Bliss showed that the falling off in the number of students of Latin in certain of the central states, as well as a proportionately greater decline in the number of those pursuing the subject for four years, was caused chiefly by changes in the entrance requirements of the state universities and colleges in those states.[1]

[1] *Proceedings of the Michigan Schoolmasters' Club*, forty-first meeting (1906), pp. 61–64.

The influence of the colleges, however, and the force of educational tradition are inadequate to account for the increase in the enrolment of Latin students in the public high schools from about one in three to one in two, in a single decade; and the maintenance of the higher percentage as an average for a number of years[1] seems to imply that the increase was not spasmodic or accidental, but an adjustment to a normal condition. Since 1890 there has been an unprecedented expansion of high-school courses by the introduction of new studies. This has been accompanied by a marked increase in the attractiveness and educational effectiveness of several subjects, particularly in science, which has profited by the building and equipment of laboratories; it has been accompanied also by an enlargement of the student's freedom of choice, not merely between courses but between studies, and often between teachers. Moreover, in the past twenty years there has been in administrative positions in the schools a greater proportion of men without a classical training than ever before. In this period, again, there has been no articulate popular demand for Latin; on the contrary, newspapers and magazines at no time previously gave so wide a circulation to comments and articles adverse to classical studies. That under these conditions Latin in the public high schools has made extraordinary progress in the enrolment of students is explicable only in the light of the fact that

[1] In 1898–99, 50.39 per cent of the students in public high schools were enrolled in Latin; in 1899–1900, 50.61 per cent; in 1900–1901, 50.45 per cent; in 1901–2, 50.07 per cent; in 1902–3, 50.31 per cent; in 1903–4, 50.81 per cent; in 1904–5, 50.21 per cent; in 1905–6, 50.24 per cent; in 1909–10, 49.05 per cent in the schools reporting enrolment by studies. Whether this average would be affected by returns from all the high schools it is impossible to say. It is unfortunate that the statistics are not complete; but the collection of such data from so great a number of schools is difficult.

with comparatively few exceptions those charged with the responsibility of administration in laying out courses of study and in advising students have emphasized the value of Latin in itself as an educational instrument, quite apart from its utility in securing credits to apply on admission to college.

The position of Greek is less fortunate. In 1889–90 the students of Greek enrolled in secondary schools numbered 12,869. In 1897–98 the number had almost doubled; the enrolment was 24,994. Since 1898 there has been a decline; in 1902–3 the whole number was 18,951, in 1909–10 only 10,739.

Here also we must consider the statistics of public and private schools separately. In the former in 1903–4 there were 11,158 students of Greek, of whom about one-half were girls; in private secondary schools there were 7,289, of whom only 1,512 were girls; the number of boys, 5,777, studying Greek in the 1,606 private high schools and academies, was greater than that in the 7,230 public high schools, of which only 803 (about 11 per cent of the whole number) reported classes in Greek. The percentage of students of Greek in private schools was about the same in 1903–4 (7.05 per cent of the whole attendance) that it was in 1889–90 (7.02), but in the public high schools it shows a decline in the same period from 3.05 to 1.75 per cent of the attendance. The percentage of students of Greek in the total enrolment in both classes of secondary schools in 1903–4 was 2.5; only one student in every forty was studying Greek.

In 1909–10, 5,511 students (3,079 boys and 2,432 girls) were enrolled in Greek in the 353 public high schools reporting instruction in the subject; in 413 private high schools and academies 5,228 students in Greek were

reported, of whom the great majority (4,395) were boys, the girls numbering only 833. The percentage of students in Greek in the private schools was now 6.61; in the public high schools it had dropped to three-fourths of 1 per cent. In the latter, students in Greek were reported by only one school in twenty-two of the 8,097 schools reporting enrolment by studies; and in these schools, having a total enrolment of 739,143, only one student in 134 was studying Greek.

The situation is not, however, so unfavorable as at first glance it might appear to be. For, although the enrolment in Greek has fallen far behind that in Latin, the increase from 12,869 students in 1889–90 to 18,447 in 1903–4 means that the students of Greek gained in number more than 40 per cent while the population of the country increased only 28 per cent; and the largest percentage of increase was in the public high schools, in which students of Greek in 1889–90 numbered 6,202, in 1903–4, 11,158. In the private secondary schools the percentage of the whole number of students taking Greek is relatively larger because some of these are under the control of religious denominations and lay emphasis upon the study of Greek from the theological point of view, and others prepare students almost exclusively for colleges that exact Greek as an entrance requirement. If the enrolment in Greek the country over had continued to increase at the same rate as in Latin, the number of students of Greek in 1909–10 would have been above 50,000; yet the prophecies regarding the prompt extinction of Greek, particularly in the public high schools, have not been fulfilled.

Not many decades back a large proportion, if not the majority, of students of Latin studied Greek also; but

assuming that all students of Greek in the secondary schools elect Latin, we see that in 1889–90 of Latin students only one in eight was studying Greek, in 1903–4 only one in twenty, in 1909–10 only one in thirty-eight. The number of students that in 1909–10 were electing elementary Greek in preparatory departments of colleges or in their first year of collegiate study is probably too small to affect the result appreciably; the gradual divorce between the two ancient classical languages in our secondary education is one of the most noteworthy phases of its recent development. Nevertheless, it is not necessary to appeal to the educational experience of other countries to contribute a parallel or furnish an explanation; the causes are not far to seek.

In the first place, the one profession or calling for which an early knowledge of Greek is reckoned important if not indispensable, the Christian ministry, no longer attracts young men as formerly, and does not now exert so powerful an influence among us as it once did in favor of a literary education. In 1889–90 only 7,013 students were reported in the theological schools of the country; in 1897–98 there were 8,371, but in 1902 the number had fallen back to 7,343, about the same as that in 1890–91. Since 1902 there has been a gradual increase; in 1909–10 students of theology, including 491 women, numbered 11,012. The number of students enrolled in the law schools in 1909–10 was 19,567; in the medical schools, 21,394. The enrolment in medical schools, and probably also in law schools, has been abnormally stimulated by the number and wide distribution of these institutions, some of which are purely commercial, and many of which are of a low grade; but the enrolment in the theological schools is relatively low, a condition resulting

from the secularizing of our education and the lack of an adjustment between the public-school system as a whole and the organization of society along religious lines. To this same cause we may undoubtedly attribute the fact—if it is a fact—that is occasionally mentioned by professors in theological schools, who say that theological students at the present time are of a lower average of ability than formerly; since the great majority of boys who receive a secondary training are, at the age when life purposes become fixed, in public high schools, where the claims of the ministry are not and cannot be urged, it may well be that the narrowing of the field of selection affects the quality of the students who choose the ministry as their life work; we may more easily underestimate than overestimate the influence of the secondary school in determining both the choice of a career and its effectiveness. The number of students in secondary schools who are in any degree influenced to study Greek by a consideration of its value in the interpretation of the New Testament is relatively much smaller than in the past. Apart from other considerations, if the religious denominations in the United States are to maintain in the education of their ministry so high a standard as the age demands, there must be an average enrolment of at least 30,000 boys in Greek in the secondary schools in order to furnish a constituency from which recruits may be drawn in sufficient numbers for the study of theology.[1]

A second cause lies in the character of the constituency from which the increase in the attendance of public high schools has largely been recruited. Whatever the local organization of the high school may be, or the particular form of its adjustment to the unit of civic administration and support, its existence as an educational type

[1] See Symposium IV.

implies a concentration of population above a certain limit, which in some states is considerably lower than in others. There is a large number of high schools in towns of less than four thousand inhabitants; but, adopting for convenience the standard of "urban population"[1] employed in the Census of 1900, we note that in 1880 in the United States the persons living in places with a population of 4,000 or more represented 25.8 per cent of the total population; in 1890, 33.1 per cent, and in 1900, 37.6[2] per cent. This urban population was not evenly distributed, but massed in certain geographical divisions. In the north Atlantic states in 1900, 64.7 per cent of the population were living in incorporated places and towns containing upward of 4,000 inhabitants, as against 57.9 per cent in 1890 and 48 per cent in 1880; in the north central states, the percentage in 1900 was 35.5 and in the western states 35.9 per cent, as against 30.1 and 33.4 per cent respectively in 1890, and 21.1 and 27.5 per cent in 1880.[3] In the south central states the urban population in 1900 formed only about one-eighth of the whole (13.5 per cent), in the south Atlantic states less than one-fifth (19.6). The statistics of the Census of 1910 are not yet available; from the prelim-

[1] Defined in Census Reports, *Twelfth Census*, I, lxxxiii, as including "all incorporated places with a population of 4,000 or more and all New England towns of like population which do not contain any incorporated places within their limits."

[2] Hawaii, the Indian reservations, and Indian Territory are excluded from consideration in this comparative view, because they were not reckoned in the percentage of 1880.

[3] The enrolment in the public high schools in 1908–9 in the north Atlantic states was 271,188; in the north central states, 375,316; in the western states, 75,863; in the south central states, 67,106; in the south Atlantic states, 51,800. In 1909–10 the enrolment was 286,130 in the north Atlantic states, 396,549 in the north central states, 87,857 in the western states, 85,573 in the south central states, and 58,952 in the south Atlantic states.

inary summaries, however, and from the statistics of 1908 it is clear that the increase of population in many cities has been almost as great, and in others fully as great, in the first ten years of the twentieth century as in the preceding decade. The population concentrated in cities having 30,000 or more inhabitants in 1890 numbered 14,762,706, and in 1900 numbered 19,697,808, an increase of nearly five millions in ten years; in 1908 the estimated population of this class of cities was 24,065,539, an increase of more than four millions in eight years.[1]

Though many factors enter into the final result, it is certain that by this augmenting of urban population both the attendance and what we may call the social tone of the public high schools have been much affected. The tables of the Census showing the distribution of persons of foreign parentage are too extensive to be summarized here; we must content ourselves with the brief general statement that "persons of foreign parentage comprised from three-fourths to more than four-fifths of the total population of very many of the principal cities in 1900. . . . . More than three-fourths of the population of New York and Chicago is made up of persons of foreign parentage, Chicago having the larger population, or 77.4 per cent, as against 76.9 per cent for New York City. Boston has very nearly as large a proportion of foreign parentage, or 72.2 per cent, while in St. Louis this element constitutes 61 per cent of its entire population."[2] In many smaller cities the percentage

[1] *Statistics of Cities Having a Population of over 30,000: 1908* (Washington, 1910), p. 83.

[2] *Twelfth Census*, I, cxc. An interesting study of the linguistic conditions of Chicago, which have an important bearing on the problem of educational assimilation of the foreign elements, has been made by Professor C. D. Buck (*Decennial Publications of the University of Chicago*, VI, 97–114).

of persons of foreign parentage is nearly as great. Although families are now not so large as formerly,[1] there has been a constant increase of population of American stock, and the drift of boys from country to town continues; but no one who has visited high schools in many cities can have failed to notice to how great an extent students of foreign parentage are availing themselves of the privileges of secondary education.

Until beyond the middle of the last century our educational development was along national lines, and tended toward those ideals which reached their most complete expression in New England. Valuable as is the contribution which the influx of foreigners since the Civil War has made to our population, it has nevertheless introduced into our urban life ideals of citizenship and education different from those which were the inheritance of the present generation of American born and bred. The energy of the first generation of immigrants is expended in the accumulation of material resources. The educational ideals of the succeeding generations tend to become assimilated to our own; but in the families of foreign origin, while there is frequently an ambition to obtain an education, the existence of a tradition or ideal of literary culture is much more rare than in American homes, whether of farmers or of townspeople. The majority of boys and girls from homes without an atmosphere of culture may, influenced by the advice of teachers and the

[1] "The average size of family in 1790 was 5.7 persons for the entire area covered (by the Census); for the several states it ranged from 5.4 in Georgia to 6.1 in Delaware. In 1900 the average size of family, both for continental United States as a whole and for the area covered in 1790, had decreased by more than one person (5.7 to 4.6); for the states covered in 1790 it ranged from 4.1 in Maine, New Hampshire, and Vermont to 5 1 in North Carolina."—*A Century of Population Growth in the United States* (Washington, 1909), p. 97.

general spirit of the school, be led to study Latin; Greek seems to them very remote. It would never occur to such students to ask for Greek unless as a result of some accidental or artificial stimulus, or because of a dearth of studies the scope and purpose of which seemed more intelligible.

The growth of cities is intimately connected with the amazing development of our country along industrial and commercial lines; and this also has not been without its influence upon secondary and collegiate as well as technical education. The present has been styled "the industrial age"; but in this country more than elsewhere —because we have greater opportunites—men are endeavoring, with the help of inventions and appliances, to exploit in a single generation the natural resources which in a former age would have engaged the activities of many generations; and all feel the strain of the effort. So varied are the native riches of our vast domains, so numerous and seductive are the calls to the conquest of Nature, that the popular emphasis of applied science is not to be wondered at. Nor should we be surprised if, pending a readjustment of current estimates of educational values, the choice of studies in school and college should, unless checked by requirements, veer toward the subjects which have, or are thought to have, a close relation with the work of life. A large proportion of the people, and many educationists as well, have lost sight of the cardinal principle that the fundamental aim of sound education is to develop power, not to acquire information; hence the dangerous trend toward early "specialization." Against such tendencies a study which does not offer an appeal to a utilitarian motive will find it difficult to make headway. Greek is not alone in this

category; it is, further, not an easy study, and when paired with subjects which exact less mental effort, it is sure to lose in competition by reason of its greater difficulty.

Notwithstanding these disadvantages, the enrolment in Greek in secondary schools for a time kept up with the increase of population for two reasons. The first is that in so great a country there must always be a certain percentage of those who, from family tradition or a literary bent or theological interests, will have for this study a predilection which no outside influence can uproot; but the second and much more important reason is that until recently most colleges made Greek a requirement for admission to at least one course.

How great have been the changes in the requirements for admission to college in the past decade one familiar with the older order of things will appreciate by glancing over a tabulated list of requirements, such as that published in the *Proceedings of the North Central Association of Colleges and Secondary Schools* for 1905. A few institutions still require Greek for admission; others give it a certain amount of protection; but the majority now make entrance without Greek easy. Herein lies the chief cause of the decline in the enrolment of Greek students in secondary schools from about 25,000 in 1898 to less than 11,000 in 1910. The limitations of space make it impossible to analyze the statistics in detail; but especially instructive is the decline in the number of Greek students in the secondary schools of the north central states from 5,030 in 1897–98 to 2,767 in 1903–4, when confronted with the changes made in the admission requirements of prominent colleges in the same states, which in this period began to give the degree of Bachelor

of Arts to all graduates and modified their courses of study and requirements for admission accordingly.

The statistics of the enrolment of students in Latin and Greek in the colleges are not complete enough to serve as a safe guide. The numbers given in the *Report of the Commissioner of Education* for 1900–1901 were 27,219 and 16,218 respectively; in the *Report* for 1905–6, 31,573 and 16,043. In these totals, not to speak of other omissions, no report is included from Harvard or Yale, the University of Pennsylvania, or the University of Michigan; and it is not clear whether in the case of all the colleges reporting the numbers refer to individual students or to elections of studies.

In many institutions the collegiate student now has so large a freedom of choice among so many subjects that he may, if he chooses, begin to "specialize" soon after he enters. The natural consequence is that, if he is ambitious, he will choose work, so far as possible, in preparation for the career which he sets before himself; if he is not ambitious, he will follow the line of least resistance. In not a few institutions the idea of a "liberal education" in the old sense is almost lost sight of; and as students elect their studies with a view to future utility, where Latin and Greek are not required they tend to be taken in college chiefly by those who purpose to become teachers.

Has the advance of the modern world provided subjects to which the time now spent on Latin and Greek might be devoted with greater profit? If not, are these educational resources being utilized in such a way as to produce the best results for training and culture? These questions are too large to be answered in a word.

CHAPTER II

THE VALUE OF LATIN AND GREEK AS EDUCATIONAL INSTRUMENTS

The criteria by which the educational value of a study may be estimated are not the same for the different periods of student life, nor for the different classes of subjects. In advanced professional courses, as those of law and engineering, the first place is given to the subjects which contribute most to the knowledge of the working methods and of the data that will be useful in the practice of a profession; utility is the paramount consideration. As we descend from technical training to the primary grades, a consideration of the usefulness of a particular study in immediate preparation for bread-winning becomes of less and less weight; in elementary education those subjects have the largest value as educational instruments which open the mind to the world, bring it into touch with human experience, and cultivate mental alertness and nimbleness; which increase the power of concentration, mold the imagination without deadening it, stimulate initiative in thought and action, and develop power of expression. The goal of education is ultimately the general good, the service of society; but its immediate purpose concerns only the good of the individual, whom educational processes aim to bring to self-discovery, self-mastery, and self-direction.

The acquisition of knowledge as a concomitant of the educational process becomes increasingly important as we ascend from lower to higher grades of instruction; but of greater value than the knowledge acquired, in the

period of adolescence as of childhood, are first, the development of the power to absorb, digest, and fructify knowledge through observation, comparison or co-ordination, and generalization, and secondly, the strengthening of the moral nature through the assimilation of ethical concepts and the stimulation of impulses to right action. The details of the content of instruction at any stage may be eliminated, leaving only general impressions, yet the habits of thought, largeness of view, and shaping of conduct gained by bringing them into a vitalizing contact with the mind may so equip the individual for the solution of the varied problems of life that he will bring all his powers into exercise for his own and the world's good.

There is no study within the grasp of the youthful mind which, in the hands of an intelligent and forceful teacher, may not be made fruitful as a means of training. Yet all subjects do not contribute to the same educational ends, nor are subjects of the same class, as, for example, the foreign languages, equally effective as material of instruction. Since the educational values of subjects vary, only those should be selected for use as educational instruments in any period of training which will yield the largest results in return for the expenditure of time and effort. In this selection, moreover, there must be kept in view not only the age and degree of maturity of the pupil, but also the existence of differences in aptitude and aims. Nevertheless, in the regions nearest the upper and lower limits of our educational system there is slight disagreement regarding the choice of studies. No one will dispute the importance of arithmetic for the child, or of anatomy for the student of medicine; the only question is, how shall these subjects be taught, and how

much time shall be devoted to them? Though there are differences of detail, broadly speaking the studies both of the primary school and of the professional schools are prescribed, with only a minimum of choice allowed to the individual student; but in the middle ground between the two extremes we find a great diversity of views and practice, affecting the selection of studies in the period in which the schooling of students who do not go to college comes to an end, and in which, in the case of those who go farther, the transition is made from general to special or professional studies.

In this country the break between the primary and the secondary school, and that between the secondary school and the university or college are, in some respects, unfortunately placed. Though the values of Latin and Greek as educational instruments are in a degree affected by the age of the pupil when these subjects are brought before him, as well as by the choice of other subjects pursued at the same time, we cannot here enter into a fuller analysis of the general situation and weigh in detail the considerations which should determine the selection of studies at each stage of the student's progress, or the limits within which his choice should be restricted; we must confine ourselves to a single statement. In the light of the teachings both of a sound psychology and of experience, viewing the four years of the secondary school and the first three years of the college course as an educational whole, we may say that no system of liberal education can be considered adequate which does not in this period bring every normal mind into contact with science studies, as developing power for the interpretation of Nature; mathematics, as training in the handling of fundamental products of consciousness and in abstract

reasoning; historical and economic subjects, as furnishing a background for the interpretation of social phenomena, as contributing to the understanding of man as a unit of aggregate life; elementary philosophy, as conducing to the student's control of his mental powers and resources; foreign languages, as yielding at the same time discipline and enrichment of the mind, as exercising the imagination, cultivating aesthetic appreciation, clarifying moral ideals, and developing power of expression; and finally, the study of English, both language and literature, first as a means of adjusting the English-speaking student to his environment by making him master of a priceless heritage, then as a training in the use of that instrument by which more than any other his influence in the world will be exerted.

It is probably unnecessary to point out the fallacy upon which rests the popular view that he is well educated who can speak several languages, and that the educational value of the study of a foreign language resides chiefly in oral mastery. Were this belief well founded, the head waiters of the New Willard Hotel in Washington and of the Quirinale in Rome would belong in the class of highly educated men, and children of twelve or thirteen years who can speak three languages (an accomplishment not uncommon in the homes of the higher classes in Europe) would be thought of as completing rather than as entering upon the more important period of their education. In a paper before the Chicago Literary Club David Swing once said, in substance, "You may name a yellow dog in half a dozen languages, and you will have only the same yellow dog, after all." When the body of the child is growing rapidly the cells of the brain which store up impressions of words are, it is believed, easily built

up, hence the study of foreign languages should be commenced early and their vocabularies recorded in brain structure; but from the point of view of mental development the retentiveness of memory by which the same concept may be reproduced in different forms of speech is less significant than the ability to correlate different concepts in a single language with an accurate command of distinctions of meaning and connotations. While we may concede not only a practical but also a disciplinary value in the acquiring of a language other than our own in such a way as to speak it, the fruitfulness of foreign-language study arises from more fundamental considerations; we must take into account not merely the forms and relations of words as written or spoken but also the literary masterpieces with which the mind is brought into contact through the processes of exposition and translation, and the conditions of culture revealed by the intensive study of the language through selected portions of the literature. Specifically, Latin and Greek become effective as educational instruments in at least seven different ways:

By training in the essentials of scientific method: observation, comparison, generalization;
By making our own language intelligible and developing the power of expression;
By bringing the mind into contact with literature in elemental forms;
By giving insight into a basic civilization;
By cultivating the constructive imagination;
By clarifying moral ideals, and stimulating to right conduct;
By furnishing means of recreation.

I

For men in all walks of life the powers of observation, by which we observe things not in masses but accurately,

in detail; comparison, by which we group things and characteristics that are similar, perceiving likenesses and differences between classes; and generalization, by which we formulate in a comprehensive and exact statement the products of observation and comparison, by which we interpret our findings in their relations and set them forth in such a way as to make them plain to others, are fundamental for the doing of the day's work effectively. The field of operations may be that of the housemaid, the mechanic, the clerk, the farmer, the manufacturer, the banker, the physician, the engineer, or the expert in any field; success or failure will depend in a like degree upon no other qualities or powers of mind or training, and upon no other does the educational process as a whole lay more stress in the endeavor to develop a trained out of an untrained mind. Men of extraordinary gifts may dispense with ordinary training and yet achieve noteworthy results; but for all except an infinitesimal minority education, as contributing the essentials of a working method, becomes the more important the higher the sphere of labor.

As an instrument of training in the essentials of a working method no modern language and no science is the equal of Latin, either in the number and variety of mental processes which may be stimulated with a minimum expenditure of effort, or in the ease and accuracy with which the results of those processes may be checked up, errors of observation or inference detected, and corrections made. Latin has the further advantage over science that it is a more effectual means of fixing the attention. It is not necessary here to analyze a Latin sentence in order to show how the differences in the forms and relations of words in the simplest exercises

require for their mastery concentration as an indispensable condition; then, exactness of observation, accuracy of discrimination, and carefulness in drawing conclusions, the shortcomings of which are obvious the moment that a phrase or sentence is translated from Latin into English or from English into Latin.[1] Principals of schools remark that the discipline and spirit of a school are better in which the majority of the pupils are studying Latin. The reason is that no other study, excepting Greek, so well serves the purpose of bringing the boyish mind under control, of helping to gain self-mastery.

What has been said of Latin may be said also of Greek; but there is this difference, that in the study of Greek the use of an alphabet unlike our own and of accents makes further demands upon the powers of observation, while the refinements of meaning, particularly in the use of certain forms of the verb, require on the whole a subtler analysis than in the study of Latin. More than one well-trained man dates his awakening to the importance of accuracy in all things from his teacher's correcting of his accents in elementary Greek exercises.

Eminent investigators and teachers of science the world over recognize the value of the classics as preparing students in the best way to enter upon the work of their specialties. Says Dean Vaughan: "William Harvey, whose keenness and accuracy of observation led to the discovery of the circulation of the blood, after many years devoted to the classics, gave five to the study of medicine, and his fitness was proved by his work."[2] Professor Ramsay[3] reports a conversation with the dis-

[1] The point is well illustrated by Professor Wenley; see p. 72.

[2] See p. 85.

[3] *Efficiency in Education* (Glasgow, 1902), p. 21.

tinguished chemist Bauer in the laboratories of the Hohe Technische Schule in Vienna:

I questioned him as to the relative capacities of students coming to his classes from the classical *Gymnasien* and the *Real-Schulen* respectively. I presumed that his best chemical students came to him from the *Real-Schulen*. "Not at all," he replied; "all my best students come from the *Gymnasien*. The students from the *Real-Schulen* do best at first; but after three months' work here, they are, as a rule, left behind by those coming from the *Gymnasien*." "How do you account for that?" I asked; "I understand that students in the *Real-Schulen* are specially instructed in chemistry." "Yes," he replied; "but the students from the *Gymnasien* have the best trained minds. Give me a student who has been taught his Latin grammar, and I will answer for his chemistry."

Professor Sadler, who holds a chair of marine engineering, speaking of the best preparation for the student who purposes to enter upon the study of engineering, says:

An analytic, in preference to a philosophic mind, is the type that should be cultivated. In order to be successful, the student should have formed the habit of co-ordination and exactness in his earlier years of study. While it may be the opinion of many that the introduction of some elementary form of science may accomplish this result, I venture to suggest that, as a general rule, studies of this nature will have an effect diametrically opposite, and lead toward vagueness rather than concreteness. . . . . As a means of inculcating ideas of exactness the study of Greek and Latin is *facile princeps*.[1]

It would be superfluous to accumulate evidence on a point on which testimony is so abundant and convincing. Nor is it necessary to discuss the value of formal discipline from the psychological point of view; a symposium on this subject forms a part of the present volume.

There is the practical consideration, of weight espe-

[1] See p. 103.

cially in this country in which we are trying the experiment of furnishing secondary education on a colossal scale at public expense, that a good teacher having a class provided with Latin books costing a couple of dollars for each student will in a year secure better results in the training of young pupils in the essentials of a sound working method than an equally good science teacher will accomplish in a much longer time with the help of a laboratory costly of construction, equipment, and maintenance. The sciences are just as essential to liberal education as are the languages, ancient or modern; but in the fundamentals of training they are not, and under present methods of instruction cannot hope to become, an equivalent substitute for Latin and Greek.

II

The study of Latin and Greek contributes to the student's command of English through the enlargement of his vocabulary, and the enrichment of it in synonyms expressing the finer shades of meaning; through his acquaintance with the original or underlying meanings of words, through his familiarity with the principles of word formation, and through the insight into the structure of the English language afforded by a mastery of the Latin.

The indebtedness of our current idiom to Latin, and of our technical vocabularies to Latin and Greek, is a matter of common knowledge. The large proportion of words of classical origin on every page of English text is apparent at a glance, and the borrowed elements are of precisely the kind that a complex and highly differentiated culture requires for the expression of its manifold activities, being rich in abstract and characterizing terms,

in refinements, and in phases of condition and action. Nor is it necessary to dwell in detail upon the profit of Latin grammar as revealing English grammar to the English-speaking student, partly because it shows in a clear light those fundamental relations which in our mother-tongue are obscured by the loss of inflections, partly because the terms of our formal grammar are borrowed from the Latin, and are understood in their full significance only in connection with the study of the language for the analysis of which they were primarily devised. Whatever contributes to the student's grasp of the essential elements of vocabulary and structure adds to his power over language as an instrument of thought, and so to his effectiveness as a doer of the day's work.

This consideration ought to be made all the more prominent at the present time because for several decades there has been among us a disposition to magnify content to the disregard if not to the disparagement of form, to emphasize the accumulation of facts without attaching sufficient importance to the power of exact expression, especially in the case of studies preparatory to professional courses. Professor Gardner S. Williams, speaking from the point of view of a department of civil, hydraulic, and sanitary engineering, declares that "there is nothing in which engineers today are so lacking as in the ability to express their thoughts." He illustrates the point by remarking, in regard to a senior class of engineers, that 95 per cent of those who have not had a classical training will fail to distinguish the difference between the words *affect* and *effect*, "and yet the difference is quite essential, and it is especially essential to the engineer."[1]

[1] See p. 118.

I have heard a professor of physics lament the inability of a class of university students without a knowledge of Latin to comprehend so simple a term as *aqueous;* and Professor Sadler, whom I have already quoted, testifies: "It is an everyday experience that the origin of most lawsuits in engineering, especially in cases of interpretation of a specification, or in patent suits, may be traceable directly to some idea loosely or inadequately expressed."[1] Both Professor Williams and Professor Sadler urge the study of the classics by the prospective engineer.

The opinion of Dr. Charles B. G. de Nancrède is of weight because of his eminence not only as a surgeon but also as a professor of surgery, with an experience of more than four decades in giving instruction. He finds the Greekless students of the present time not so well prepared to enter upon the study of medicine as were those who in former years came up through the classical course. He says:

> It is surely breaking one of the first rules of pedagogy to try to convey information concerning abstruse subjects to those who have never heard anything resembling these new ideas, in a technical language that they cannot understand—in an unknown tongue, as it were. This is just what we do, and, ... lack of knowledge of the dead languages proves a serious hindrance to teaching medicine, because we compel the student to learn a language composed of terms which to him are meaningless but with which he is to acquire knowledge of entirely new subjects, subjects to which he should devote all his energies. This is bad enough; but what is still worse is, that those who have never studied Latin or Greek very rarely take the trouble to consult the dictionary to ascertain the meanings of scientific terms.[2]

The medical student well prepared in Greek and Latin finds it rarely necessary to turn to a dictionary. To

[1] See p. 105.

[2] See p. 89.

him the technical terms of his specialty are self-interpreting and luminous, an advantage of incalculable moment for his progress; and he will be able to coin new terms intelligently and accurately as the enlargement of fields of investigation may require. The importance of a first-hand knowlege of Latin and Greek words for the student of law and of theology is too obvious to require mention.

The use of Greek and Latin terms in scientific nomenclature is not, as is sometimes assumed, due to either conservatism or affectation. Only a language no longer spoken is suitable for use in technical terminology, because the words of a living language are sure to develop differences of meaning, with resulting ambiguity; protection against error, not to speak of the convenience of the scientist, can be assured only by an exact and unvarying correspondence between symbol and concept. The practical bearing of this may be seen in the following quotation from *The Druggists' Circular:*

> Suppose the writer should fall sick and his physician should decide that the one thing needful to save his life was *Geranium robertianum.* If there were a law preventing the doctor from prescribing in Latin he would have to choose one of the upward of a dozen English names for this drug. Suppose he chose "redshanks" and so wrote the word in his prescription. When the druggist went to prepare the medicine he would find that "redshanks" was the English name of at least four entirely different plants, namely, the one already mentioned, *Polygonum amphibium, Polygonum persicaria,* and *Rumex acetosa.* . . . . As with redshanks so with hundreds of other drugs. Aaron's beard may be *Cotinus cotinus, Cymbalaria cymbalaria,* or *Saxifraga sarmentosa.* Of snakeroots there are numberless kinds.

Quite apart from the value of Latin or Greek as illuminating the technical vocabularies of the professions,

no other study is so fruitful in conducing to the command of all the resources of expression, a quality never more required of an educated leadership than now. The late Senator Hoar was a close observer of men and things; out of a long and varied experience in public life, speaking of the highest types of character and personality, he declared:

> I have a very deep-seated and strong conviction that one powerful influence in forming such a character, in the matter of taste, of mental vigor, of the capacity for public speaking and for writing, in the power of conveying with clearness and force and persuasive power, without any loss in the transmission, the thought that is in the speaker or writer to the mind of the people, is to study and translate what are called the classics, the great Latin and Greek authors. I think this not only an important but an essential instrumentality. . . . . Of one thing I feel very confident. That is, that the men whom I have known at the bar, in public life, and in the pulpit, who have been good Latin or Greek scholars, and who have kept up the love and study of either language through life, especially those who have been lovers of Greek, have shown great superiority in the matter of effective public speaking.

III

That a knowledge and appreciation of English literature should be among the resultant products of a liberal training will be denied by no one; and it is among the incidental advantages of the study of Latin and Greek that these contribute more richly than the modern languages to a sympathetic understanding of our literary masterpieces. European literature began beside the Aegean and the Tiber. Strive as we may to free ourselves from the spell of Homer, Sophocles, and Plato, of Horace, and Cicero, and Virgil, we must hark back to them and own their sway, for their thoughts and imagery are in the

warp and woof of our national expression. They set forth universal truths of human nature and experience in primary forms, as Euclid expresses once for all the elementary propositions of geometry. No second-hand or guidebook knowledge can give the reader of English literature the feeling for reference and allusion which those of our writers had who were saturated with the classics, and which we must have if we would appreciate them fully.[1]

It is a mistake to suppose that the student who does not read many authors or works in Greek and Latin, or reads them laboriously, gains from his study no literary element; for as he spells out a Virgilian picture word by word, or with toil unlocks a truism of the *Archias* or *De senectute*, he is trained not only in the perception of universal beauty and truth, but also in the fundamental principles of artistic construction. There is no page of a great master which does not yield to intensive study something more than a knowledge of words and constructions, something that will exert an influence, even if unperceived, toward the ideal in thought and expression. And to him who reads with ease and pleasure the reward will be proportionally greater.

True as this is of the study of Greek and Latin for all who as liberally educated men wish to read English masterpieces with full understanding, with how much greater force does it apply to those who purpose to make the interpretation of English literature their life work. It is a wretched and, unfortunately, a not uncommon

[1] The character and frequency of classical allusion are well illustrated by Harrington in his *Live Issues in Classical Study* (1910), pp. 20–36; and by E. L. Miller in "The Greek in English," *School Review*, XIII (1905), 390–97, reprinted also in the *Classical Weekly*, IV (1910), 34–36.

sight, to see a man without a classical training attempt to teach English in school or college, not realizing his own limitations or perceiving the chief reason why he lacks that vitalizing and visualizing power to recreate for his students the environment of a masterpiece so that they too shall see the visions and dream the dreams of the seer. Such a teacher will run into stormy water in interpreting Chaucer and Spenser, make shipwreck in Milton, and plunge to Davy Jones's locker in Keats and Browning.

IV

It is a remarkable circumstance that the age which has adopted the doctrine of evolution as a general working formula, which has laid down as a cardinal principle the interpretation of what is by what has been, should in the same breath, as it were, have pressed the claims of the newer learning so far as to seem, at times, to have left no room for Greek and Latin. How can a man, either as citizen leader or investigator, with insight, grasp, and sureness of touch deal with the complex social phenomena of the modern world without a first-hand knowledge of the earlier phases of the movement of culture, of which the present is only a later phase? Does one doubt the close interrelation of modern European or Anglo-Saxon with Greek and Roman, or more properly Graeco-Roman, civilization? The chanting of Latin ceaselessly follows the sun around the whole earth. No grocer's clerk in England or Australia makes an entry of account under the current symbols £ *s.* *d.* (for *libra*, *solidum*, *denarius*) without thereby bearing witness to the abiding influence of Rome not as a schoolmaster but as an organizer and administrator. There is no American country school so humble that it does not testify, by

providing Greek "leisure" (σχολή) for the learning of Roman "letters" (*litterae*), alike to the essential oneness of the culture of ancient Greece and Rome and to its dominance in the modern world. Not inappropriately, from either the cultural or the historical point of view, does our American dollar sign present in its two upright bars (according to the more probable explanation) a symbol of the pillars of Hercules.

We may attribute the fullest weight to the influence of the Teutonic and Semitic elements in our civilization—the power of the Bible over modern life has been incalculable; yet our philosophy and our arts began in Greece, and if an American student wishes to prepare himself in the best way to practice law in Louisiana or the new insular possessions of the United States, he must make the basis of his study not Blackstone but Gaius and Justinian. The number and mode of designation of the woodlands in the Doomsday Book evidence not less the primitiveness of the overmastered than the Latinizing character of the overmastering culture; but from before the days of Norman William until now the stream of native development has been receiving tributaries from the Roman source. As our language is rich in words of Greek and Roman origin, so the thoughts, practices, and ideals of daily life, when this rises above the bare necessities, reveal to the scrutinizing glance abundant elements that are part and parcel of an inheritance from classical antiquity. From one point of view classical antiquity itself is relatively modern; there is a readier sympathy, a closer affinity between an Englishman or American and a cultivated pagan of Athens or Rome than seems possible between Anglo-Saxon and oriental stock.

The genius may be able from secondary sources so to reconstruct classical antiquity that he will apprehend its inner being and may safely start out from it in the investigation of any phase of mediaeval or modern development; but for common men there is no royal road, there is no safe approach except through the study of Greek and Latin. We are already beginning to reap the fruits of "specialization" in fields of humane study without a foundation in the humanities. In consequence we see men who are "specialists" in philosophy floundering in modern problems because they have no solid footing in Plato and Aristotle; young historical scholars who will compile the annals of a county with infinite painstaking but whose horizon is so narrow that their attempts at a synthesis of movements appear grotesque; and economists and sociologists who are "blown about with every wind of doctrine" because they did not have an exacting drill in analytic reasoning before they undertook to trace out the elusive phenomena of human relations. I have come to have an increasing distrust of the conclusions of men laboring in these fields whose collegiate and university work consisted largely of lecture courses without a strong admixture of mathematics, physics, Latin, and Greek; for much listening to lecture courses, the compiling of "reports" from secondary sources, and "cramming" for quizzes and examinations will often beget a facile fluency in summarizing that with the undiscriminating may pass for sound learning. Of all men the interpreters of social phenomena, whether from the historical or the contemporary point of view, whether in governmental and institutional, or in domestic and private relations, can least afford to dispense with the training or the knowledge derived from the study of Greek and Latin.

V

Since the civilized nations of Europe participate in a common movement of culture, the corresponding words of the modern languages met with in the literatures have the same connotations, with comparatively slight differences of association and suggestion. In New York, Berlin, and Madrid gentlemen invited out to dinner put on a habit of the same style; and literature is language in evening dress. *Tugend* is a fair equivalent of "virtue"; and as the American child who has seen our soldiers march and drill will at once, from the similarity of equipment, recognize as soldiers, French, German, Italian, or Spanish infantry or cavalry shown to him in pictures, so without other mental effort than that of memory the boy will associate with *soldat, soldato, soldado* substantially the same groups of attributes as with "soldier."

But not so with Latin and Greek. The group of meanings under *virtus* in the Latin dictionary, for example, makes it impossible for the young student to proceed on the assumption that *virtus* and "virtue" are equivalent; he cannot translate the word as he finds it in different connections without at least dimly realizing an ethical point of view unlike that of our day. Long before he reaches Cæsar and Xenophon he will have had to make for himself a new picture of a soldier, with a different mode of dress, with a pike or a spear, with a bow and arrow or sling, instead of rifle, bayonet, and carbine. When he begins to read descriptions of battles and sieges and finds the soldier in action, he is forced by the exigencies of translation to visualize for himself military engines of a different type from those with which he is familiar from common knowledge, to follow military operations unlike those of modern times because directed

without spyglasses and carried on without powder and ball; the better the teaching the more detailed and clear will be the picture both of the units of the military movement and of the movement itself, made up of elements previously unfamiliar but now plainly seen and brought together in combination.

As with the vocabulary of the art of war, which in this connection is especially valuable on account of its concreteness, so with the vocabularies in which are recorded the concepts of the Greeks and Romans in other fields of action and thought. Feebly at first, but with greater distinctness and firmer grasp as he proceeds, the boy gradually gains from his study of Latin and Greek not merely a power of analysis and generalization from given data but a power of larger synthesis, which will enable him to bring into new combinations the products of a disciplined imagination.

The goal of classical scholarship is the ideal reconstruction of Greek and Roman antiquity. The farther the student advances and the more real the ancient life becomes to him, the more flexible and alert will be his constructive imagination. No other result of classical study is more important. The man who has gained the power to picture accurately the scenes of ancient Athens and Rome will find it possible to combine in imagination the elements of a business situation in such a way as to seize opportunities and outflank his untrained competitors, or as a lawyer will supply convincingly the missing link of evidence, or as a physician will build up a correct diagnosis in a case in which the doctor who knows only the facts of medicine will see merely obscure and unrelated symptoms. And no educational process is more broadening, more liberalizing, than the establishing of a

point of view upon a plane of culture remote from our own, from which the student sees with a certain perspective the problems and achievements of our time, realizing at least the need of caution in estimating the true worth of that which looms large upon today's horizon.

VI

It has been well said that the study of the sciences of Nature begets honesty and regard for truth. Nature will have no sham; and the student who learns her ways cannot fail to be strengthened in the qualities of sincerity and truthfulness. Honesty, however, is a negative virtue, and truth is only the beginning of wisdom. Can we press the sciences into service further as vehicles of ethical instruction? No, for there is a great gulf fixed: the forces of Nature are devoid of moral discrimination. As the rain falls alike on the just and the unjust, so flood, tornado, and earthquake are no respecters of persons; fire consumes the church as readily as the brothel, only the church is more liable to be struck by lightning because of its spire or bell tower. We turn to the realm of organic nature, only to be told that, in the wild state, an animal rarely dies a natural death, and that living creatures are arrayed in two classes, the hunting and the hunted. The perpetuation and improvement of types through the lavish expenditure of the lives of individuals, and the conditions formulated in the law of the survival of the fittest, are alike repugnant as a basis for a code of conduct; we must look to the anthropological sciences to furnish a foundation for either theoretical or practical ethics.

The value of the study of literature, and particularly of the Greek and Roman classics, in contributing to the upbuilding of character, lies in the clarifying of ethical

distinctions through the analysis of concepts, characters, and situations, and in inspiration to right conduct through contact with the highest ideals. A knowledge of the words by which the Greeks and Romans designated "right" and "wrong," the virtues and the vices, gives the student a new point of view for the judgment of actions and stimulates reflection on standards of conduct in larger relations. In ancient literature, free from the obfuscation of modern theories, we see the cardinal virtues limned in clear outline: love of country, loyalty to kin, devotion to duty, justice, reverence; and over against these, great vices—in laying the foundations of correct moral judgment, a knowledge of sin and its consequences is only less important than a knowledge of virtues. With what eagerness does a well-taught class follow the deeds and analyze the actions of Aeneas! They may now and then err in interpreting his conduct, because of an incomplete understanding of the Roman point of view; yet the process of subjecting to critical examination the motives of a character of heroic stature on a plane of action remote from modern conditions and prejudices is an ethical discipline of no mean value. The study of the masterpieces of the modern foreign literatures is ordinarily less intensive than that of the ancient, and even when it is intensive, the character types leave a less powerful impress on the youthful mind; they are too much like the men and women that one sees every day.

With the good and the true the beautiful is inseparably associated; and the fruitfulness of humanistic study as contributing to the development of the higher nature was never better expressed than in an essay "Science in Education," by the distinguished geologist Sir Archibald Geikie:[1]

[1] In the volume *Landscape in History* (1905), p. 286.

A training in science and scientific methods, admirable as it is in so many ways, fails to supply those humanizing influences which the older learning can so well impart. For the moral stimulus that comes from an association with all that is noblest and best in the literatures of the past, for the culture and taste that spring from prolonged contact with the highest models of literary expression, for the widening of our sympathies and the vivifying of our imagination by the study of history and philosophy, the teaching of science has no proper equivalents.

VII

No previous age has equaled the present in the magnitude of its undertakings; and in no age has the nervous strain upon the men directing the world's work been so great. Statistics would probably show that the mortality among leading men in their prime in our American cities is greater than in European cities and greater than it was anywhere in the world, among the same class, prior to the extensive application of steam and electricity to the purposes of transportation and communication.

The narrower the education of a man is, the less margin does it allow for the development of those interests to which, when worn with the burden and heat of the day, he may turn for recreation. In another generation the world will have adjusted itself better to the enormous expansion of the possibility of extending over the whole earth the ramifications of influence centered in a single brain; meanwhile, no aspect of the early and extreme "specialization" of the present time is more unfortunate than this, that by allowing a man in the educational period to confine his interests and activities in a narrow groove it deprives him of that familiarity with the larger aspects of culture which is at the same time a means of relaxation and a tonic. No studies lay a broader and

surer foundation than do Greek and Latin for the appreciation of the things of the spirit in all forms of manifestation, whether in substance, as in the fine arts, or in less material media of expression. Linguistic details, like the formulae of mathematics or chemistry, may become obscured with the passing of the years; but the impress of a well-ordered course of classical study will remain, making life not only more fruitful and effective, but more refined and more open to the influences which make living worth while.[1]

[1] Of especial interest in this connection are the letters of Mr. James Loeb and Mr. William Sloane (pp. 211, 217).

CHAPTER III

LATIN AND GREEK IN OUR COURSES OF STUDY

There yet remains the question whether Latin and Greek as educational instruments are being utilized in our country in such a way as to yield the best results for training and culture. To this question a negative answer may unhesitatingly be given; but the causes are deep-seated and complex.

I

The amount of time given to the classics in the average school in which Latin and Greek are taught, and in the schools in which instruction is given in Latin alone, is insufficient; and in many colleges the trend is so strongly in the direction of other subjects that a large proportion of the students who most need the training afforded by the study of Latin and Greek are diverted from the pursuit of these languages and devote no time to them while in college.

Let us suppose that a graduate from a high school with four years of Latin enters college and pursues the subject through his college course for four hours a week. If he had five exercises in Latin each week in the high school, the total amount of his Latin in eight years of study will be 36 year-hours, a year-hour being reckoned as one exercise a week during the school year. We may suppose that the same student had Greek for five exercises each week for two years in the high school, and for four hours a week for two years in college; the total amount of his work in Greek will be 18 year-hours.

Americans frequently speak as if we were working out our educational problems in isolation; yet we are a part of the European cultural movement, and the anomalies of our present situation are in no small degree due to the attempt on the one side to superimpose a German university upon a college of English origin, and on the other to shape all secondary education along the lines of preparation for college. Neither the experience nor the practical conclusions of continental education should be lightly put aside by us; and since reforms have within recent years become operative in the secondary schools of both Germany and France, it is worth while to bring into contrast with American conditions the amount of time given to Latin and Greek in the different types of the *Gymnasium* and in the *Lycée*.

The time devoted to Latin in the *Gymnasium* in Prussia (since 1902) is 68 year-hours, in Saxony 71 to 73, in Baden 72, in Bavaria 66, and in Würtemberg 81; in the *Realgymnasium*, in Prussia 43 to 46 year-hours, in Saxony 54, in Baden 56, in Bavaria 36, and in Württemberg, 81; in the *Reformgymnasium* at Frankfort, 52 year-hours.[1] The average exercise in the German secondary schools is five to ten minutes longer than in our high schools; but without taking this into account we see that the student of the *Gymnasium* has on the average nearly twice as many year-hours of Latin as the American student who carries the study through his entire course in school and college, and more than three times as many year-hours as the student who pursued the subject for four years in the high school and then dropped it. The Latin requirement just given for the Prussian *Gymna-*

[1] For these statistics I am indebted to Commissioner of Education Elmer E. Brown and Acting Commissioner L. A. Kalbach.

sium added six hours to the requirement in force from 1892 to 1902, for the reason that the reduction of the amount of Latin which was accomplished by the "reform" of 1892 was, after ten years of trial, considered as having perceptibly weakened the gymnasial training. Among the advocates of a full classical course, in the debates which marked the period of transition, was the distinguished physicist Helmholtz, who maintained "the superiority of the classical languages over the modern as a vehicle for mental training, on the ground that the native language and the other modern languages, which are learned chiefly by oral practice and imitation, or in so far as they are so learned, cannot so exercise and develop intelligent, logical thought as the classical languages with their full system of inflectional endings and their concise and elaborate methods of showing the grammatical relation of the individual parts of the sentences to each other and to the whole."[1]

In the *Realgymnasium* also, which offers no work in Greek, and has a curriculum in some respects similar to our Latin-scientific course, the German student everywhere except in Bavaria gives more time to Latin than does the American youth who pursues the subject for five periods a week in the high school and four in college; he devotes to it more than twice as much time as is allowed for the subject in most American secondary schools. Greek averages 36 year-hours in the *Gymnasium*. We shall not go far astray if, taking into account the difference in length between the German and the American recitation period, we estimate that the average German student who has completed the course of the *Gymnasium* has had in Latin the equivalent of 80 year-

[1] *School Review*, X (1902), 466.

hours of the American high school: that is, he has spent in Latin classes about four times as many minutes as the American high-school graduate; and that to Greek he has given considerably more time than is ordinarily devoted to the subject in an American classical course in both school and college.[1]

In 1908, out of a total of 31,622 students entering 18 out of 21 German universities (Munich, Erlangen, and Würzburg not reporting) 24,876, or 78.5 per cent, were graduates of the *Gymnasia;* 4,417, or 14 per cent, of *Realgymnasia;* and only 7.5 per cent entered without Latin or Greek.[2]

The curriculum of the French secondary schools underwent a thoroughgoing revision in 1902. The course of the *Lycée* previous to that time had been extremely narrow; and among the influences which determined the direction of reform was an acquaintance with American high schools, the many-sidedness of the work of which naturally impressed educational leaders of France who chafed under the limitations of the old system. Yet in the reformed French secondary school the student who chooses Latin in the "first cycle"[3] must pursue it for four years and devote to it not less than 26 year-hours; while in three out of the four courses open to him in the "second cycle," covering three years, he must continue Latin, devoting to it 9 or 11 year-hours in the classical course ("Section A"), 7, 9, or 11 in the modern language course ("Section B"), and 7 in the Latin-scientific course ("Section C"); only one of the four courses, the science

[1] The number of year-hours of Greek in the *Gynmasium* in the different German states is as follows: in Prussia, Baden, and Bavaria, 36; in Saxony, 36 to 42; in Württemberg, 40.

[2] *Report of the Commissioner of Education* (1909), I, 493.

[3] *Educational Review*, XXV (1903), 143; *Report of the Commissioner of Education* (1902), I, 691.

and modern language course ("Section D"), makes no requirement of Latin. Under this arrangement the great majority of the graduates of the *Lycée* who started with Latin will have had a minimum of 33 year-hours in the subject; as the recitation periods in secondary schools in France are longer than with us, it is plain that the French student spends in Latin classes about twice as much time as the American student who pursues the subject for four years in the high school, quite as much time, in fact, as our student devotes to Latin who studies it for five periods a week in the high school and for four hours a week during his entire college course. To Greek 6 year-hours are devoted in the ancient-language section of the "first cycle" and 10 hours in the classical course of the "second cycle," with 2 hours optional, making a total of 16 or 18 year-hours for the French student who completes the classical work of the *Lycée;* the amount of time given to Greek is about equal to that spent by an American student who commences the study of Greek in the third year of the high school and continues it through the Sophomore year in college. Latin is begun in the *Lycée* at the age of ten or eleven, and is continuously studied for seven years; in the *Gymnasium* the pupil commences the study of Latin when ten years of age, and continues it for nine years.

In giving Latin so prominent a place in secondary schools, and in devoting so much time to Greek, it cannot be said that those responsible for the reformed curricula in Germany and France[1] have been unduly influenced

[1] There is at the present time much dissatisfaction with the work of the reformed *Lycée;* the results appear to be inferior to those of the old system of a single course, predominantly classical, with limited electives. See the *Report of the Commissioner of Education* (1909), I, 423–27.

by tradition. It is true that European educators are disposed to move more slowly in the adoption of reforms than we in this country are, and that no step is taken without an attempt to forecast all possible consequences. But Latin and Greek have their place in German and French secondary schools today because they have been proved, not by theory but by experience, to be the most effective instruments available for certain phases of secondary instruction; and the extension of the study of them over so many years is in accordance with the basal principle well stated by Compayré:[1]

> The virtue of secondary teaching lies, in large measure, in its duration, in its slow influence upon the intellect. The best teachers need the help of time, if they wish, not to furnish the memory with hastily acquired and badly digested knowledge, but to act upon intellectual habits and accomplish the education of the mind, which is truly the essential aim of secondary instruction.

In recent years, as the late Commissioner W. T. Harris pointed out, marked progress has been made in our secondary schools in the concentration of work upon a small group of studies considered of prime importance, in place of the scattering which was formerly prevalent. One of the studies assigned as by common consent to a central place is Latin.[2] Yet if we examine the Latin course of our high schools we find a pitiable condition. The machinery of secondary administration, taking its Latin standard from the requirements of colleges for admission, is attempting, with the use of five or even four short periods a week, to secure the results of Latin

[1] *Educational Review*, XXV (1903), 133.

[2] P. 4.

study that in Germany and France,[1] with much better average teaching, are secured in five or six years with six, seven, or eight longer exercises each week. The later age at which the American student commences the study of Latin is a doubtful advantage. Losing sight of the basal principle laid down by Compayré, our secondary education as a whole is making the study of Latin above all else a hurried cramming of facts. This is in accordance with the spirit of the age manifest among us, which demands immediate results and in its eagerness for knowledge—knowledge being frequently assumed to be the panacea of all ills—tends to lose sight of the truth that the development of power is the fundamental aim of education, that the acquisition and educational use of this or that mass of facts becomes valuable primarily as a means to an end, and only secondarily through the retention of the facts themselves. In the comparatively few secondary schools in which instruction in Greek is still given the position of this study is relatively better than that of Latin; for the student of Greek, having already had two years of Latin, attacks the second classical language to greater advantage, and the average teaching of Greek is better.

[1] A comparison with English secondary schools in this respect seems unnecessary. The English have awakened to the fact, perceived earlier by the French, that the American high school presents in the elasticity of its curriculum an element worthy of imitation, and they are now expanding their system of secondary education. But as the reports are confirmed regarding the inferiority of the American Rhodes Fellows at Oxford in classical training not only to English and Scotch students of the same age but even to students from the colonies, no further evidence is needed to emphasize the superiority of British secondary instruction in the classics to our own. The British student who takes Latin ordinarily begins to study it at the age of ten or eleven years.

II

Educational experts have informed us that in our American schools about two years are lost between the first grade and the end of the high-school course. This means that the student at the age of eighteen is studying subjects which he should have had at the age of sixteen; and that if he goes to college, he must either attempt, without adequate preparation, to do work requiring a foundation of previous training which he has not had, or devote two years of his college course to studies which belong more properly in the secondary field, or endeavor to effect a compromise and ride both horses. In many of the smaller colleges, and in the arts department of some universities, the work of the first two years is wholly or in great part prescribed, and if a student enters with Latin and Greek the administrative system tends to keep him in the same lines of study until he has had six years of Latin, or about 28 year-hours, and three or four years, approximately 14 or 18 year-hours, of Greek. In not a few of the larger institutions offering collegiate work, however, the rapid extension of the elective system, due in part to the influence of a superimposed university system under the name of graduate school, has caused the secondary character of the first two years of undergraduate work to become obscured.

We are confronted not with a theory but with a condition. It is not necessary to cite the reports of entrance-examination boards; the concurrent testimony of those who teach Freshman classes East and West goes to prove how crude and unformed intellectually, how like an "unlicked cub" is the average first-year student; at how great a disadvantage he appears, in point of mental training, when compared with a classical student of the

same age from the English public school, the *Gymnasium*, or the *Lycée;* and how much he needs, as an aid to self-discovery and self-direction, the control of a firm masculine hand in studies requiring concentration, exactitude, and grasp, and effective also in developing power of expression.

Instructors with the university point of view naturally desire to have the college student introduced to their subjects as soon as possible, and to pursue these as far as he can; hence the extraordinary multiplication of courses open in many institutions to undergraduates;[1] hence also, in recent years, the projecting downward into the Freshman work, not only of subjects before offered exclusively in later years, but even of courses in which the instruction, following university methods, is given largely by lectures. Prominent in this class of subjects is history. There is no disagreement among educators regarding either the necessity of work in history for all students who wish to have a liberal education, or the desirableness of maintaining a continuity of instruction for a period of years; yet the time spent upon history in the Freshman year might be devoted with greater profit to other subjects, and the man who is to "specialize" in history and has had only the ordinary high-school course in Latin will in the end make a better historical scholar if he puts upon Latin or Greek the hours of Freshman work, which he is tempted to give to his favorite subject. In some institutions no other single factor has been so potent to turn students away from the study of either ancient language as the throwing open to Freshmen of lecture

[1] There is a noteworthy paper by President Bryan in the *Educational Review* for February, 1906 (XXXI, 135–40), on "The Excessive Expansion of the Course of Study in American Universities."

courses in history which, from the nature of the subject and the methods of instruction,[1] are less exacting in the requirements of daily preparation, and less difficult to "pass." The historical field is attractive to all students having a spark of human interest; but even the Freshman is not slow to find the line of least resistance, and not loath to follow it. In these days when the study of history lays a just emphasis upon the knowledge and use of original sources it seems anomalous that students should be able to come up into advanced historical work and try to become historians without the ability to read the Magna Charta in the original. An even more striking anomaly is the teaching of Greek history in college courses by men who know not a word of Greek.

So long as the degree of Bachelor of Arts was given only to graduates who had had Latin and Greek in college, that fact was influential in maintaining both the ancient classical languages upon a firm foundation not only in the colleges but also in the schools; but now, in the unsettling which accompanied the reaction from the old system to that of the "omnibus" degree, the pendulum has swung too far the other way. Although under the system of the "omnibus" degree, students who elect Latin and Greek are disposed to take more courses and hours than formerly, and although the work of the average class is of better quality than when Latin and Greek were required for graduation, a relatively small proportion of college students are now brought into contact with classical studies; viewing the American college in the light of its complex function as a preparatory school

[1] How difficult our college teachers of history find the problem of adjusting their work to classes containing large numbers of Freshmen may be seen in the discussion published in the *Report of the American Historical Association* for 1905, Vol. I, 149–74.

for the professions and as a school of liberal studies, we are warranted in the assertion that in most colleges the resources of classical instruction are not being utilized in a way to minister adequately to clearly defined educational needs. There is current a misconception in regard to the nature and aims of classical study, which by many college students and professors is looked upon as something technical and apart from ordinary scholastic interests, which in fact should be pursued only by those who will "specialize" with a view to becoming teachers of Latin and Greek.

III

The reasons why the older professional schools in the United States, with few exceptions, were established in educational isolation, apart from colleges and universities, are historical, and need not be entered into here. One important consequence is that up to the present time it has not been possible to make a satisfactory adjustment between the professional schools as a class and the other units of our educational system. The cleavage is narrowest between the college maintaining the classical course and the theological seminary; until recently the gap has been broader, and much more difficult to bridge, in the case of schools of engineering, medicine, and law. In the past twenty-five years these three classes of schools have made great advances in the enlarging and strengthening of their curricula. Such expansion has involved, directly or indirectly, a readjustment of the requirements for admission. As was to be expected, the tendency has been to exact or encourage a more extended preparation of the student before entering upon professional studies; and of late many professional schools have thrown their influence in the direction of making a fixed

requirement of the whole or a part of a college course as furnishing the desired preliminary training in the best way.

Meanwhile, however, the college course, toward the utilization of which for preliminary training the professional schools have been advancing, has in many institutions undergone a complete transformation. Twenty-five years ago it was a fairly stable aggregation of studies, which were pursued in a fixed order, and which, when viewed as a whole, were assumed to be both disciplinary and liberalizing. If a student having a college diploma entered a professional school, the diploma itself was an index of his preparation in respect to range as well as quality of work. But at present, such is the chaotic condition of many college curricula and so great is the freedom of choice offered to the student that the professional schools are confronted with a twofold difficulty. In the first place, they frequently make complaint that the students who now enter with a college diploma are not as a class so well able to carry the heavy and exacting work of the professional curriculum, which allows slight freedom of choice, as were the students who came up through the old college course of studies wholly or in large part prescribed,[1] and, in the second place, the college curriculum has in many institutions so lost all semblance of unity and consistency that whether two years of college work, or the whole course, should be made a fixed requirement for admission to the professional school, it would be unsafe to assume that the student entering with such preliminary training had had any particular study (excepting elementary English) or had even learned how to study according to the professional standard.

[1] Cf. pp. 85, 143–44.

The case of Latin and Greek in relation to professional studies is the same as that of mathematics and other more difficult subjects the "practical" bearing of which is not on the surface obvious, but of which the pursuit has been considered desirable as a part of a general education. It is already evident that professional competition in this country will be much more severe in the future than in the past; he who will serve the next generation acceptably as a lawyer, a physician, an engineer, or a clergyman must have an equipment superior to the average equipment of the present time. The question is not how the man of exceptional gifts may be made ready for his life work; it is rather by what process the average man who desires to study engineering, medicine, law, or theology may best be trained in preparation for the technical studies through which he will obtain his professional equipment.

The opinion was formerly prevalent that preparation for engineering studies should above all else emphasize mathematics and physics; for a medical course, chemistry and biology; and for a course in law, studies in history and economics. Now, upon second thought and in the light of experience, leaders in the field of professional education are agreed in the position that what is needed as a preparation to enter upon a technical course is a trained mind rather than a premature amassing of information along technical lines. "Let us have a trained man; we will give him the professional knowledge and skill," is a remark frequently made today. This throws the whole question of the preparation of prospective professional students into the domain of a general or, as many prefer to say, a liberal education.

The subject of preparation for professional courses is

too large to be entered upon here; and abundant testimony in regard to the place which the ancient classics should have in it is given in the following symposia. Men who have forgotten much of their Latin and Greek, and who find themselves handicapped by lack of technical knowledge, sometimes express the wish that they had spent upon professional subjects the time which they gave to the classics and mathematics, forgetting that without the power gained by the training of these basal subjects their command of technical data would be even less adequate. The trend of opinion, so far as it is definitely formulated, seems to be that, under present conditions, the prospective clergyman, lawyer, physician, and engineer should alike have an extended training in English, both language and literature; should have a year of "college" mathematics, part of the time being devoted to a brief review of the history of mathematics and a presentation of the relation of mathematics to other subjects; a course of "college" physics, biology, and either chemistry or geology, or both, it being understood that the science courses should be introductory in the larger sense, the subjects being presented in their relations to the sum of knowledge as well as in their fundamental principles; introductory courses in economics and philosophy; courses in French and German, with an opportunity to take work also in Spanish and Italian; one or two years of "college" history, articulated with the history of the schools; two years of "college" Latin; at least two years of "college" Greek for students looking forward to the study of theology, one or two years for prospective students of law and medicine, and a year of "college" Greek or additional pure mathematics for the prospective engineer.

The professions, except the ministry, are at the present time not suffering from a lack of candidates; the number of those preparing for medicine, law, and engineering is in excess of the present demand. In education the race is not to the swift; in rendering to society the service of developing an educated leadership the professional schools should remember that quality is of greater importance than numbers, and that one first-class man in any profession is of greater value to the world than many men of second or third rank. Though the advance of science in modern times has vastly increased the sum of knowledge, has opened up illimitable vistas and has effected changes in educational perspective, the enthusiasm of research should not blind us to the fact that the vast bulk of new knowledge, in the anthropological sciences as well as in the sciences of nature, is not well adapted for use in elementary or secondary or even collegiate training. No substitute has yet been found to take the place of Latin and Greek as educational instruments, not only for a general training but also for the training that looks forward to professional study.

IV

The teaching of Latin among us suffers from the same causes which affect the teaching of other subjects. These are, chiefly, on the one hand, lack of knowledge of Latin, lack of a clear perception of the aim of Latin study, and lack of a serious purpose in teaching; on the other hand, too many recitations in the day, the lack of books of reference and of illustrative material for the classroom, and, in the high schools, the nervous haste which comes from attempting to do in a given time more than can possibly be done well.

These defects are in part due to the fact that our secondary teaching is in no inconsiderable degree in the hands of young women without adequate preparation for their work, who engage in teaching as a makeshift, and either grace the schoolroom with their presence briefly on the way from the commencement stage to the altar or, if they remain for a period of years, continue to teach without an ambition for self-improvement. These must not be confused with the large class of conscientious teachers who are striving to do their work in the best way but whose acquaintance with Latin is so meager that they are handicapped at every step and turn to new "methods" of instruction as a drowning man clutches at a straw. Over against both these classes stands the large body of well-prepared and earnest teachers of Latin and Greek who are accomplishing results that are more than creditable when we take into account the disadvantages under which they labor in the lack of time for the proper doing of their work and in the lack of facilities. All honor to this loyal legion of classical teachers who, laboring often in a commercial or philistine atmosphere, have nevertheless retained their enthusiasm for sound scholarship, have constantly enlarged their horizon of knowledge, and have continued to be an inspiration and help to others.

Not a few of those who have failed to appreciate the value of the study of Latin and Greek think of these subjects as they were taught thirty or forty years ago by a certain class of schoolmasters who presented the Greeks and Romans as unearthly beings raised on a pedestal, before whom the modern world should fall down and worship; viewed their language as an intricate mechanism, and ground the student upon forms and constructions without

a scintilla of literary appreciation. It is sometimes difficult for the critic to realize that the teaching of Latin and Greek has shared in the educational progress of the last half-century; that the good classical teacher of today is not merely the teacher of a language but also, so far as time and opportunity permit, the interpreter of a civilization of which the language is only one manifestation; and that the aim of instruction in the ancient classics is not merely to secure the best results of close and exact language study but also to inspire an appreciation of literature and, in a word, "to accumulate upon the present age the influence of all that was best and greatest in the life of the past." This aim is sometimes lost sight of by teachers of good ability who have had an inadequate or one-sided preparation, and even by young Doctors of Philosophy whose perspective has been warped by concentration of study upon one part of a great field; but our classical teaching as a whole is directed toward high ideals, and will not fall short of its opportunities. No study is more interesting to students of any age than Latin and Greek when properly taught.

That so large a proportion of our teachers of the classics are ill prepared is not more the fault of the teacher than of the system. So long as the compensation of the teacher remains as low as at present in most schools and many colleges, so long as the tenure of positions in public high schools is subject to the uncertainty of an annual reappointment, so long, finally, as administrative officers in passing upon the fitness of candidates frequently attach little weight to the range and quality of scholastic attainments, it may be expected that the average of preparation for classical teaching, which involves a long and expensive course of study for him who wishes the

best, will be raised but slowly. The need of exacting a higher standard of preparation in the selection of teachers for secondary schools is in some places already realized; and there are hopeful indications of a more generous financial support.

In order to remedy our failure as a nation to utilize Latin and Greek as we should in our educational system it will be necessary first of all to extend the study of Latin downward so that it may be pursued by students for two or three years before the present high-school age; the study of Latin should be commenced in the seventh or sixth grade. How this result may be brought about is a question of educational administration which should occasion no great difficulty in a well-organized system of schools. Such an extension of the Latin course would make it possible to accomplish results more nearly comparable with those obtained in the secondary schools of European countries, and so would effect a saving of time at the upper end of the course. Greek should be commenced at least as early as the second year of the high school; but it is difficult to see how this study can make much progress, at least in the West, until the school authorities are more disposed to allow small classes to be formed in the subject and teachers of Latin manifest a warmer interest in the promotion of Greek studies. The immediate future of Greek is largely in the hands of teachers of Latin, who should spare no effort to arouse interest in Greek and form classes in the subject.

The second remedy lies in such a readjustment of the curriculum in colleges having a loose elective system as shall bring a much larger number of students into contact with classical studies in the earlier part of their course.

In the third place, the utilization of the classics in preparation for professional study should be made sure by according to them a fuller recognition in the requirements for admission to professional schools and by making them a fixed requirement in combined literary and professional courses.

It is sometimes said that our educational system is justified by its product, and that the number of successful men among us is sufficient evidence of its efficiency. Such a generalization makes no account of the fact that there are many other elements which enter into the problem besides the training of the schools. Owing to the opportunities afforded by the conditions peculiar to a new and rich country, many men have risen to prominence and affluence practically without educational advantages, but that does not disprove the value of education; on the other hand, it is possible for a man to become successful not on account of his education but in spite of it. The problem is to bring each life into vital contact with the knowledge, and subject it to the training, that will best fit it for living happily and well, rendering its due service to society; in the light of both theoretical considerations and experiences, we may safely assert for Latin and Greek a much more important place in the educational process than they have in our country at the present time.

CHAPTER IV

THE NATURE OF CULTURE STUDIES

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For the purposes of The Schoolmasters' Club, the phrase "culture studies" may be taken, fairly enough, in the restricted sense of Greek and Latin. The classical languages happen to lie within the field of practical politics; moreover, they offer debatable territory, not as yet delimitated. While, therefore, I should prefer to deal with the larger aspects of the subject, as being most germane to my own daily work, I propose, in the present connection, to attempt this, the chosen battle ground of teachers, although disclaiming all responsibility for the choice. I find it waiting, ready-made, so to speak.

At the outset, I am going to render a confession, justified by the nature of the circumstances. As matters now stand in the realm of investigation which I have the honor to represent, I cannot appear either as a special pleader for culture studies or as their *advocatus diaboli*. For philosophy is interwoven inextricably with the positive sciences on one side, with culture studies on another. I fail to see, for instance, how a philosopher can succeed in metaphysics today apart from close touch with physical and biological science; but, equally, I fail to see how he can succeed in ethics, aesthetics, or philosophy of religion if he have little Latin and less Greek, or if he be blind to the harvest reaped by archaeology and historical criticism, by anthropology and sociology. The psychologist who is guiltless of physiology cannot realize the significance

of his subject, while the moralist who lacks first-hand grip upon Plato, Aristotle, and the influence of the Stoics upon Roman law, to mention naught else, must miss many factors essential to his *Wissenschaft*. Accordingly, I come before you rather to proffer some suggestions than to formulate a brief. I shall try to show what *must* be said for culture studies (in the narrower sense of the classics), just as, in a different connection, before a different audience, I might attempt to accomplish the same task for other incidentals of a curriculum.

Beyond dispute, much difficulty and no little misconception have been caused by the accomplished facts incident to our intellectual movements during the last two generations. Culture studies were passing through a period of transition which, in one way, might be termed a time of trial. As means of education, they used to enjoy a monopoly; the claims of other disciplines have met, are meeting still, with wide recognition. And, as a contemporaneous, nay, disturbing event, culture studies themselves have undergone profound transformation. Now, an age of transition, no matter when, breeds uncertainty, and confronts us with some, perhaps many, antagonistic or mutually exclusive opinions, and not one of them—such is the temper of these epochs—gains mastery, because an accepted standard never appears. "We do not now set out to solve the world at a stroke, as men did in the days when thought was young." The focus necessary to decisive judgment belongs to the future. Consequently, too many "make a stab at it," and miss the point sadly. Or, to be quite plain, the multiplication of nonsense, of the nonsense always incident to immature reflection, has bemused not a few. A tincture of half-truth, dyed in the wool, conceals all too successfully the

character of the objects under discussion. For example, greatly daring, many a one who has never peeped into a psychological laboratory proceeds to pose as a psychologist, and undeterred by ignorance, solves problems for the people *psychologically*, as he fondly imagines This would be amusing, were it not so pitiable; food for laughter, were it not so insidious. You and I, as we all realize acutely, have been jogged to weariness with pleas for the classics, with objurgations on the deep damnation of their taking off; or surfeited with paeans to the utilities, bewitched by the serried facts which science alone can originate, as the allegation runs. We possess a positive right to bewilderment, because both contentions happen to be equally true and—equally false. Where fallacy rules, what shall we say?

First, then, as to the fallacy. What is it? Different ranges of human experience demand—nay, dictate—widely divergent treatment; the categories, or fundamental forms of judgment, applicable in one sphere become merely absurd, sometimes positively erroneous or misleading in another. Men used to argue about the mind as if it were an object in the external world, and therefore matter fit for exposition by mechanical concepts. We were accustomed to be told that mind and the contents of mind are two separate things. This jejune idea arose when the universe was considered in all its aspects as if it were built from self-contained parts related throughout by action and reaction. It may be possible to say in words that knowledge flows into the mind through the senses as light floods a room through the windows, but human thought is so organized as to be unable to endow the statement with any meaning whatsoever. Such notions, admirable in the sphere of mechanics, do not

operate in the realm of psychology. Their use by the amateur is a standing jest, and a poor one at that. It embodies the worst kind of picture thinking, and picture thinking has ever proved the most unreliable, even dangerous, habit. If we may apply analogies to matters mental, we must draw upon the organic kingdom. Yet, even here, the procedure is risky. When we receive mental nourishment from Goethe or Spencer, the familiar accompaniments of the tavern hardly hold. Employ them, if you will, but at your peril.

So far as my observation has gone, a very similar fallacy dominates many opinions elicited these last few years in criticism of culture studies from the standpoint of science and of the utilities; likewise the uncomplimentary references to practical aims in education from the side of the humanities. Let us attempt to grasp the point. It may not loom large on the surface; yet, for this very reason, it may prove of the last importance after due inspection.

Man's life is so complicated that the same objects, even when viewed in the same perspective, may reveal very variable values. To take a case. If I be informed properly, the American school child is taught something like this: The Puritans were heroic folk, who quit their native land sorrowfully, who underwent dire peril by sea and on inhospitable shores, in order that they might pray to God as their convictions prompted. And these facts, tricked out this way and that, have at length come to serve the youthful mind as a sublime, inspiriting moral legend. But what of these same Puritans who refused others this fundamental right as they conceived it, who burned witches, and engaged in not a few abominable persecutions? Here the schoolbook ceases to be explicit.

Now, if we find these lambent contrasts within the same realm and in connection with the same things, what may we not anticipate when we compare widely different tracts of human experience, filled with incommensurable material? As everyone knows, or ought to know, we do light upon contrasted universes which seem to circle on planes that never intersect; contrasted subjects, contrasted methods, above all, contrasted standards, confront us. Something of this sort, without doubt, conditions the "culture *versus* utility" problem.

Notice first, then, that culture studies link man principally with the *past;* their roots strike deep into history. Rome attached the glorious heritage of centuries; Carthage, Syracuse, Athens, Thebes, Sparta, Alexandria, Jerusalem, were swallowed successively. Then she proceeded to annex the hopes of the future—Gaul, Spain, Germany, Britain. On these she stamped her language, her laws, her institutions, for a millennium; thus we, their latest heirs, live bosomed in her still. Try as we may, we cannot rid ourselves of the long, triumphant list of emperors, popes, kings, jurists, philosophers, theologians, ecclesiastics, and saints who led mankind always within the framework of her civilization. Nay, in proportion as we attempt to shake her off, to free us from all knowledge of the tongue that preserves her unmatched achievement, we dedicate ourselves once more to a new barbarism, different in degree, mayhap, from that of our blue-clayed ancestors, but nowise different in kind. Put away Latin, if you must, but count the cost with care. For Latinity happens to enshrine all too much of our spiritual being, of our character as it actually is, to be forsaken for any new-fangled, untried, popular—and populous—freak.

The case of Greek is quite similar. The tongue of

Plato, in whose thoughts and very terms our Christianity came to consciousness of itself; of Aristotle, who composed the only first-rate work on politics ever written—a wonderful instance of prevision of some modern prejudices; of Mark, the laconic reporter of the ideal life that typifies our holiest aspirations; of Paul, who freed religion from the bonds of race for our benefit; of Marcus Aurelius, from whom was wrung the most poignant document that ever came from human pen; and of a cloud of witnesses, who died, not having received the promises, that they without us should not be made perfect; the language which every scientific man employs today to conserve his cherished results and aid in further inquiry—this, I say, we cannot cast aside, any more than we can bid flesh and blood begone. The hand of the past lies upon us, not a dead hand, but the touch of a living present. And, just in this connection, one may lay finger upon the precise value of culture studies. Why is it that, despite his paltry character, his low aims, the frequent unkindliness of his judgments, the obvious contradiction of his profession by his practice, we yet make shift to praise such a one in the near presence of his corpse? Why, in a word, do we so often mix incongruous "taffy" into epitaphy, and contrive to preserve our solemnity? Merely prevarication is it? Merely a salve to some stricken relative? By no means! Why, then? Because, in presence of the tremendous fact of death, the one event in our experience void of even the shadow of extenuation, small things slink away, and we catch momentary glimpses of the eternal, of the eternal common to ourselves with that poor, broken body laid there meaningless, at the close of an existence almost as meaningless. So, also, the past of the race affects us, even if we fail to

recognize the parallel. What can we recover of that "million-footed city" in the first century of grace? In one way, all too little; in another, nothing more than we need. I cannot fill out the back-stairs gossip of Suetonius; I am quite unable to construct even a fragmentary diary of the men and things familiar in Seneca's daily walk and conversation; I smile at the bare idea of setting Trimalchio's table correct to the last *mode* in platters for turbot; I can scarcely even conceive the hourly tittle-tattle of the maids in Messalina's chamber; I fail completely to resurrect the common talk of Quintilian and his colleagues on the professoriate; nay, the latest philosopher warns me not to try, because, as he says, much evidence supporting from many times and quarters, "professors are fragmental humanities." Nevertheless, when I bethink me of all that Greek and Latin reveal and preserve as essential in that age, I am forced to conclude, by evidence literally overwhelming, that, from the viewpoint of an occidental at the dawn even of a vaunted twentieth century, it was the most significant moment in the career of *our* humanity. Tacitus and Juvenal and Seneca, Plutarch and Pliny and Epictetus, Luke and Mark and Paul, Philo, the unknown authors of the apocryphal literature of the day, of the epistle to the Hebrews, and of the gospel named for John, unite in compelling me to exclaim: Ah!

> but if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is.

The destruction of the Alexandrian Library—a major calamity of recorded history—has forever ended many an effort to unravel the dominant, transitive conceptions of that seething age. But, on the other hand, enough

remains to indicate wherein its throbbing vitality partook of universal significance. Yes, when we gaze out upon the past, the petty sloughs away, we are left alone with the spacious things that endowed life with dignity and gifted it with permanent worth. In this wonderful disappearance of the temporary the central meaning of culture studies, like their present efficacy, find impregnable shelter. The aim of these pursuits needs no further elucidation than this: they demand of *us* that we *be* something, that we be something worth while. Struggle as we may, the past has become *internal* to us; irreducible circumstances have wrought it into our being as an organic part. Through this influence, far more than through any other, deep calls unto deep in our spirits. And, when the practical side comes in question, any reflective person can descry forthwith the secret of the spell cast by culture studies. They require, in their use as educational machinery, that certain *human processes*, not so indispensable in other disciplines, should be employed, and kept in constant operation.

Now, the veriest jackanapes among educationists—and it is well, possibly, to remember that we number in our midst many jackanapes by nature's choice—cannot deny my facts. But he may snap out the question: "Well, what about actual practice?" Let us look at this for a moment.

In the first place, I would hint to my friend, and brother, the jackanapes, allowing him to extract such personal reference as he might see fit: "Of course, I am perfectly aware that many men can never *be* anything in particular. But the culture studies are scarcely chargeable with this soft impeachment." Leaving him to chew the cud on this cryptic remark, we may proceed.

The work of practical education suffers sore havoc from a misconception which, however pardonable in the minds of parents and other *dilettanti*, ought to effect no lodgement among professional teachers. But, as often happens, they fall victims too. The temper of our society, engendered by the pressure upon it exerted by an unkempt, unexploited continent, and by our conventional standards of success, consequents of the same cause, must bear responsibility for the spread of infection to educational circles. Parents aside, too many of us are tricked into the supposition that our pupils are placed with us, first and foremost, because fated to earn a competence. Accordingly, we are prone to think that certain subjects, of direct bearing upon practical life, should secure preference in the curriculum. If my evidence be not superficial, this extraordinary error constitutes a main source of the inextricable confusion shot through our present educational arrangements. All are shouting: "Who will show us any good?" Equally, all are forgetting that the term "good" may be interpreted very variously. And, by a process of unconscious selection, imposed by contemporary social tendencies, one alternative interpretation is taken, the others left. Confession being good for the soul, we may as well make a clean breast of it, and acknowledge that by "good" we mean "marketable." Can any other meaning be put upon the constant inquiry: "What's the good of culture studies anyway?" To reveal the misconception involved requires no subtle analysis. The point is simply this: Education does not consist in what is acquired, whether this be a commodity of ready sale or not, but in the *manner* of acquisition and all that it implies.

While our ideas about education may be—in some

respects are—sadly awry, they at least imply a general consensus of opinion to the effect that education can be defined properly as a process of discipline designed to put human beings in control of their mental powers. When one has the capacity to mobilize his faculties and concentrate them upon a single point, then he may be said to have education. Now, mind mobilizes. And the sole way in which a youth can acquire this mental elasticity and co-ordination comes from *discipline* as an integral element in instruction. Here we obtain a principle of broad range. It appears to include the expert in any work. The telegraph operator, the chicken farmer, the broker, the detective, the boss, the banker, must all possess power of mental mobilization, or go under. But the idea I am urging is that discipline as derived from culture studies enables men to realize the distinctively human endowments latent in them. Eliminate these means of education, and what kind of person are we apt to produce? The poet makes reply:

> A primrose by a river's brim
> A yellow primrose was to him,
> And nothing more.

On the other hand, subjected to their benign influence, there appears one in whose mouth the words of the same poet prophesy from a spirit already apprehended of great ideas:

> Great God! I'd rather be
> A pagan suckled in a creed outworn;
> So might I, standing on this pleasant lea,
> Have glimpses that would make me less forlorn;
> Have sight of Proteus rising from the sea,
> Or hear old Triton blow his wreathéd horn.

If, for example, as some suppose, the spread of popular education have affected criminal statistics, we must not infer that learning deters from lawlessness; the truth is that the subjection precedent to learning bears fruit. Now, in this connection man possesses an incomparable advantage in the appeal he can take to history. If we can induce him to soak himself, as it were, in that deposit of the larger life which history always leaves, we shall have brought him within the sphere of a profoundly transforming power. More than any others, the culture studies lend themselves to this process. They tend to make a man over, to liberate him; and this is precisely what a human being needs, if he is to realize the opportunities incident characteristically to his nature. Or, taking the practical aspect of the same fact, he cannot be expected to *direct* others—direction being what we are all asking of the educated—till thorough discipline has taught him the things that demand direction in himself. From this, one plain inference follows. The studies in which average attainment can be *least readily* elicited by *purely mechanical means* offer the processes best calculated to bring educational results. Upon them, that is, we can safely base professional and technical instruction. In this connection I cannot forbear to quote an eminent authority on modern-language teaching, whose conclusions coincide closely with my own:

> The possibilities of literature and mathematics are boundless; nobody has yet exhausted them, nobody ever will; whereas the possibilities, say, of geometrical drawing are strictly limited, and the process of teaching such a subject is strictly mechanical. Ultimately this is at the bottom of the feeling of distrust which classical scholars feel for chemistry and the other natural sciences as instruments of education. You may accumulate facts in these sciences to any extent, you may develop super-

lative skill in devising and manipulating experiments, but there is no progressive intellectual development required in dealing with them; there is an infinite repetition of the same intellectual process. In fact, you cannot become a sound chemist without having had previously a sound mathematical training up to a certain point; and if you are to be able to turn your knowledge of chemistry to account by imparting it to others, you must have had a sound linguistic training as well.

Similarly, I think that, without much difficulty, I could make out a case for the pure sciences as instruments of training over against much of the stuff touted now, because it is supposed to be easily marketable.

I am well aware, of course, that those in charge of the culture studies do not realize their opportunities always. I am often struck by the amazing lack of appreciation evidenced by teachers of language with regard to the transitive import of their subjects. They seem to forget that a language may not be learned by rote, and for its mere anatomy; that it is the casket containing a mighty treasure; that the spirit of its creators and creatures constitutes the real object of educational pursuit. No doubt, they become myopic, because bemused by superstitions about technical training. Here we have the γωνιοβόμβυξ, one busy with monosyllables, as Herodotus admirably put it. If, as used to be thought, Greek and Latin be but technical tools necessary to the so-called learned professions—to the law, the church, the services, and to teaching—then they are in little better case than domestic "science" as a propaedeutic to matrimony; than mathematics, physics, and chemistry laid on with a trowel to support engineering top-hamper. Accuracy of mental operation does not come with memorizing linguistic forms and rules. Here our culture study friends frequently fool themselves. Nevertheless, ability to

write decent Latin prose, with dictionary at elbow, simply cannot be acquired without at the same time inducing the kind of mental organization which at length enables a man to go anywhere and do anything, as a great general phrased it. My brilliant colleague, Mr. Shorey, of Chicago, lays his finger on the point when he says:

> I am cynically skeptical about students who cannot understand elementary Latin syntax, but distinguish themselves in mathematics, exact science, or political economy. The student who is really baffled by the elementary logical analysis of language may be a keen observer, a deft mathematician, an artistic genius—he will never be an analytic thinker.

And I draw the proof from my own experience. The most effective masters of the "positive" sciences known to me personally are invariably the men who have first acquired the mental organization which the culture studies confer; of this fact they are quite aware themselves. A creed was impressed upon them in these early years; not simply work, and still work, but work in a certain fashion. They gained connective processes; thereafter the rest is, not only easier, but immensely more efficient.

Further, the culture studies demand a certain personal detachment that makes for individuality—the one criminal omission of our contemporary system. They compel a man to cut loose from things immediately present to sense, from the supports so consoling to the second-rater; to prepare for larger relations, to view detail as means to a distant end; to acquire mastery for its own all-sufficing sake. The really educated man ought, after his fashion, to be a creator in some sort; that is, he will manifest a special or distinctive way of getting at things, thus rendering himself a personality with whom one must reckon. But to this end he needs

education, not simply instruction. Doubtless, he may acquire education along many routes; but if you insist upon *educational system*, the great unlying witness, experience, testifies that the psychological organization which as a rule induces the accuracy of mental habit necessary to personal equation and self-mastery comes most effectively by way of the culture studies. Indeed, nature has so legislated. For language, disguise the case as we will, happens to be *the* instrument of thought, and therefore the conservator of all our heritage from the "spiritually indispensable" of past ages. Possibly it may interest you if I proceed to illustrate the point in concrete by some references, supplied by one of my own teachers.[1] They may prove the more interesting in that they refer to the much-debated subject of Latin. Pray remember that we are discussing accuracy of mental process, as the educational foundation for achievement in any walk of life.

Here is a very simple Latin sentence: "vellem mortuos." Thanks to the difference of opinion just hinted, I cannot assume that all of you are able to translate it—more's the pity! It means: "I would that they were dead." To understand this sentence thoroughly demands no less than fourteen different intellectual operations, as follows. (An English sentence of seventy-three words requires some twenty-seven intellectual processes of a Gaul.) "A student must know (1) the person, (2) tense, (3) voice, (4) number, (5) mood of the verb *vellem;* (6) that it comes from *volo*, meaning (7) 'I wish'; and that (8) the subjunctive has here a particular shade of meaning. As to *mortuos*, he must know that it is (9) the accusative, (10) plural, (11) masculine, from (12) *mortuus*,

[1] Professor George G. Ramsay of Glasgow.

meaning (13) 'dead'; (14) the reason why the accusative is neeessary." A student who slips up on any one of these is bound to make a lovely mess when he eomes to translate. Look at the messes possible. Here is a line from Ovid, in whieh the poet deseribes one effeet of a severe frost: "Saepe sonant moti glaeie pendente eapilli." The translation is: "Often, if you shake your hair, the ieieles whieh hang to it will rustle." On the other hand, here is a translation given by one of my fellow-students: "The goats frequently get on to a glaeier, and when it starts to slip away they send forth their voices." Obviously, as your smiles tell, this seems an instanee of terrible stupidity. But it is nothing of the kind. It happens to be, at bottom, a case of inaecuraey. The poor fellow has mistaken an *i* for an *e* in *capilli*, whieh he supposes is the plural of *capella*, the diminutive of *caper*, "a goat." Having blundered here, *he* beeomes the "goat" who goes down with the avalanehe, and sends forth a very amusing voiee. One little slip and, sueh is the elose-hammered Latin strueture, wholesale error results. Another ease illustrates admirably the main differenee between Latin and our own tongue. Inflections and eonstruetions aeeordant, as you know, eonstitute the main contrast. Henee, in English it is possible to reaeh the meaning fairly well by a simple knowledge of *each word separately;* not so in Latin, where the eonneetions must be observed most aeeurately. In the *Annals*, Tacitus lays down one of those aphorisms for whieh he is famous. "Bella plane," he says, "aeeinctis obeunda." Rendered into the vulgar tongue, for the benefit of the ladies, this means: "When a man goes out to battle, he should leave his wife behind him." With even more consideration for the ladies, an English

man of letters, now a person of distinction, thus translated the passage when he was a student at Glasgow: "A beautiful woman must obviously be well dressed." The interesting thing is that the ingenuous translator *did know* something about every one of the four words in the original. He knew that, in some contexts, *bella* may mean "a beautiful woman"; he was aware that *plane* means "obviously"; he recognized that *obeunda* indicates necessity; and he noticed that *accinctis* has something to do with millinery. But he utterly missed the construction, and produced a most proper rule, though hardly the one that Tacitus had in mind. Lack of accuracy, not lack of knowledge, wrought his downfall. The last with which I shall trouble you brings home still more forcibly the contrast between English and Latin: "In Latin you must be absolutely right, or you are not right at all." Alluding to the murder of Claudius by his wife Agrippina, who gave him a dish of poisoned mushrooms, and in the course of a description of a fashionable dinner at Rome, Juvenal writes:

> Vilibus ancipites fungi ponentur amicis,
> Boletus domino; sed quales Claudius edit
> Ante illum uxoris, post quem nil amplius edit.

What Juvenal would have said, had he been writing English prose, is about as follows: "Before the poor dependents will be placed toadstools of dubious quality; before mine host, a lordly mushroom, of the sort the emperor Claudius ate, ere that one administered to him by his wife, after which he ate nothing more." The passage has been translated thus—and I know no more delicious example of the demand that Latin makes upon the student: "Let those who are in doubt be permitted

to discharge their worthless friends; let Boletus do the same to his master; but then that was before Claudius ate his wife, after which he ate nothing more at all." Observe that the translation not only makes perfect sense, but that the last clauses rise to the level even of wisdom. Notice, too—and here is the essential point—the translator knew the meaning of *each word separately*, with the exception of *Boletus*, which, standing at the beginning of a line, and being therefore capitalized, he took for a proper name. The passage contains nineteen words, of which the student actually knows eighteen, and yet he fails completely to catch the sense except of the final five words. Nevertheless, he has blundered egregiously wherever he could make a blunder, save in the last clause. The situation is not conceivable in English, because it makes no such demand upon accuracy of intellectual process. And in this demand the efficiency of Latin, not for instruction, but as an instrument of education, resides. In a word we have, first, the discipline necessary to thought, and then, as a result of the material set forth, an introduction to the great things of life, leached of all pettiness by the lapse of time. Such, in my judgment, are the main factors incident to the nature of culture studies.

It has been my endeavor to keep sight of the *practical* side in a discussion which, from my personal standpoint, is fraught rather with immense *theoretical* interest. So, permit me to conclude by referring to a few points even more practical than anything we have considered.

There can be little doubt, in my judgment, that certain conditions inseparable from successful pursuit of culture studies combine to militate against them for many routine purposes. In the first place, they make unusual

demands upon the teacher. He who would carry their banner aloft, and keep it flying conspicuous, needs a certain bigness, weight—personality, if you will. Linguistic attainments of the technical order, while an indispensable portion of his minimum equipment, form no more than a portion. His manhood must be touched to fine, to large issues. Through his humanity the subject-matter, if it is to be effective, must receive exemplification by a species of incarnation. Or, as it may be put otherwise, his personal equation will constitute the dominating element in his method; on its operation success or failure will hang. To illustrate by a personal reminiscence. My Latin, though never any too good, was always better than my Greek. But Greek interested me more, and with high likelihood exerted a more powerful influence over my intellectual experience. And why? Because Jebb occupied the desk. Need I add that Jebbs are not to be picked up at every corner? To be quite plain and possibly not entirely pleasant, if culture studies lag or fail to attract, seek the cause, not in their material, not in some social tendency—the present ubiquitous scapegoat; but blame their exponents. In respect of effective representation, culture studies in our midst have still much to learn from the shining examples among our cousins oversea.

Secondly, the linguistic basis, which alone guarantees one deliverance from the numerous mares' nests so notorious in culture subjects, can be built up only in very small classes. The practical difficulties today of reducing classes to fifteen, or twenty, at the outside, happen to be a most serious factor. Those of you—and there are many here now—who know at first-hand the conditions inseparable from entire groups of our schools,

need no information of mine on this matter. Likely enough, too, no means of immediate relief loom up. Yet only when these limitations disappear is that *personal* attention, the prerequisite of a sure and sound foundation, obtainable. In large classes, the best suffer for the worst; those who stand in direst need of the physician receive the smallest, the most diluted doses.

In the third place, culture studies ought to be begun at an early age. Ten is not too soon! For only thus can we benefit those who must specialize, particularly in the workaday world or with a view to near practical pursuits, ere the years of adolescence have flown far. On the sea of troubles beating here I need not enter, save to say that each community must undertake it in its own way, and that the way will differ with the contrasted accompaniments resulting from varied stages of social development.

Fourthly, jump now to the other end of the educational ladder, where our heads strike against the stars of the university firmament, only, alas, to discover sometimes, with Alice, that they are "tea-trays twinkling in the sky." On this level the culture studies suffer sad impediment, because the demands precedent to any original work really worth while are so extensive. Not long ago an official of a society, founded in this university for the laudable object of encouraging research among students, asked me if I had any pupils engaged in such pursuits. Perforce, my reply was in the negative; for, as I remarked, the road to original work in philosophy is barred by a very pretty preliminary examination. A man *must* command five languages, and a sixth, nay, a seventh and an eighth, are necessary for certain fields of the subject. The culture student faces the problem of entire personal

reconstruction, before he reaches the point where he may christen himself "expert." I recall vividly how pleased I felt when, at the end of several years' severe work in philosophy—work which set out from a rather extensive basis in Greek, Latin, French, English literature, and elementary science—the late Master of Balliol[1] informed me, reporting in the most casual manner possible on one of my great efforts: "Mr. Wenley, at last you show some glimmerings." The self-sacrifice demanded, in the way of readjusting one's preconceived ideas, tells but a tithe of the tale; and, as all who have been through the mill recognize, just such self-sacrifice is one of the most terrible concessions to render. Lapse of time, range of information, liveliness of vital interest, wealth of books and other material, foreign travel—all go to swell the sum-total of the practical difficulty. And what can we say on the other side? Nothing but this: "Very true! But the man who has really arrived! What a fellow he has managed to make himself! What an impression of reserve power in the things of the spirit he conveys! What a magnetism of rarely molded intellectual character wherewith to charm others within the precincts! Here at length we look upon one who cannot be safely omitted from the equipment of an *educational* institution!"

> . . . . thou hast great allies;
> Thy friends are exultations, agonies,
> And love, and Man's unconquerable mind.

Finally, tumbling down our ladder to its stand on the raw earth, we are brought up with a severe bump against the inertia of the people. "Lord! what *do they* understand?" cries Kipling. Be it observed, nature has made

[1] Edward Caird.

them parents, political fortune has induced them to foot the bills, and psychological hallucination has led them to prophesy as authorities on matters educational. Ladies and gentlemen, it's our psychology that besets us with dangers, the more subtle that they are neither touched nor tasted. The suicidal lunatics of the intellect, those obsessed on one subject or another, roam at large outside Pontiac. The parent, not the pupil, plays the part of natural enemy to the teacher, universal literature bearing multitudinous witness. From Aristophanes, whose allusions to us would scarce pass muster even on the closing day of a local legislature, through Plato to Horace, with his "Stripesome Orbilius"; thence, through the variegated squabbles of the Alexandrian age, to mediaeval times, when even a Gregory the Great "would blush to have Holy Scripture subjected to the rule of grammar," and to the Renaissance, with Bruno's diatribes on Oxford and other places where teachers do congregate; thence to Shakespeare, with his Holofernes and Sir Hugh Evans; thence to Johnson, who has recorded that a schoolmaster is a pedant, one who makes a vain display of his learning; thence to the nightmare of Shelley's young life, the brutal Dr. Keate, of Eton; and to Dickens' Dr. Blimber, who "seemed, at every stride he took, to look about him as though he were saying, 'Can anybody have the goodness to indicate any subject, in any direction, on which I am uninformed? I rather think not'"; to his Mr. Creakle, who "cuts a joke before he beats an unhappy culprit, and we laugh—miserable little dogs, we laugh, with our visages as white as ashes, and our hearts sinking into our boots"; to his Dr. Strong, whose dictionary "might be done in one thousand six hundred and forty-nine years, counting from the doctor's last, or sixty-second, birth-

day"; and to his immortal Wackford Squeers, sentenced at length to Botany Bay; thence to Carlyle's "hide-bound pedants" at Edinburgh university; and finally to the vulgarian who parades an ignorance that positively amounts to genius in the columns of the latest daily paper; all swell one plaint—the teacher is an abomination to the Lord. And for an obvious reason. "They know just enough of teaching," as has been said brilliantly, "not to know that they know nothing about it at all." These be our masters, and to the culture studies they tend to become taskmasters, exacting the full tale of bricks, without straw. Let us recognize, however, that the circumstances of life place one dangerous weapon in their hands. All folk cannot be educated in the same way; education was made for man, not man for education. Yet, these very circumstances furnish the defensive armor. Society—label it aristocratic, oligarchic, socialistic, anarchistic, democratic, monohyphic (I don't know what that means, but it's a good word); call it by any name known under heaven to men—society, I say, cannot dispense with the *directing* element. And the primacy of this element must needs rest eventually upon a basis of superior education. If not, the society will go to pieces sooner rather than later. For such, culture studies will in the long run always prove indispensable. For society exists to make men. And, if education be a fitting—that is, a training in and for fitness—then assuredly society will require the best for those to whom it intrusts control. Remember, the converse of *corruptio optimi pessima* holds true more uniformly through the generations than even the maxim itself.

But I must have done, or you will liken me to the Platte River, babbling along its two thousand miles of

length in its single foot of depth. I console myself, however, with the thought: It has tributaries.

In thanking you for your attention, may I add a very last word. At some future time, when the waters of Lethe shall have passed over this address, I should like to solilo-quize similarly upon "The Nature of Scientific Studies." They, also, seek and must exercise increasingly their peculiar influence upon our educational arrangements. Moreover, in the long run, our present reaction against preliminary discipline cannot fail to affect them and their learners as adversely as it has affected the culture studies these last few years.

SYMPOSIUM I

THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A PREPARATION FOR THE STUDY OF MEDICINE

I. THE VALUE OF GREEK AND LATIN TO THE MEDICAL STUDENT

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The disciplinary value of the study of the classics has been generally recognized by educators for hundreds of years, and it is no less today than it was a generation ago. All teachers agree that there is no royal road to knowledge, and this sentiment has been attested by such axiomatic phrases as *nulla palma sine pulvere*, *ad astra per aspera*, etc., which all have approved and none denied since the time of Cicero and Sallust. *Nil sine magno vita labore dedit mortalibus*, "There is no excellence without great labor," is trite enough, but as true as trite; and now that we know more of the operations of the mental faculties than the best teachers of former generations knew, the truth of this old "saw" has been intensified to the *n*th power. No one can become a student of anything until he learns how to study, and he does this only under the whip of application. No knowledge, save that of the most superficial character, is easily acquired. Like gold, true knowledge lies beneath the surface, and he who would possess it must dig for it, and systematic education should begin in learning how to use the senses—the pick and shovel, as it were, of the mind. The five senses are the

only avenues through which we acquire knowledge, and even the most brilliant pictures of our imaginations are but perceptions previously acquired through the senses, and subsequently rearranged and projected onto the sensitive retina of mental vision. Although we cannot define mind, we know something of its *modus operandi*. We know that the pyramidal cells of the cortex of the brain must be brought into relation with the non-ego; that this connection can be made only through the nervous mechanism of the special senses, and that this machinery does fine and effective work only when nicely adjusted under the guidance of long experience. Like the gastric cells, the pyramidal cells of the brain atrophy with disuse, as happens when fed upon predigested food; and if I may express an opinion here parenthetically, I will state that too much of this kind of pabulum is dealt out to the young in both our secondary and higher institutions of learning.

There has been found nowhere a better training for the thinking apparatus of the young than the study of Latin and Greek. The great number and variety in the inflections of noun and verb render close attention an absolute necessity, and this, in and of itself, is of the greatest value in an educational way. Carelessness and superficiality are incompatible with any thorough study of Greek and Latin. Besides, with the close attention that the student must give to the variations in the structure of words, he soon begins to perceive that these indicate variations in the shade of meaning, and then the joy of study takes possession of the student. His observation is sharpened, his perception becomes more delicate, and he finds increased pleasure in the intensity with which he seeks fully and correctly to interpret the author's

meaning. And this habit of close observation, of attention to detail, of looking for fine distinctions and shades of difference, and the alertness of mind possessed by an individual of this habit, will be of inestimable service to him, should he choose medicine for his profession, both in his experimental work in the laboratory and at the bedside of his patient. This point in favor of the study of Greek and Latin, it seems to me, is not easily overestimated. Indeed, the progress of medicine is determined largely by the accuracy and precision with which observations are made. The careless or the superficial man is not suited either to the practice of medicine or to the conduct of experiments for the elucidation of medical problems. It is the painter who brings out detail, and not the impressionist, who is needed in scientific medicine. The best medical schools are rapidly advancing their requirements for admission, and now demand from two to four years of collegiate work, while the academic faculties are filling these two to four years largely with loosely regulated electives; and I am by no means certain that in fact the medical student of today has a better preparation for his professional study than his prototype of fifty or more years ago. William Harvey, whose keenness and accuracy of observation led to the discovery of the circulation of the blood, after many years devoted to the classics, gave five to the study of medicine, and his fitness was proved by his work.

The direct value of Greek and Latin, especially of the former, as aids to the exact meaning of medical terms, as shown by their derivations, is disputed by no one. But some do claim that the giving of from four to six years, or even more, to the digging of Greek roots and the trimming of Latin stems is too big a price to pay for the

result, however valuable it may be; and possibly this is right, if the student gets nothing but a knowledge of etymology from his classical studies, and if the time and energy given to the classics are so excessive that he cannot seek knowledge in other fields. The education that best fits one for the study of medicine certainly should not be narrow, and I would not have the preliminary training of the prospective medical man confined to Greek and Latin, nor would I give to the classics an undue share of time and energy. But when, in addressing my medical students, I use a new term—for instance, when I speak of a "toxicogenic bacillus" or a "pathognomonic symptom" —I can easily distinguish the students who have a fundamental knowledge of Greek from those to whom this basic language, certainly basic so far as medical terms are concerned—is indeed a dead language. Years of frequent and careful consultation of the dictionary may make good this plainly evident deficiency, which, however, does not exist for the student who has been drilled in Greek in his preliminary education. Medicine is, now at least, a rapidly progressive science, and even the dictionaries do not keep pace with its advancement. It not infrequently happens that an earnest medical student comes to me with the statement that he cannot find a certain word—"galactotoxismus," for instance—in his dictionary. If such a student had had a fundamental training in Greek, he would not have needed to consult a dictionary in order to ascertain the meaning of this word. Besides, I am of the opinion that the best dictionary, frequently consulted, cannot give to one wholly ignorant of Greek, the correct, clear, and full appreciation of the meaning of such a word as "sitotoxismus" as comes unsought to the one versed in Greek. Of the

two languages, Greek is of much more value than Latin as an aid in the comprehension of medical terms; and it seems to me regrettable that at least two years of good, solid work in Greek cannot be demanded as an unconditional requirement for admission to our medical schools.

It has been said that the use of Latin names in medicine, and especially in the writing of prescriptions, is pure affectation and should be discontinued. This statement is wholly erroneous and could be made only by one grossly ignorant of the facts. The word "salt" may mean any one of a thousand compounds, but "sodii chloridum" and "magnesii sulphas" are definite and signify definite compounds, and are capable of only one interpretation, be the reader English, French, German, Russian, Italian, or Spanish. For the purpose of designating a certain plant, or the extract of a certain plant, the common name cannot be used, because it may not be the same even in different sections of the same country, while the scientific or Latin designation is the same the world over. The language employed by an exact science, like chemistry or bacteriology, must be one which has already crystallized, and not one which means one thing today and may have quite another meaning a year from now, or even a century in the future. We must not forget, even in the pursuit of the rapidly growing modern sciences, that there is also a science of language, and that it, like everything else mundane, comes into existence, goes through a process of evolution, suffers modifications from its environment, and does not crystallize into exactness until it is no longer used orally; and not until this final period is reached, and it is no longer subject to material modification, does it become the suitable form for exact, scientific expression.

I have given thus briefly and imperfectly some of the reasons of a practical character as to the value of Greek and Latin to the prospective medical student. There is much more that might be said. The boy who has not studied these languages has missed the full and satisfying pleasure that comes to him who reads in the original the wonderful epic of Homer and the stately lines of Virgil, has caught the full force of the eloquence of Demosthenes and of Cicero, has had a bout with Horace and helped Cæsar build his wonderful bridge; and, *mirabile dictu*, I believe that the boy who has had the wider view given by a study of the classics will be all the stronger in both experimental and practical medicine on account of the knowledge and wisdom gained from the wise men of Greece and Rome.

II. DISCUSSION OF DR. VAUGHAN'S PAPER[1]

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I esteem it a privilege to address this assembly for any cause, but chiefly, I confess, because it lies in your province, and you have the power, to do what I hope will be done in the near future—restore the study of Greek to a proper position, so far as my profession is concerned.

You cannot discuss a paper without disagreeing with the statements contained in that paper. Now, I do not disagree with Dr. Vaughan, in the slightest particular. As a teacher of medicine who has been working at it for thirty-seven years, I surely ought to be able to appreciate the importance of what Dr. Vaughan has said.

[1] March 29, 1906.

While I cannot say anything in addition, I wish to lend my support and give as much emphasis as possible to each of his contentions; for an additional favorable opinion in any controversy adds to the weight of the arguments adduced and to the strength of the position taken. I have this matter very much at heart, which is indeed my only excuse for addressing you. The medical profession is not only employing Greek and Latin terms, using them at all times, but it is also coining them, and often doing so very incorrectly. The way Latin beginnings have Greek endings tacked onto them has come to be an abomination. Such illiteracy is making a laughing-stock of the profession in the opinion of men of the most ordinary culture.

But there is something worse than that. It is surely breaking one of the first rules of pedagogy to try to convey information concerning abstruse subjects to those who have never heard anything resembling these new ideas, in a technical language that they cannot understand—in an unknown tongue, as it were. This is just what we do, and, as Dr. Vaughan has said, how many thousands of times, as I look at the faces of my students, do I see a puzzled look or wrinkled forehead, because they do not understand the meaning of the technical terms I am employing, and which I must stop to explain! It is not my business to teach the meaning of ordinary technical terms. I should be able to use any technical term that I see fit to illustrate the subject, and the student should, if reasonably conversant with Greek and Latin, after a little reflection be able to understand it. I can hardly recall a technical term that as a student I had to look up in the dictionary. Thus, lack of knowledge of the dead languages proves a serious hindrance to teaching medi-

cine, because we compel the student to learn a language composed of terms which to him are meaningless but with which he is to acquire knowledge of entirely new subjects—subjects to which he should devote all his energies.

This is bad enough; but what is still worse is, that those who have never studied Latin or Greek very rarely take the trouble to consult the dictionary to ascertain the meanings of scientific terms. They may ask their neighbor what one means, when he probably knows less than they; and so they go through their medical curriculum and through their life not understanding, or actually misunderstanding, what certain terms mean. I find, when I am examining students, that they often do not know the meaning of the technical terms they are employing. In giving the history of a case they use terms that convey the opposite meaning to the one which is intended to be conveyed.

III. THE VALUE OF HUMANISTIC STUDIES AS A PREPARATION FOR THE STUDY OF MEDICINE

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All knowledge has, of course, value; but not to any single individual. In its distribution throughout the world there are appreciative and utilizing persons who, by each appropriating different parts, render it all profitable. How profitable a certain branch may be to one depends upon many different things, some of which are, how much it will benefit him in his station as a self-reliant worker for a living, as a member of society, as a citizen, as a person with or without an appreciation of it. Again, granting that a particular kind of knowledge has value to a certain individual, the question arises whether some

other kind, or more of another kind, might not make him more efficient. His efficiency depends upon adjustability to his special vocation which, in turn, is based upon a preliminary or preparatory training. The student who has educational qualifications or accomplishments, aside from those which have a necessary bearing upon his chosen profession, is the best prepared, not only for life, but, to use a biological term, for his specialization. He should be so prepared as not to become an intellectual malformation, but a well-balanced man. If a liberal preparation includes the humanities, then of course their importance is conceded. On this point there is probably a decided difference of opinion, and to discuss it leads to disputation. If the humanities are not essential, except in so far as they may have a few so-called practical bearings upon a professional education, they must be assigned to the optional class. There are those persons whose views upon the subject, if their reasoning be carried to the ultimate conclusions, must lead them to think that the preparation for medicine should begin in the kindergarten. On the other hand, others do not consider that there ought to be any particular difference in the elementary preparation of students for all the professions; they think that the foundation for a liberal education is the foundation for a professional education. The views of this class must lead ultimately to the conclusion that if, when the student begins to specialize in medicine, he has not acquired sufficient special knowledge to enable him to round out a thorough training in the ordinary four years, the course should be lengthened, either by a preliminary year for special foundation work, or by an introductory course to the main subjects as they are taken up in routine.

Some seem to maintain that this is particularly a transitional age in the adjustments of studies; that, after a while, we shall get matters "fixed." The fact is, all ages are transitional. Adjustment by virtue of human progress blends into or out of non-adjustment. There is no such thing as fixation. At the present time, as the affairs of the world are going, the ordinary physician, like the average lawyer, teacher, journalist, and clergyman, does not care for education as an accomplishment. He recoils from severe training and hard reading. His ideal is the ordinary routine business success. This state of affairs must be tolerated so long as the student considers life a failure if he cannot graduate at an early age regardless of preparation; or while the leading question is: "What are the minimum requirements of the law and the curriculum?" "How is such or such a study going to help me to be a doctor?" is the commonest inquiry from the ordinary medical student.

The learned physician recoils from the thought of Professor James's description of the uneducated person. He abhors being "nonplussed by all but the most habitual situations." He wishes to have his resources so organized and powers of conduct so great as to fit him with as perfect relations as possible to his social and physical world. He works to be as well prepared as possible, to educate himself "by means of the examples with which his memory is stored, and of the abstract conceptions which he has acquired from circumstances in which he never was placed before."

The physician should have special, exact, and ample knowledge of the many scientific branches that constitute what is generally summed up in the term "medicine." These branches he should comprehend in their

interdependences and true and broad relations, pursuing them with a sanctified devotion. There is no branch of learning which may not materially contribute to such a grasp of his subject. While he cannot read or study everything indiscriminately, he will have an elective affinity for some subject or subjects in the broad field of knowledge that he will make conducive to his peculiar needs, although he may not be able to explain just how or why. He should know the virtues, vices, and needs of those who make up his social environment, and appreciate the claims that neighbor, community, and state have upon him. To be a wise citizen, he should have a historical and present knowledge of the political institutions by which he is governed. The humanities have here special importance, if he is interested in a historical study of the duties of citizenship. The physician must have a penetrating insight into human nature; not humanity as a mass, but a scrutinizing, differentiating, penetrable gaze into individuals that reveals to his trained perceptions the reasons for the one under observation being mentally, morally, and physically different from everybody else. The educated physician is larger than his profession and wider than his allotted space in the community.

He does not consider that the pre-medical branches he studied in school are to be laid aside. With him, preparation and specialization go on hand in hand. As the superstructure is to be enlarged, the foundations must be extended. If the building advances in a particular direction, in that same direction must the preparatory or substructure expand. If he aspires to be an author, language and the powers of expression must be studied. If he delights in bibliography and lore of the

profession, then linguistics must be carried along. If he mingles with educated people, he must have the faculty of appreciation and the powers of address from necessity. If he would be looked upon, as were the doctors of a century or so ago, as the learned man of the community, he must keep ahead of his devotees. For his recreation and self-entertainment, he is entitled to give his tastes a wide range, but should avoid permitting his indulgence in this respect to become a dissipation. No man is up to the full degree of professional efficiency who permits his leisure to be frittered away by unprofitable recreations. Even recreation has character and, be it ever so relaxing, should be graced by dignity. Literature, art, music, brilliant associations, politics, languages, poetry, a side branch in science, biography, the "humanities"—all have their recreative and great cultural value.

While I have referred to these subjects as recreations, they cannot fail to have a reactive benefit upon strictly professional work, and to be contributory to one's acumen in handling and interpreting people, even in estimating their modalities in regard to the administration of remedies. In some of these subjects, physicians, aside from being foremost in their specialties, have attained distinction. William Harvey was one of the best mathematicians of his day. Daniel G. Brinton was perhaps the best qualified man of his time upon the subject of American archæology. O. W. Holmes, while he maintained his position as professor in a medical college, gained vastly more distinction as a literary man than as a doctor. The late Timothy F. Allen, one of New York's leading physicians, became a noted botanist and was regarded as the best American authority upon the *Characea*. Virchow was learned in statesmanship. Metch-

nikoff declares that, aside from what is ordinarily referred to as biological sciences, folklore, philosophy, religion, language, and poetry of all races and stages of culture must be studied in order to comprehend the real physical and physiological properties of man.

Probably the most conspicuous living example of the physician who combines literary pursuits with his scientific work is Dr. Osler. He takes wide excursions into the domain of the classics, and draws freely for his illustrations upon ancient literature, history, and biography. Still he writes that the biological studies give to a man clearer points of view and an attitude of mind more serviceable in a working-day world than other sciences, or even the humanities. Scholastic studies are not incompatible with ample professional qualifications.

Just now there is an awakening interest in historical medicine. Six medical colleges in the United States (Yale, Chicago, Johns Hopkins, Maryland, Buffalo, Minnesota) have courses in medical history. Original records, manuscripts, inscriptions, and even excavations are being ransacked for mines of neglected and overlooked discoveries. Besides, the relations that existed between the doctors of medicine and the Pope and the clergy, the governors and the people, are being studied in the original languages. Even the old Hebrew writings and Egyptian inscriptions are subjected to investigation from the physician's standpoint.

Before a young man enters upon the study of medicine, the law, as well as the college course, requires that he have a specified degree of attainment in certain branches of study. These are regarded as essential to a comprehension of the fundamentals of the subject. What values are to be placed upon particular branches has

caused much discussion and disagreement, but the average high-school course is now agreed upon as a minimum. Some authorities maintain that certain studies are the all-essential; others hold that a mind trained to continuity of thought and the capacity of independent reasoning from facts and data to rational conclusions is sufficient, and favor giving the student a wide choice of election.

According to an old system, the physician classified his people by temperaments; a method not without merit. There is the nervous temperament, the phlegmatic temperament, the sanguinous temperament, and so on. In a similar way students may be grouped in regard to their tastes. One has a predilection for languages, one for mathematics, others for literature, and some for the classics; and so through the list. From their earliest school days they frequently manifest these preferences, which may be developed into delightful accomplishments and carried along with routine work.

By the fixed-rule system, only such language, mathematics, history, and natural science are measured out to the pupil as it is thought he should know so as to enter understandingly upon medical branches. According to the other theory, even if he be deficient a count or two in trigonometry, for instance, he may be ahead of the average in Latin, Greek, English, elementary psychology, or some other disciplinary branch, so as to comply with an elastic standard.

Of course, it is appreciated that so long as the high school is the gateway for the ordinary student to a medical course, there is not so much hope of his becoming liberally educated as there will be when the academic college courses are added to the list of entrance requirements.

However, if with nothing but a high-school training a student of the intellectual diathesis starts out in medicine, he will, with a little latitude for his tastes, round out to a high degree of scholarly attainments.

The student who has the elective privilege and selects only easy courses will probably never make a scholar unless, perchance, he experiences the quickening influence that occasionally comes from contact with an inspiring teacher. In his choice of studies he betrays his instinct and gives evidence as to whether he had better or had better not be urged to take what is usually referred to as advanced work. The student with the scholarly predisposition and a taste for the humanistic studies should be encouraged to pursue them. If, on the other hand, his taste incline him strongly in another direction, why not let him gravitate that way? But there is danger at this point of his being prejudiced by some scientific enthusiast who does not himself comprehend the importance of any group of studies besides those which he has himself too narrowly pursued.

If I may be allowed to presume that there is anything conclusive about what I have said, I will make the following summary:

1. A preparation for medicine is not particularly unlike preparation for any other specialized work. It contemplates the training of the faculties and acquisition of classified knowledge.

2. The average graduate, at the present time, will enter the practice of medicine as a business project, and will not strive for lofty educational ideals.

3. The ideal physician will appreciate the value of all knowledge and delight to become proficient in such intellectual activities as he may be led to by a refined taste.

4. So soon as practicable, advanced or collegiate work should be required for admission to the medical college.

5. In the advanced studies a wide latitude should be permitted to the conscientious student, that he may cultivate his preferred branches.

6. As the humanities, such as the classics, philosophy, history, the arts of reasoning, and so forth, have great cultural and disciplinary value, students should be encouraged to pursue them as a historic background against which the present appears.

7. The greatest merit of these studies is not to be sought in their technical values, although a knowledge of Latin and Greek is time-saving in the etymological translation of words and phrases, and facilitates the learning of modern languages; but in that they conduce to a better interpretation of literature, both medical and general, in a broader sense, and are of great refining worth.

SYMPOSIUM II

THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A PREPARATION FOR THE STUDY OF ENGINEERING

I. THE PLACE OF THE HUMANITIES IN THE TRAINING OF ENGINEERS

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The subject of the technical training of engineers is one that has been treated at some length by many writers within the last decade. In the majority of cases, however, little or no attention has been paid to the earlier or preparatory education of those intending to follow this profession.

The engineering profession naturally demands a training along highly specialized lines, and the consideration of this fact has to a certain extent overshadowed that of the purely preparatory, or what may be called the general education, which must form a basis for this specialization.

In the engineering department—and, it must also be confessed, in the departments of literature, science, and the arts—of our universities the utilitarian spirit has of late assumed a somewhat prominent place; and, in the endeavor to devote his time solely to those subjects which he considers will be useful or money-producing immediately after graduation, the student in all probability will omit those studies which are of the nature of general culture. The time which the average man can spend

at the university being limited to four years, and in the case of most modern engineering courses four years at a considerable pressure, the demands of the purely technical studies, or those bearing immediately upon the same, have rendered the introduction of any culture studies an impossibility. This is due to the fact that, owing to the recent developments within the sphere of science, there is so much more to teach in the old subjects, so much that the students ought to know about the new, that four years is all too short even for the technical work.

With this atmosphere pervading the educational world, it is not very surprising that the student, in deciding upon the selection of certain courses, will ask himself: "Is this particular study going to be *useful to me?*" In his somewhat immature judgment he is apt to lay greatest stress upon those subjects which he imagines may be converted most easily into cash in the immediate future, losing sight of the fact that there may be other things in life besides the mere accumulation of wealth or expertness in his profession.

It may be pertinent at this time to consider the position of the engineer in the economic and social world of today. In the early days of the profession the only representative was the military engineer; but as time went on, operations other than those of a military or semi-military character demanded men whose training was not necessarily along military lines. Hence arose the term "civil engineer" as applying to those non-military men engaged in engineering in a general sense. The advent of steam and machinery led to a new class, known latterly as "mechanical engineers," this term being used to distinguish the men who specialized in moving machinery rather than in statical structure. In these

later days the name of the various classes of engineers is legion, but it is necessary here to emphasize the second main division of the engineering profession, as in the early days it led to the introduction of a class of men entirely different from the civil engineers. Even at the present day many are apt to couple the term "engineer" with machinery, and its accompanying adjuncts of overalls, grease, and grime.

In the early days before the development of engineering as a science, the only method of obtaining knowledge of machinery was by close and intimate contact with it. Engineering courses at universities were unknown, and those who took up this profession—or, more strictly speaking, trade—were in the majority of cases men of somewhat limited attainments, so far as general education or culture was concerned. As time went on, and engineering problems began to attract the attention of scientific men, the methods of the profession began to change. The old "rule of thumb" gave place to scientific method, and the demand for men with a thorough grounding in science—or, in other words, educated men—increased. The reason was not far to seek. New problems were arising continually and these required something more than mere practical experience in their solution. Twenty years ago the employer looked askance upon the graduate of a university or technical school; today the majority of large concerns will employ no one unless he is a graduate. A remark made recently by the manager of one of these may perhaps be of interest as showing his complete change of front; he said, in speaking of the work that a university should endeavor to accomplish: "*You* give them the grounding and theory; *we* can give them practice." So far, then, as the profession

in itself is concerned, there is at the present day a demand for educated men.

The modern engineer occupies, in many respects, a unique position. In practically all enterprises affecting the public at large either the responsibility is thrown directly upon the engineer, or at least his aid is required partially; in fact, he is responsible for nearly all those operations which involve the outlay of large sums of money. As compared with his professional brethren in law, medicine, or divinity, he may be said to be in a position of trust to the community at large rather than to the individual.

He is, therefore, brought into contact with all sorts and conditions of society, and must meet men of all professions or trades, not necessarily in a business way only, but also privately or socially. If statistics could be obtained from prominent engineers of today, I have no doubt it would be discovered that the impulse which gave them their early start was due as much to the help of some influential friend as to their own native ability. The faculty of being able to "get on" with everybody (to use an everyday expression) means more to the engineer than many realize.

These considerations, apart from proficiency in his profession, which, as was seen above, demands an educated man, tend to emphasize the fact that he should also be a cultured man; that is to say, a man with some interests outside his own profession, or at any rate, one with sufficient training in what may be called the culture studies to appreciate what is being done in professions other than his own.

The above discussion of the position of the engineer in the world of today, although necessarily fragmentary,

will perhaps be of assistance in appreciating the arguments which will follow.

There are certain preparatory subjects which may be regarded as common to all professions, but their relative importance may be greater in some than in others. The study of a so-called culture subject may be useful in fulfilling two objects: first, for the knowledge of the subject *per se*, or as an introduction or basis to others; and, secondly, as a general training for the mind.

So far as the profession of engineering is concerned, at least under the existing conditions, the second may be said to have the greater weight; although the importance of the first cannot be overlooked.

While not an exact science, the study of engineering demands definiteness and conciseness of thought, and one of the chief difficulties that those connected with the education of engineers have to overcome is a tendency to generalization on the part of the student.

An analytic, in preference to a philosophic mind, is the type that should be cultivated. In order to be successful, the student should have formed the habit of coordination and exactness in his earlier years of study.

While it may be the opinion of many that the introduction of some elementary form of science may accomplish this result, I venture to suggest that, as a general rule, studies of this nature will have an effect diametrically opposite, and lead toward vagueness rather than concreteness. What, for example, can be done in a subject such as physiology, when it is taught, not for the science itself, but under the influence, and as a means of propagation, of certain ideas of a serious but somewhat misguided body of women? The time so spent would be far more beneficial, both for a general training of the mind

as well as for forming a basis to further studies, if devoted to the humanities.

As a means of inculcating ideas of exactness the study of Greek and Latin is *facile princeps*. The niceties of translation, the importance of gender, number, and case, the proper use of the moods and tenses, and the demands of the relative clause, compel the mind toward a certain definiteness which is lacking in many of the subjects taught in the early stages of education. The most simple translation, or even the study of the grammar of these subjects, demands a directness of attention and a consideration of detail which cannot be otherwise than beneficial to a student whose work in the future will lead him into subjects where generalization is impossible.

As a direct preparation for many studies now required in the engineering curriculum, the humanities also play an important part. In the majority of engineering schools of the present day the first two years are devoted mainly to non-technical subjects, such as preliminary mathematics, English, and modern languages. The benefit of the study of humanities as a preparation for modern languages is too well known to need discussion at this time. A word, however, may be said regarding the study of English. Few perhaps realize the amount of writing that an engineer has to do, especially if his work is of a consulting character. He is required to report upon numerous schemes; he is often asked to give his opinions relative to the probable success or failure of certain undertakings; and in many cases his evidence in law courts is the ruling factor of the decision. These, together with the preparation of specifications and contracts, demand a familiarity with the English language which, it must be confessed, is often lacking.

While the cultivation of an elegant and literary style is neither demanded nor desired, it is necessary that the engineer should be able to express his ideas concisely, and with at least a certain amount of regard for the common usages of decent English.

It is an everyday experience that the origin of most lawsuits in engineering, especially in cases of interpretation of a specification or in patent suits, may be traceable directly to some idea loosely or inadequately expressed. The English speech, which one of our modern writers has aptly characterized as "the sea that receives tributaries from every region under heaven," requires a background of training in the humanities, at least for a full appreciation of sentence structure, if not for the benefit derived from the study of the grammar of these subjects.

It may be pertinent here to call attention to the amount of time spent upon, and the methods of teaching, English grammar in most of our public schools. The idiosyncrasies of the preposition and the conjunction, the use of the comma and semicolon, and many other details throughout the whole domain of English, are learned by rote; and the ease with which some children can reel off pages of rules, without the slighest idea of their meaning or application, is at once a source of wonder and of pity.

I venture to suggest that, if half the time at present devoted to this kind of study of English were spent upon Latin, the net result from both an educational and a mind-training point of view could not be otherwise than beneficial.

As a matter of fact, most children begin the study of languages far too late in their curriculum, and there is no reason why Latin, and perhaps French, should not

be begun in the grade schools. So much of the earlier part of a language must necessarily be learned by rote that it seems hard to realize why these studies have not been introduced in preference to some of the somewhat useless and inadequate frills so often found in many of our schools. Both in England and in Germany, Latin and French are begun at a much earlier time than here—generally between the ages of eight and ten; and, what may seem peculiar, no other studies are neglected to make way for these.

Although the above discussion may be considered as somewhat beyond the scope of the present paper, yet, when the previous arguments are taken into account, I trust I may be permitted this digression.

In connection with the study of humanities as a preparation for an engineering education, the question as to the length of time that should be devoted to these will naturally arise. The work at present required of engineering students, in the general four-year course, leaves practically no time for elective studies; and even if time were available, it is an open question whether this should be devoted to the further study of humanities or not, especially as in any case it would not amount to a sufficient number of college hours to prove beneficial. In the years immediately preceding the university—that is to say, throughout the high-school course—the study of the classics is certainly most desirable. At present the engineering department of this university accepts only two years of Latin for entrance requirements; but in all probability these conditions will be revised in the future.[1]

[1] Since the reading of this paper, the Engineering Department of the University of Michigan has decided to accept two, three, or four years of Latin. Greek is also accepted for entrance.

If the languages could be begun in the grade schools, then perhaps three years of classics in the high schools would prove sufficient for most cases. The last year could then be devoted to those subjects—such as chemistry, physics, and modern languages—which would cover the other entrance requirements. After all, the object of a university entrance examination is simply to show that the student has a moderately well-trained mind; and I venture to suggest that one who has devoted his time to the study of the humanities will be in as good a condition to absorb the university work as one who has spent his time in getting a smattering of a number of subjects, some of which are practically useless.

It may be interesting to notice that, on the average over the past three years, 49 per cent of the total number of entrance languages presented by candidates for admission to our engineering department were Latin, about 37 per cent German, and 11 per cent French, and the remainder a small fraction of Greek, Spanish, or no languages at all. Of these it is a little difficult to say, without looking up a mass of certificates, how many students had more than two years of Latin; but the presumption is that the majority did not have more than this amount. While two years of a language such as Latin is certainly better than none at all, it is doubtful if a student has any particular grasp of the subject in so short a time.

The difficulties attendant upon the somewhat crowded conditions of work in the regular four-year course, as well as the demand for men with a somewhat broader education, have led the engineering faculty of this institution to consider the advisability of arranging a six-year combined literary and engineering course.[1]

[1] A six-year course is now offered in the Engineering Department.

As, however, the technical work has been revised and rearranged during the past year—and this in itself has entailed a considerable amount of change—the committee in charge of the proposed course deemed it wise to see how this new scheme worked before reporting upon any further possibilities of extension. In a general way it may be said that the work in the literary department will be chosen so as to give the student a good general course—with perhaps a few electives, but not many. It is the desire of the department to give the student a broader education, especially on the culture side.

With this in view, it is hardly necessary to point out the advisability of the study of the classics in the high-school grades. Even with a six-year course, provided that a student had at least four years of Latin previously to his coming to the university, it is doubtful if there would be any particular advantage in the continuance of this line of study in his higher education.

While the writer is aware that many points in connection with the subject of this paper have remained unconsidered, or dwelt upon somewhat lightly, it was thought best to give a general survey of the conditions at present obtaining in the engineering profession, and to trust that some of the important details would come up in the discussion.

In conclusion, it may be said that it should be the desire and aim of everyone connected with the education of engineers to raise the standard of the average or rank and file of the profession, so that in the future it will not be a source of wonder and surprise when an engineer is discovered who has interests outside his profession, and who can appreciate art and literature for themselves alone.

II. DISCUSSION OF PROFESSOR SADLER'S PAPER

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In discussing my colleague's paper on "The Place of the Humanities in the Training of Engineers" I wish to raise my voice in favor of things whose bread-and-butter value is not evident.

Herbert Spencer,[1] in his essays on education, writes at length on "what education is most worth." He says:

> If we inquire what is the real motive for giving boys a classical education, we find it to be simply conformity to public opinion. Men dress their children's minds as they do their bodies, in the prevailing fashion. As the Orinoco Indian puts on his paint before leaving his hut, not with any view to any direct benefit, but because he would be ashamed to be seen without it; so a boy's drilling in Latin and Greek is insisted on, not because of their intrinsic value, but that he may not be disgraced by being found ignorant of them—that he may have "the education of a gentleman"—the badge marking a certain social position, and bringing a consequent respect.

While in general men of science will agree with Spencer in looking upon an education limited to so-called humanistic studies (meaning thereby polite literature, grammar, rhetoric, and poetry, including the study of the ancient classics) as a very narrow and bigoted kind of education, yet I am not willing to stand on his side and say that science is the exclusive education of most worth. His wholesale belittling of the classics makes me class him also among the bigots. Is not a position intermediate between the extremes the sensible place for parents and teachers to stand?

For the sake of definiteness I shall consider whether or not the engineer is better fitted for his life-work if he

[1] Herbert Spencer, *Education*, p. 7.

has had a full high-school course in Latin preparatory to entering the study of engineering. I wish my sons to study Greek too, but I shall base my thesis on the study of Latin.

For the engineer, then, what knowledge is of most worth? And does it include Latin? Knowledge is classified by the thinking man into (*a*) value for itself alone, (*b*) value for foundation for other knowledge, (*c*) value for training solely.

Let us consider Latin under these three heads, taking them in their inverse order. The boy, or the girl, needs foundation on which to build his education just as surely as any other builder needs a secure foundation; and, in my opinion, the value of a subject for the foundation training of a boy's mind is of great importance. Now Latin, with its structure obeying fairly consistent rules, is able to furnish the mind with exercise of practical value comparable with the value of exercises to the musician. The study of Latin grammar gives good opportunity of holding the pupil to good consistent work, and leaves little room for vagueness.

But the value of Latin for training solely would not be a sufficient excuse for its use in the education of the child; for the same argument might be made with reference to Sanskrit or Arabic. So let us turn to the consideration of Latin under the second heading—value for foundation for other knowledge. Language study, even if without value in itself, or as training for the mind, is yet necessary for the well-informed engineer; for he should be able to keep abreast of the progress of his profession in other lands, and a reasonable knowledge of French, German, and perhaps Italian may be looked upon as necessary tools of his trade. In my opinion,

these modern languages will be better acquired by an engineering student who has had a good Latin training.

We have already established the right of Latin to be included in the curriculum. We shall, however, not rest with a simple right to be included—we shall go on and say that it is unwise to leave the student any option in the matter; and the justification for this stand is that Latin is not only of value for training and for foundation for other knowledge, but it is also knowledge of value for itself alone; in other words, it is a part of "knowledge of most worth." This will be seen when we consider that the Latin language is the most extensive source for the words of our own language, and that no one can really know English, French, or Italian who is a stranger to Latin. The engineer is not a man apart from the rest of mankind. To be a success as an engineer, he must be a man among men who are largely in other walks of life. He must be able to write clear, concise, accurate reports to his clients or employers; and a thorough mastery of English is a tool without which the owner cannot afford to be. Let our engineer, then, be a man of all-around culture, who, though a modern man of science, does not fail to appreciate the good things of yesterday, today, and, I believe, tomorrow.

But many say that there is not time for four years of Latin in the training of the engineer. I believe that there is not only room for four years, but even room for six years. Why do we tolerate useless studies? Why do we compel our children to learn obsolescent tables of weights and measures, to be forgotten tomorrow? Why do we have courses in physiology whose object is to give children perverted notions of a grand science? Why do we have courses in patriotism—a thing which every boy

should learn at home? Why do we waste precious time in mastering absurd spelling? Answer these questions by saying that we will reform our ways, and then the engineering student will find plenty of time for four, or better six, years of Latin, and even some Greek too, and thus not neglect a part of knowledge of most worth.

III. THE DEMANDS OF MODERN ENGINEERING IN THEIR BEARING UPON CHOICE OF PRELIMINARY STUDIES

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Engineering as a profession has come to a sudden popularity. At the present moment, taking it in all its branches, it may safely be called the most popular of the professions; and it also, from its traditions, is looked upon as a most practical profession. It was developed essentially as such, and those who simply look at it from the outside so regard it. That was its original characteristic, and it may be interesting to note that some of its early exponents felt that when they had completed their life, they had done all the engineering it was necessary for anyone to do.

It is related of Thomas Telford, one of those early civil engineers to whom Great Britain owes so many of her canals and roadways, that when a young man made application for the privilege of studying engineering under him, he replied by asking what the applicant expected to find to do in the profession, saying: "I have built all the canals and all the roads that are necessary, and I do not see what there is left for you to accomplish." That was the view that a practicing engineer took of his pro-

fession in the first half of the nineteenth century. And even now, judging from its history and traditions, there is no profession that may more properly say: "Away with the culture study! Away with Greek and Latin! We do not need them." And there is no profession that has said it more frequently than has the profession of engineering. But there have been divers reasons for that. It was not wholly the engineer's fault. Our cultured friends must take a little of the blame upon themselves. They chose to look down upon the engineer; and, though quite justly, nevertheless the engineer objected to being looked down upon. The votaries of classical training were able to say that the great men of history had been men of classical training. They could support their assertion with the figures. They could say that of the men who had risen to prominence in whatever line they chose to select, the great majority were men of classical training. But they overlooked the fact that a man in those days who had any training at all had to have a classical training; that if he had the advantage of any education, it was a classical one.

The past fifty years, largely as the result of engineering, have developed a new kind of education in which the classics have been left out, and we are to consider whether on the whole that is best. First, it was argued that the practical side had no place in university training; then, that the cultural side could be properly omitted, and the demand was for the practical; but one might as well say that, as glass is good for windows, he will build his house's walls of glass, or, because wood is good for the panels of a door, that he will make the window panes of wood. The sensible position is an intermediate one. The two things must come together, each in its proper place. But,

unfortunately, with the antagonism of classics toward engineering, or more properly toward the engineer, as he rose in the world he had ground into him a reflex antagonism toward the classics which he looked upon as his chief enemy.

As time has gone on, engineering has advanced both in influence and in learning. I venture to say that ten years ago an engineer would hardly have been invited to speak upon this subject before such a gathering as this; and even though he had been, he hardly would have said the things I am prepared to say.

When the institution of Civil Engineers of Great Britain was formed, it adopted in its constitution Thomas Tredgold's famous definition: "Civil engineering is the *art* of directing the great sources of power in nature to the use and convenience of man"; but at the present time I contend that Thomas Tredgold's definition is insufficient. If it were sufficient, it would not seem to be necessary to appear here as an advocate of classical training for engineers. I maintain that engineering ceased a considerable time ago to be an art; and I would say: "Engineering is the art and *science* of directing the great sources of power in nature to the use and convenience of man"; and I would distinguish between an art and a science, in that science is classified knowledge, while an art is merely based on information; the scientist knows *why*, the artist knows only *how*. The engineer must know both. He must not only know the rule, but the reason for the rule, the underlying conditions which have produced that rule. So the engineer of today is reaching back to those days when devotees of natural science were not looked upon as mere practical men; when they were received and courted by the most cultured; and when the

literature of the time, the most popular literature, was made up of their work. We are going back to look at the productions of Descartes, Newton, Bernoulli, D'Alembert, Prony, and Bacon, and of many others whose names are famous on the pages of history, and whom one does not ordinarily think of as belonging to the engineers in any way.

When the engineer goes beyond the merely practical results, to the arrangement of those practical results with a view to discovering within them the law according to which their causes operated, something more is required than the mere observation of everyday occurrences that one is taught in the course of a practical training. It requires an attention to detail and an inquisitiveness that are seldom observed in one who has come up simply as an apprentice. The development of the reasoning faculty is not to be found in the solely practical. The devotion to detail is the thing that must be looked to, to the fine differences and the fine distinctions, whether they be in the construction of a sentence, in the establishment of a theory, or in the mending of a road.

The engineer is now called upon to describe his work, to lay down rules for its furtherance, and when he lays down his propositions they must be so laid down as not to be misunderstood. In other words, the engineer must be a master of his language. How can he become so? He must acquire a large vocabulary. And how can this best be done?

There are those who urge that for the engineer the sciences offer all that is necessary, and that the time spent upon any language at all is wasted. The next step after asserting that the sciences offer all that is needed, when that is shown to be untenable, is to assert that

modern languages supply the deficiency, and we have the error of that idea before us in many of our present students. Anyone who has studied the ancient languages feels that there is something very materially lacking in the groundwork of the modern languages. German and French seem like a child's production as compared with the structure of Latin. Nor can one properly understand English without an understanding of the Latin grammar, I believe, though he should study it until he were gray. There are features of language which the study of English in itself does not bring out, and which cannot be brought out until one goes back to its parent tongue; and it is in these distinctions of meaning that the engineer must ultimately become versed. Oftentimes we look upon the study of language, and the student particularly looks upon it, with a view to its practical use. He says: "I can study German, and it will be of some use to me; I can study Latin, but what good is that to me? Nobody speaks Latin." That is the very fortunate thing about it! Nobody does speak it. If you study Latin, you do not study it to speak it. If you wish to learn to speak German, go and live with a German family; do not waste your time in a classroom. It is not the purpose of the study to learn how to speak the language; the purpose is to understand its structure, and thereby understand the structure of our own language, and incidentally to acquire facility of expression.

There is nothing in which engineers today are so lacking as in the ability to express their thoughts; and there is nothing that will so surely give one such an ability as the translation from a foreign tongue; and the more delicate is the distinction of meaning in different foreign constructions, the better it is for the student.

There is one more point bearing on the question as to whether the training in the high school shall be in Latin or in a modern language. Latin, if it is taught at all, is taught well; and I may say that it is very rarely that the modern languages are. A thing well done, one thing well done, is worth any number superficially done.

We find today that the students who are entering college do not seem to be capable, on the average, of such a high grade of work as those who entered a few years ago. There seems to be a deterioration of the quality of mind, in its adaptability or its training. It has been said that the students who enter college today expect knowledge to be pumped into them or fed to them with a spoon. They look upon college as a kindergarten where they are to take their ease, and have information administered in sugar-coated preparations. They think that they can understand a thing when it is demonstrated before them, and they think that they have acquired it when they merely see it, though they could not reproduce it to save their souls. The result would be the same in translating, if one should read through a book catching here and there a word that he knew, and passing the others by. He would not get far in an understanding of his translation. The student must cover his whole subject; he must see what every word means; he must know the nice distinctions; and by the time he has accomplished that he has absorbed his subject, and when he has had four years of this training in language, he will be able to treat his mathematics in the same spirit.

Coming to the use of ancient languages in the understanding of words, it is not necessary to go so far as terms like "pseudomorph" or "toxicogenic," and those which are made up of two or three ancient roots. Take such

simple words as "affect" and "effect." I venture to say that 95 per cent of the students of the senior class of this university who have not had a classical training will fail to distinguish the difference between those two verbs; and yet the difference is quite essential, and it is especially essential to the engineer.

The information that a student absorbs during the early days of his life, after all is said and done, is not such a very important thing. A great deal of it will very likely cease to be accepted as correct information before he has gotten through college, particularly if it is along many of the scientific lines. We should, therefore, even in the high school, look more to developing and directing the student's mind, than to filling it with miscellaneous bits of information here and there.

If I were to say what would best comprise the preparation of the student for the engineering course, at this time; if I were to lay out four years' work, it would be something along this line, assuming that the student carries four major subjects each year.

I should put first for the first year: English grammar, composition, and spelling—do not forget the spelling. I think I would put next arithmetic, because the student should get through arithmetic in the earlier part of his course. He should be thoroughly trained in it in the grammar school, because, although arithmetic is a true science, a great many things in it must be actually learned, must be impressed upon the student's memory. He will not have time in afterlife for counting up to discover that two and two make four, or figuring out the multiplication tables. He must know them. I would put next in the first year Latin, and then I would put history.

Going to the second year, I would put Latin first, I

would put algebra second, and I think I would introduce physics, elementary physics, because then it is time that the pupil should begin to appreciate some of the laws of nature. I should prefer history to make up the last study, but out of deference to some of my scientific friends I would submit to biology.

Third year: Latin first, algebra second, English composition and rhetoric third; then another language, either German or Greek—it would not be French. Not that I have anything against French, but if one has a thorough foundation in Latin, French comes too easily to warrant any time in its acquisition in the high school.

For the fourth year I would put Latin first, geometry second; then I would put English literature, the reading and the speaking of the masters of English—and I consider this a very important one of the branches: the understanding of a great language, the formation of an accurate vocabulary, the development of a taste for something besides the vernacular. What we need today is less of the dialect and more of the pure English. It would be better for our language if those who are seeking to perpetuate the dialect of the plains and of the "poor white trash" of the South would cease their efforts, and let us get back to the language of Thackeray and Scott. Then as a fourth branch I would put in either German or Greek.

In closing, it may be well to state what inclines me so strongly to Latin. My father did not have an opportunity to study it, but he thought that it was wise that his son should, and a portion of my time in the high school was devoted to that subject. With a retrospect of twenty years, it seems to me I am warranted in saying that I could have better spared any other course that I

took in high school than the Latin. If something must have gone, if I could have taken but three-fourths of the subjects that I took, the Latin would be first and foremost, the one thing that would not have been left out.

IV. A CURRENT VIEW OF COLLEGIATE EDUCATION FORMULATED IN PROPOSITIONS

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1. Languages are not "practical."

2. A college education has no especial significance. It is a fashion to go to college, so children are sent.

3. College should prepare people for obtaining money.

4. There must be a shorter way of getting into college than through the preparatory schools.

5. Enrolment in a college adds an indefinable, but vast, accretion to one's learning and wisdom.

6. Preferences not justly earned, are expected—"graft."

7. High-school graduates are prepared to begin the study of a profession.

8. Anyone can plan a college course, a course that will be ever so much better and more "practical" than the one planned by those who have spent their lives at such work. Children are especially sure they can do this, and are not only permitted, but encouraged, to do it.

SYMPOSIUM III

THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A PREPARATION FOR THE STUDY OF LAW

I. THE VALUE TO THE LAWYER OF TRAINING IN THE CLASSICS

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Of the Chicago Bar

In most of the summaries of the faculties and qualities employed by the lawyer, a prominent place is given to the primary faculty of "common sense." This means "the correct sense of common things"—that is, sound judgment in affairs, or sound judgment. The significance of this and its bearing upon our subject are found in the emphasis laid upon "judgment" as the lawyer's chief requisite.

Starting with native endowments of intelligence and common sense, in what should the lawyer seek training by his preliminary education; and what studies will most aid him to such training? The answer is self-evident—training in judgment, and training in affairs. Conceding at once that training in the classics does not give training in affairs, it is sufficient for our purpose to maintain that training in the classics does give training in judgment. And here is the *crux* of the whole matter. The advocates of training in affairs have deemed the case settled by the admission that such training is necessary, and that it is not afforded by the classics. No question is made or admitted of the proposition that the lawyer needs train-

ing in affairs, and that he cannot get that training from the classics. That must be obtained in some other way.

But it is maintained for the classics (1) that they do, in a superior degree, give training in judgment; and (2) that training in affairs is in a way inevitable, while training in judgment is not; and that therefore the training which needs the solicitude of the teacher, the pupil, and the public is training in judgment.

The contentious work of the lawyer consists largely of such as the following:

1. The *ascertainment* of facts and proofs of facts.
2. The *ascertainment of the law* and of the authoritative statement of the law.
3. The *interpretation* of the law, to develop its relation and application to the facts.
4. *Expressional* work, viz., The work of convincing the tribunal, and persuading it to adopt his view.
5. The *record-making* work, which secures the correct and permanent recording and carrying into effect of the result attained.

Each of these has its counterpart operation; thus:

1*a*. Ascertainment of *want* of facts, or facts of disproof of the opponent's contention.

2*a*. Ascertainment of dominant or distinguishing rules of law eliminating the rules relied on by the opponent.

3*a*. Interpretation of the facts and rules relied on by the opponent, in order to develop their want of relation and application to each other and defeat the conclusion contended for by the opponent.

4*a*. Expressional work in inducing the tribunal to reject the course sought by the opponent.

5*a*. The record-making work of the defeated lawyer, viz., the securing of a record disclosing the *errors* of the court upon which an appeal may be based and a reversal secured.

The advisory work of the lawyer involves all these steps, and requires something more, viz., the carrying-on of all these operations *in advance* of the event, in order to guide the client and so direct his conduct that, when the event occurs, it shall inure to the client's welfare. It involves the carrying-on of the entire transaction, including the lawsuit itself, in thought and imagination, the ascertainment of the probable result, and the direction of the client's steps to avoid dangers and secure the benefits involved. And this advisory work constitutes by far the greater portion of the lawyer's task. What faculties are most employed in it? The answer is plain:

In (1), the *ascertainment of facts*, the faculty most employed is that of *judgment*, the faculty which *measures*, *weighs*, *compares*, *contrasts*, and *balances* (*a*) the conflicting statements of witnesses; (*b*) the conflicting phases of a complicated state of facts; (*c*) the conflicting motives, interests, prejudices, and tendencies of the parties and the witnesses.

In (2), the *ascertainment of law*, the faculty most employed is that of judgment, which *measures*, *weighs*, *compares*, and *balances* the seemingly conflicting statements of the law from different precedents, statutes, and principles; that determines which precedent, which statute, which principle dominates the matter in hand, takes it out from under the operation of some other, and so controls the result.

In (3), *interpretation*, the faculty most employed is that of judgment which *measures*, *weighs*, *compares*, and *balances* the evidences and reasons for conflicting interpretations, and selects the one which should prevail.

But here another set of faculties bears an important part in the lawyer's work, viz., the faculties which dis-

cover and develop the diverse meanings of a rule, viz., the *dialectic* faculties. Those are the faculties of critical examination or analysis, of logic, of "invention" (*i.e.*, "discovery" of meanings and expression), of discussion; and with the operation of each of these the use of the faculty of judgment is interwoven.

In (4), the *expressional work*, the dialectic and the *rhetorical* faculties are all brought into play. The latter include the entire range of the language faculties—those of composition, systematic arrangement, style, memory, and active expression. In the employment and control of these language faculties, the faculties of judgment are continually called into action.

In (5), the *record-making work*, the language faculties play a leading part, in selecting and forming the terms of the judgment or decree, and the permanent portions of the record on which it is based.

It appears, then, that the faculties of judgment and the linguistic faculties are pre-eminent in the work of the lawyer, and should be developed by special education. What study will best train his faculties of judgment and of language? I believe that, next after a thorough training in the use of the mother-tongue, the study of the classics will best accomplish this result.

In the presence of a company of teachers it is not necessary to dwell upon the details by which this is demonstrated.

In translating a long sentence from Greek or Latin, the student has to do with, say, 100 words. Each of the fifty more important of these words has from five to fifteen meanings in English. The student must measure, weigh, compare, contrast, and balance these different meanings to insure that he has found (1) the real meaning

of the original; (2) the best English equivalent for it; (3) the best English expression of it. He will find that the connectives, particles, and seemingly less important words are themselves *signs* by which he will be guided to the proper interpretation of the more important words, and aided in the selection of English equivalents. Like the discards in whist, these smaller members become most important indications of the interpretation of those to come. He will find that several of the words are in forms common to several distinct cases, as datives and ablatives, or to several different forms of thought as, for example, the several different uses of the subjunctive; and, finally, that the whole sentence may be treated as belonging to one or another of several different rhetorical forms. And he must measure and weigh and compare and contrast and balance at each stage of his work, to be sure that he is going right, and selecting the correct case and form.

Oh, what trials to the quick and accurate mathematical boy, who can compute algebraic squares mentally, and solve equations by inspection; to the observing scientific boy, who can classify the game birds of his locality at a glance! Here he must do something more. He must exercise his judgment. And that undeveloped faculty awakens and grows by exercise, and gradually acquires something of readiness and skill like unto the boy's skill with equations and game birds.

And the classics are the means of this acquisition.

This discussion is not intended to prescribe for the exceptional genius, for the Abraham Lincoln or John G. Johnson, who will rise with any education, or with no education, or with self-education. And the question is not whether the youth who hopes to be a lawyer shall be

educated, not whether he shall be educated in the law, but *what studies he shall pursue before taking up the law.* Comparing the classics with (*a*) mathematics, (*b*) the modern languages, (*c*) the natural sciences, (*d*) the applied sciences, (*e*) historical studies, (*f*) philosophical studies, I hold that the study of the classics yields superior training in the faculties of judgment and of language, and that these are what he most needs.

We could easily take up the comparison of the classical studies with those in each of the other groups of studies above noted, and find that, while each of the other groups has some point of excellence in which it surpasses all others, yet, in the discipline of the faculties which *measure,* and *weigh* and *compare,* and *contrast* and *balance* the different elements, and *exercise selection* and make decision among them, the study of the classics surpasses them all.

(*a*) In mathematics, broadly speaking, each problem admits of but one answer, obtained in one way. The faculties of precise definition and accurate operation and statement are greatly disciplined, but the faculties of judgment, less so.

(*b*) In the modern languages (1) there is a royal road to each one of them, viz., taking a vacation in its motherland; and (2) the modern forms of speech are corrupted in use and aided by object-lessons to such an extent as distinctly to lessen their value as discipline for the judgment.

(*c, d*) The natural and applied sciences pre-eminently discipline the powers of observation.

(*e, f*) The historical and philosophical studies (after their initial stages, as *information studies*) are *higher forms of cultivation of the judgment.* They need a pre-

liminary training of the judgment to build on, just as do the study and practice of the law. If we consider the training of the linguistic and dialectic faculties, we shall find that (after a thorough training in the use of the mother-tongue) the classics come first and the philosophical studies next. The lawyer then should study the classics and the philosophical studies.

It should be realized that the chief business of the lawyer has become that of business *adviser;* that the writing and interpreting of contracts, charters, ordinances, statutes, wills, by-laws, and business regulations, and advising with reference thereto, constitute his chief occupation. In all this he is constantly required to distinguish closely between the thought and the words in which the thought is expressed. Merely to illustrate, in these instruments, such forms of thought as express alternative future possibilities are in constant use. In the discussion of adverse interests and claims the "supposition contrary to fact" is continually involved. Other things being equal, the mind trained by the rules and exceptions of classic syntax and their noble examples in classic literature has a familiarity with the *forms of thought,* as distinguished from the *words* in which they are expressed, which nowhere else, as I believe, can be acquired so well.

The objection that the classics are uninteresting, hard, and dry, is put forth by the boy himself. And from every point of view we give this objection too much importance. But to the active practicing lawyer I beg to say that this is an important element in their value.

A lawyer must needs study uninteresting old statutes, dry and ancient blue books, stupid, antiquated ordinances, early black-letter precedents, to find out what the law is and what his client's rights are. Unless he can study

alertly, patiently, and discriminatingly all these uninteresting, hard, and dry sources of the law and bases of rights, he will never reach the higher walk of his profession. Many men have natural aptitude for this. Many men have such superior ambition and industry that they will learn how to do this work when the necessity for it overtakes them. Of them we do not speak. But for the average youth who aims to become a lawyer there is great need that he be given special *training in the interpretation of documents* which are uninteresting, hard, and dry. He will have no end of it to do in his profession. He should conquer this preliminary difficulty before he enters upon his work. And while hard work for hard work's sake is a solecism, hard work *in something worth while*, for the strength and skill to be gained thereby, is the essence of all disciplinary education. And this applies to the study of the classics by the would-be lawyer.

I have said nothing of the fact that there are thousands of legal terms adopted bodily from the Latin; that the terminology of the law is largely a Latin terminology; that our law itself is built upon the Roman law as a foundation, to a degree that only our best lawyers realize; that most of the legal conceptions which are daily employed in the profession are largely Roman in their origin; that the full-blown judicial statements with which the early common law abounds were many of them taken almost bodily from the Roman law; that, in the language of Sir Matthew Hale, "a man could never well understand law as a science without first resorting to the Roman law for information"; and he lamented that it was so little studied in England (I Kent, 546).

In all this the person who appreciates the value of the

scientific treatment of law will find powerful additional arguments for the study of the classics. The Latin of the *Institutes* is mainly post-classical in the technical sense, but may be treated as classical for present purposes. I have often regretted that the colleges in their offerings of Latin do not more often include the *Institutes* of Gaius and Justinian, which would familiarize the student, not only with classical forms of thought and expression, but with legal conceptions also.

We know, of course, that the slang of the street, the jargon of the market-place, and the vogue of the moment pervade the current use of English. This is true of every other language in current use. We know again that among the thousand books put forth each year, but one or two survive and are worth our study. And we are ofttimes perplexed to select those two, and avoid loss of time and effort upon the unworthy. But among the classics the winnowing hand of Time has made the selection for us. The slang, the jargon, and the vogue have passed. The clamorous utterances of the ephemeral and the unworthy have perished. The fittest, however, survive.

> One accent of the Holy Ghost
> The heedless world hath never lost.

And these are our classics; these, the testings and selections which the ages have pronounced worthy. It is the absorption of these, the mastery of their spirit, and the equipment that they yield, which give to the educated lawyer his special strength; which give the educated man in every field his sense of kinship with the great minds of all ages; which store his mind with the resources of the world; which give the spirit of light and leading which he needs.

The man who knows his classics goes through the work of life saying:

I hear the lofty paeans
Of the masters of the shell,
Who heard the starry music
And recount the numbers well;
Olympian bards who sung
Divine Ideas below,
Which always find us young
And always keep us so.

And he has within him the sense of largeness and of power that gives him in some degree, however small, a fellowship with the greatest and noblest—with

Caesar's hand, and Plato's brain,
The Lord Christ's heart, and Shakespeare's strain.

II. THE STUDY OF GREEK AND LATIN AS A PREPARATION FOR THE STUDY OF LAW

LYNDEN EVANS
Of the Chicago Bar

If one were to select a single word to express the aims and ambitions of the present day in substantially every field of human effort, that word would be "efficiency." The *result* is everywhere the principal thing sought after, and, with regret it must be said, the method of reaching the result is considered with more or less indifference. This applies even to the training of lawyers. There is a widespread indifference upon the subject, in general, as well as a tendency away from the study of the classics as a preliminary professional training.

That the study of Latin and Greek has tradition on its side is no longer an effective argument. We should, therefore, abandon that argument, and we may abandon it without regret; for, in the first place, it is a waste of

time to advance an argument which we know will not be considered by the jury to which we are addressing it—such procedure only wearies the hearers; and, in the second place, there is a change in the conditions surrounding the practice of the law which calls for a restatement of what is necessary in preparatory courses, and if we found our arguments upon present needs, we shall get a hearing before those whom we desire to reach.

The changes in conditions now demand greater breadth of view in members of the bar, and the reason is not far to seek. From the days of Magna Charta to our Civil War the legal profession furnished the leaders, and was the most important factor in the development of political liberty. Its writs of habeas corpus and trial by jury have been among the means of developing individual freedom and a true democracy. So long as the pressing questions were those relating to the basic rights of men, the lawyer necessarily, in the practice of his profession, was compelled to consider the rights of all members of society, and in a measure to keep in consideration the status of all citizens or subjects; and this naturally developed a breadth of view. But all these great and important questions have been substantially settled. No longer do the virtues of the writ of habeas corpus and the right of trial by jury serve as the grandiloquent perorations of Fourth of July speeches. Our questions today are what Mr. Lecky would call "money disputes," and these have a narrowing tendency. While the lawyer of today has to know the wider and more complicated business relations that now exist, and know them better than the lawyer of half a century ago, the relations are financial, absolutely; human interests and the development of society are less and less necessary subjects of

inquiry in the actual practice of our profession, and we must therefore meet the narrowing tendency by a broader training in order to produce the best result. Mere breadth of view in itself will be ineffective unless it is accompanied by the power of generalization, for laws themselves are but generalizations legitimately drawn from concrete conditions. Let us, therefore, taking no account, for the moment, of the development of the mind in accuracy of detail, pass to the more important subject, to that breadth of view which enables the individual to generalize correctly, and hence to be able to apply those generalizations to specific facts submitted to him for his opinion. Let us meet the issue squarely, not by praising the value of Latin and Greek, as a means of training, but by comparing it with modern languages, mathematics, and the natural sciences.

I. (*a*) The modern languages are in their nature changing, and current language is full of colloquial, if not slang, phrases which are not accurate expressions of thought. In this respect the dead languages have the advantage. The student who studies the German of Goethe and Schiller will probably remember no more about those works twenty years after he has studied them than he would of Homer or Virgil; yet in neither case would it be reasonable to deny the disciplinary value of the study. But the main advantages of dead languages over modern languages is that the subject-matter of the literature of modern languages is our complex modern life, full of the emotions of pity and sympathy. The subject-matter of the literature of the dead languages is more remote from us; it stimulates thought rather than emotion; the records of wars, the great jury speeches of Demosthenes and Cicero, the laws and politi-

cal institutions of the peoples of antiquity, when properly studied, involve accurate expression and logical rather than sympathetic development. Nor are the poems of Homer or Virgil an exception; their appeal to us is not emotional in the modern sense; the subjects stressed in Greek and Latin literature are the conduct of life and the government of men and the lessons of history—the subject-matter of that literature itself educates a lawyer.

(*b*) Again, the advantage of Latin and Greek over any modern language grows out of the fact that our own tongue consists of these languages or their derivatives grafted upon an Anglo-Saxon stock. We cannot learn Latin and Greek without learning English better; and he who is a good Latin grammarian is a good English grammarian without further study. It was James Russell Lowell who said that he believed he had never made a mistake in the meaning of an English word until one day in a hurry he consulted an English dictionary instead of a Greek or Latin dictionary for the root meaning of the word sought. For the man who has studied Latin and Greek, the saving of time and labor that comes from knowing the meaning of an English word of classical origin met with for the first time is a large element in the economy of time; and, in addition, because he knows the fundamental meaning of the word, he has an accuracy of definition that cannot be obtained from an English dictionary which gives all the various uses of a word without making prominent the root meaning in the foreign language.

(*c*) A third advantage arises from the fact that Latin law has been grafted upon Anglo-Saxon law. Our practice in chancery borrows from the civil law both its substantive enactments and in a large measure its practice,

and all our probate or surrogate courts, by whatever name they are known in the various states, are simply inheritors of the ecclesiastical law of England so far as applicable to American conditions. The civil law, and not the common law, controls descent and heirship in almost all states throughout the Union and in England. It would seem a waste of time to attempt to elaborate the importance, for the lawyer, of a knowledge of the language in which is written so large a part of the law which is in full force and effect today throughout this Union.

(*d*) It might be claimed that the last argument was merely academic, were it not for the fact that from the ingrafting of Latin upon our Saxon stock of law have come also Latin expressions of commonest use. Our writs are Latin words. Many of our forms of pleading and all the great principles of jurisprudence have been summarized in brief Latin statements which we call maxims; in an age when "brevity" is the second word to "efficiency," the practical value of this cannot be underestimated. To the legal mind the fact that any argument made comes legitimately and rationally within the scope of one of those great maxims which have guided our courts for centuries gives it weight and invites consideration, because it shows that the argument depends upon no novel or fictitious basis, but is in agreement with the experience of our race in the administration of justice.

II. The comparison between the classics and mathematics in point of training is nowadays less insisted upon; nor do lawyers, as a rule, feel that any great question can be raised here, for the importance of mathematics is unquestioned. But should the question arise whether, after the elementary principles of mathematics and the

elements of the Latin or Greek languages have been mastered, to which additional time should be given, we must say that, since mathematics deals only with the relations of numbers, while language and literature deal with the expression of the relations, not only of numbers, but also of life and its rules of conduct, the study of the languages must give the wider vision of the two.

III. But the real conflict in the feeling of today is in regard to the supposed advantages of the study of the natural sciences over that of the ancient classics. Even if it be generally agreed that the study of mathematics, despite its greater finality of conclusion and exactness of process, is, from the point of view of this discussion, inferior to the study of ancient languages because its subject-matter is so unlike human conduct—the rules of mathematics having no analogy to the rules of human life—it is claimed that the study of the natural sciences will give an equal, if not superior, training in accuracy through exact observation of the processes of nature, and that the knowledge thereby gained is more fruitful than that acquired from the study of the Latin and Greek languages. The question involved is not as to what knowledge itself is the more useful or the more easily remembered, but which is the better discipline for the mind in preparation for the study and practice of the profession. In the study of the natural world, teachers are often misled by the fact that their pupils show a greater interest in such subjects than in the comparatively abstract study of language, the cause of this interest being largely the pleasure of sense-perception. The eye and the ear easily acquire what the reasoning mind must with difficulty assimilate. But this very fact makes it reasonable to suppose that training in the sciences will

not give the power to deduce abstract rules of conduct because the sense-interest dominates the thought-interest. The subject-matter of the physical sciences, furthermore, brings the student ever back to the immutable laws of nature, and so, like mathematics, it fails to aid him directly in studying the mutable conditions of human conduct. The interests involved are not human, the operation of natural laws is too unlike the collective effect of individual free will. The very statement of this fact ought to satisfy the reason upon this point and make applicable the legal maxim, *res ipsa loquitur.*

IV. Another important desideratum in the training of a lawyer is accuracy of interpretation. While one is studying Latin and Greek he is being trained in a method very like that which he must pursue in construing a law. Pick up a statute just enacted, and begin to study it carefully to find out what its full meaning and effect is, and you are doing precisely the same thing as when you take a passage of Livy or Tacitus and endeavor to find its exact meaning. Every word must be weighed, and the point of its position in the sentence determined. The effect of former laws in a case is like the effect of the preceding sentences or the context; and the meaning of that sentence as related to the following sentences, as to whether it makes a complete story, is like the consideration of the full meaning of the statue itself in connection with the rest of the substantive law on the question involved. This determination of the meaning of statutes is one of the most practical duties of a lawyer. It will hardly be maintained by anyone that, as a preparation for this sort of work, the natural sciences or mathematics will have a practical value in training equal to that of Greek and Latin.

I have not attempted to discuss those very important, but apparently less practical, sides of the question which are most often dwelt on at length—such as the development of the taste, the acquiring of elegance of expression, and the distinction of learning—which are so often urged in favor of the study of the classics, because, as a rule, in the discussion of this subject the force of such considerations is admitted by those who differ from us. I have felt the need of presenting this question in a practical and concrete way, because my experience in lecturing to law students has led me to believe that this is the line of argument most apt to be effective at the present day, or at least while the fever of hurry is still a distinguishing characteristic of the age.

Furthermore, that the argument in favor of classica study may be effective, it must be of a kind which will ordinarily be appreciated by young men about to begin the last stages of study before actually engaging in their work of life, and not of the kind which will appeal only to older men whose successes and failures have taught them to view these questions with a greater regard for the value of professional training as it fits into and becomes part of the experience of life than as a means of immediate financial return. Whichever class of argument may be the more effective, we shall all agree that the day has gone which could prompt the couplet of Edmund Waller:

> Poets who would marble seek
> Must come in Latin or in Greek.

Nevertheless, we cannot forget that, with very few exceptions, lawyers who have come to distinguish themselves in their profession and to be of use to the world have come *through* Latin or *through* Greek.

III. THE ANCIENT CLASSICS AS A PREPARATION FOR THE STUDY OF LAW

DEAN (NOW PRESIDENT) H. B. HUTCHINS
University of Michigan

Aside from the elementary branches, no particular subject is absolutely essential as a basis for the study and practice of the law. In this respect the law occupies a place somewhat different from that of the other learned professions. The student and practitioner of medicine must of necessity get a substantial *scientific foundation* for his professional work. This for him is an absolutely essential prerequisite. For the professional courses in engineering a special and definite *scientific* preparation must be made; without it nothing but the most ordinary work in engineering can be accomplished. And it is probable that for theology, work along certain well-defined lines is desirable, if not essential. But it by no means follows that, because success in the study of the law or in the practice of it does not depend upon the mastery of particular subjects, a thorough preparation therefor is not necessary. The contrary is most emphatically true, particularly at the present time. The law is a practical subject, most intimately connected with the private interests of the citizen, and with questions affecting his public rights and obligations; but it is at the same time a science, the mastery of which requires a mental equipment above the ordinary. No one can hope for much success as a student of it without adequate preliminary training, or in its application as an art, without being prepared for the keenest kind of intellectual competition.

Upon the very threshold of his work the law student discovers that his success is to depend very largely upon

his equipment—not upon his having mastered any particular subject, but upon his having made himself master of his own mental processes to such an extent that he can do independent and original thinking. The fundamental principles of the different departments of the law must be mastered, and, that their full significance may be appreciated, their historical development through the successive decisions of the courts must be traced. But he soon discovers that his task embraces more than the memorizing of principles, and the study of their origin and growth. His eyes are soon opened to the fact that the serious business of the law student consists in the application of general principles to the solution of problems involving new conditions and varying statements of fact. And then, too, he discovers directly that, although the body of the settled law is large, there are continually arising questions upon which the law is unsettled, and whose solution requires the harmonizing, if possible, of conflicting decisions, or, where this is not possible, the determination as to the weight of reason and authority. He soon discovers that for every step taken and for every conclusion reached a logical and forceful reason must be assigned. It is needless for me to suggest that work of this nature, if successfully accomplished, calls for analytical power and constructive ability; it demands the informed and trained judgment of an educated man. While occasionally one having a natural aptitude for the law may be able, even with limited preparation, to master its principles and the art of its application, and to push to the front with apparent ease, the fact remains that, as a rule, the appreciative and successful study of jurisprudence demands preliminary training of a high order and of the thorough and rigorous kind.

And if such training is necessary for the student, it is certainly doubly so for the practitioner. He must be master, not only of legal principles, but also of the art of applying them to the actual affairs of life. The successful lawyer must not only have in mind and ready for immediate use the essential and fundamental doctrines of the law, but he must have his faculties so disciplined and under control that he is always prepared for emergencies. Men with ordinary equipment can do only ordinary things and fill the ordinary places, but the men who, through ability and training, are equal to the unexpected are bound to go to the front. More perhaps than the man in any other profession does the lawyer need a large range of general information. His work is so varied, and touches life at so many different points and frequently in so unexpected a way, that he will constantly find himself embarrassed and handicapped without the intellectual masterfulness that comes from thorough and vigorous preliminary study. Unless his attention is especially challenged to the fact, the layman rarely appreciates the extent and variety of learning, aside from the strictly professional, that the lawyer must from time to time summon to his aid in the course of a varied career at the bar. If he has been liberally and thoroughly trained, the knowledge necessary for the emergency may be his; but if it is not his, he has what is quite as useful —the ability to acquire at short notice and under pressure the necessary special information.

The notion that I seek to impress, that large success at the bar demands great versatility and thorough general training, may perhaps be made more apparent by illustration. The litigation in hand may require the examination, by the lawyer in charge, of learned experts in some

particular field of science—in electricity, for example. In order to develop his case through the examination of his own experts, and to detect error and expose fallacies in the testimony of the experts of his adversary, it is absolutely essential that he have a working knowledge of the specialty. Moreover, in the argument of the case he must become in a sense the instructor of the court and of the jury, if there be one; for he must make plain to them the full significance of the scientific testimony adduced and its bearing upon the controversy that they are to decide. The full extent of the task will be appreciated when it is remembered that in many such cases, perhaps in most of them, both court and jury are ignorant of the ordinary and fundamental principles of the science involved, and must depend for their enlightenment entirely upon the skill of the attorneys in the development of the case through the testimony and its presentation in the argument. The case may be one involving the question of mental capacity, either to do a particular act, or to appreciate the moral and legal consequences of a particular act. A controversy of this kind plunges the lawyer at once into the uncertain domain of the alienist, and, in order that he may do his full duty to his client or the public, a working knowledge of the various forms of insanity is an absolute necessity. The extent to which a preparation in this regard at times becomes necessary, and the uses to which such preparation may be put, are well illustrated in the trial in New York that is just now attracting so much public attention. Another striking illustration of the uses to which knowledge that apparently has little or no bearing upon the practice of the law may be put in a legal proceeding is to be found in the recent insurance investigation by the

Armstrong Committee in the city of New York. The remarkably brilliant work of Mr. Hughes in connection with that investigation has placed him in the front rank of American lawyers. His attitude upon public questions, and the belief of the people that he has the strength and the courage to accomplish the reforms that he advocates, together with his reputation as an honest and brilliant lawyer, have opened up for him a career outside of his profession; but it is simply to his work as a lawyer before the Armstrong Committee that I would direct attention. The secret of his achievement there was his preparedness, and the secret of his preparedness lay in the fact that, while securing a thorough preliminary training, he became a profound mathematician. The mathematics of insurance and the intricacies of insurance methods were to him an open book. His investigations, therefore, were thoroughly and rapidly made, and his conclusions fortified by a knowledge of details that to the uninitiated was simply marvelous. He was able to meet the insurance expert upon his own ground and to confound him by practical demonstrations of his wrongdoing.

But further illustration is probably unnecessary. It must be apparent, I think, that the lawyer, if he is to win a place in the profession, must be able to summon to his aid such special knowledge as may be necessary to meet the exigencies of his practice as they may arise. It cannot be expected, of course, that any considerable part of this will be secured through preliminary study. Occasionally such study may furnish it. But preparatory training, if of the proper sort, will furnish what, in a large way, is vastly more important than special knowledge, namely, the ability to assimilate and put to practi-

cal use, as the occasion demands, the results of the work of other men.

The foregoing, by way of introduction, leads naturally, I think, to the suggestion that I desire to emphasize, namely, that preparation for the law should be made by the study of such subjects as will train a man *to acquire easily and rapidly, and to think logically and independently.* And, in my judgment, the subjects the study of which tends to the development of these qualities are those which require of the student strenuous, painstaking, and persistent effort for their mastery. If I could regulate the preparation of law students, I would eliminate from the course all predigested and specially prepared foods, and I would give the young man something that would demand earnest effort on his part to assimilate. While I believe in and advocate a thorough college course as a preparation for the study of law, and while I hope that the time is not far distant when such a course, or its equivalent, may be made a prerequisite for legal study, I am frank to say that the young man who has a thorough old-fashioned classical and mathematical preparation for college is, in my judgment, much better fitted for the study of law than is the man who, during four years in college, has dissipated his energy and weakened his power to think clearly and logically by desultory and pointless work in "snap" courses that require little or no effort on his part. But I wish it understood that, in making this statement, I do not intend a criticism of the elective system as such, for I believe in it; but I believe also that it should always be so supervised and regulated that disciplinary subjects predominate during at least the first half of the course. Under such a plan the student comes to the specialized work of the last two years with a

quickened and strengthened mind and an informed judgment.

And it is because the preparatory study of the law student should be of the strenuous kind that the ancient classics may well take a prominent place in the preliminary course. There can be no question, I think, as to their disciplinary value. It is quite impossible for one to master the elements of Latin or Greek, and to attain a reading familiarity with either of those languages, without a painstaking and continuous mental effort. There must be a persistent training of the memory and a constant exercise of the judgment. For the prospective lawyer there can be no better discipline than that which comes from the discriminating effort involved in careful translation. The lawyer's professional life must largely be devoted to the interpretation of the law and to the preparation and interpretation of legal instruments; and the greater his skill in the use of language and in discovering shades of meaning, the greater his effectiveness. But, putting all this aside and conceding, for the moment, that the study of the ancient classics is without practical value, and that whatever we learn of them is soon forgotten, we still cannot escape the fact that the mental power and effectiveness that are the results of that study remain with the man and become a part, and a very large part, of his equipment for the activities of life.

But while I would urge the study of the classics as a part of the preparatory law course largely for their disciplinary value, I would also urge that study on account of the facility that it tends to give in the use of English. As to this there can be no question. There is, in regard to this, practically no difference of opinion among educators. The study of English can best be made through

the Latin language. And that the lawyer needs to know English goes without saying. The most effective men at the bar are those who, with good legal attainments, are able to write and speak simple, clear, concise, and forceful English. I do not mean by this that success at the bar at the present time depends upon oratory, as popularly understood, or upon the arts of the orator, for this is not the fact, but it does depend very largely upon the ability of the practitioner to clothe his ideas in a few words so arranged as to challenge at once the attention. A distinguished English judge has said that a case clearly stated is half won, and there is certainly truth in the suggestion. One of the difficult tasks of the law teacher is to get from the student a clear, concise, and definite statement of the facts of the case that is to form the basis of discussion, and in this part of the work the noticeable superiority of the classically trained student is apparent.

It must be conceded, of course, that the study of Latin is of practical value to the law student by reason of the fact that Latin terms are very generally used in the law. This, however, I regard as a matter of minor importance, for, through the aid of the dictionary, the meaning of such terms is easily ascertained. However, a student who has a reading knowledge of the language is able to appreciate the terms at once and without the necessity of special study.

It is hardly necessary to suggest that, if one is to devote himself to the scholarly side of the law, he should be classically trained, and that his knowledge of Latin and Greek should be supplemented by at least a reading knowledge of French and German. The field of the jurist is a broad one, and the ease and thoroughness of his investigations depend very largely upon his ability

to reach and master the sources of information through the texts of the originals.

The case that we seek to establish would not be complete without the suggestion that the *culture* value of humanistic study should not be overlooked in the consideration of what should be the training of the prospective lawyer. We are too apt to forget, in these intensely practical times, that the professional man should be first of all the well-educated gentleman. The lawyer should be more than a lawyer, the physician more than a physician, the engineer more than an engineer. Each should have an educational basis that fits him for something outside of, and beyond, his profession. I would not for a moment claim that a man cannot be well educated without a knowledge of the ancient classics, for such is not the fact; but that humanistic study stimulates the mind to seek what is best in literature and art, and furnishes a source of culture and entertainment that broadens the man, and enables him to have an appreciative sense of the value of things outside of the narrow limits of his specialty, cannot admit of doubt.

IV. THE PECULIAR QUALITY OF CLASSICAL TRAINING

HARLOW P. DAVOCK
Of the Detroit Bar

Justinian has well said that the whole doctrine of the law may be reduced to three general principles: To live honestly, to hurt nobody, and to render to everyone his just due. It becomes, then, the duty of the lawyer either, as an advocate, to endeavor to persuade those who administer the law to have those things done which should be done, or, as a judge, or acting in a judicial capacity, to

compel the doing of the right. This in itself seems a very simple matter, and the ordinary layman can see no particular reason why a formula should not be made to fit every case, and justice measured out by the yard, according to the size of the garment desired. But, holding the view that "law is the perfection of reason, that it always intends to conform thereto, and that that which is not reason is not law," we see at once how necessary it is that one who enters upon the practice of law should have the most careful preparation for his work; his task requires the delicate application and careful use of the highest faculties with which mortal man has been endowed. Where and how can these faculties be best developed?

The time has gone by when the student would choose a classical course simply because its degree is supposed to be the earmark of a completed education. With the increased development in the sciences and the so-called practical studies, a greater breadth of opportunity for choice of studies is afforded to the student; and we come back to the fundamental query: What is an education? Whatever the process, we shall agree that the trained or educated man is he who has gained the power to concentrate his thoughts, to reason correctly, and impartially to diagnose situations as they present themselves.

Trite enough is the proverb that there is no royal road to learning; but it is not inappropriate to remember that the road without obstructions is not well adapted to develop the resourcefulness of the traveler. The very fact that Latin, Greek, algebra, and the calculus are hard studies is a weighty reason why they should be pursued. It is the severe studies which, by steady grinding, bring out from the rough stone the diamond. I have no more patience with the man who decries this work in ancient

languages because it is not practical, than I have with the professor who stated to his class that mathematics were in his mind a mere chaos, a stream through which he had waded, and which was as unreal to him as the stream which disappears in a western desert.

There is undoubtedly a practical use of Latin for the lawyer, as there is a practical use of Greek for the doctor or clergyman; but above all else in importance is the peculiar quality of the training afforded by Latin and Greek which develops the mind for the analysis of the intricate questions presented in the practice of the law. The modern law school has come to stay. It is becoming each year more thorough, and is recognized as indispensable to the proper preparation for practice at the bar; but equally important should be the educational foundation preparatory to matriculation therein.

I was impressed with the idea, advanced by one of the speakers a year ago, that Latin and Greek are almost always taught by trained teachers. The German and French course, when properly presented, is most valuable, but the average of teaching in the modern languages is not so high as in the ancient, and the spoken language is much more easily acquired. The competent clerk or waiter in France and Germany, on account of his environment, must write or speak English; but this does not mean scholarship. You stand amazed at the fluency with which a young miss with an English accent explains to you the Palais de Justice at Brussels, and find that she learned our language by visiting a sister in London for two or three months. The man who succeeds in life is he who has gained the command of his own mental processes through close, hard work, such as is inseparable from the study of Latin, Greek, and mathematics.

The question when and how far Latin and Greek should be studied may be left for determination to the educational expert, but I wish to enter my protest against the apparent ease with which other studies at the present time can be substituted. The substituting of superficial polish for deep culture—the substituting of a kind of Chautauqua or lyceum course of lectures for the rigid training of classics, mathematics, and philosophy—is to my mind the imminent peril which presents itself in the present type of college and university curriculum, and surely for no profession is sound and thorough preliminary study more needed than for the law.

Our courts require and demand a clear statement on the part of the counselors who appear before them. A certain rhetorical manner may influence a jury; but back of all is the law, and it is the law as recognized and applied by the keenest minds that must ultimately win. In these days of commercialism and Alladin-like fortunes, of trusts and combinations, let us not forget that it is upon those who prepare laws, who enact laws, who execute the law, who decide the law, that the weal or woe of the nation depends. Whatever makes the interpreters of law intellectually honest, whatever makes them true thinkers and close analysists, is not only for their betterment, but for the betterment of society as a whole. I believe that the humanistic studies will best help prepare the lawyer for his part in life, and I know no greater responsibility than that which rests upon the teachers in our intermediate schools—those who guide, direct, and control the mind of the student in its formative period, who should see to it that the studies of the young student are rightly chosen.

In conclusion, let me say this, that the successful

lawyer is he who has not only the body, but the soul, of his profession; as he has been well and truly educated, so will he carefully, conscientiously, and faithfully guide those interests which are either put in his charge, or are presented to him for consideration. In legal training, therefore, let us hold fast to this rigid preliminary classical study; and the results, the greatest and best, will be shown in those who are not the evanescent leaders of the populace, but the true leaders of the people and the bar.

V. GREEK AND LATIN IN RETROSPECT

HINTON E. SPALDING
Of the Detroit Bar

Since the time of my own graduation from the university, it has been a matter of some solicitude with me that there has been, not only among the students, but also among the faculty, a turning-away from classical study, with an undue emphasis on other lines of university work. And it is because, from my own experience, I believe in the value, the great value, of classical training as a preparation for the practice of the law, and because I deprecate the tendency to which I have alluded, that I came out here this afternoon to give such reasons as I might for the "faith that is in me."

It is hardly worth while to discuss further the proposition which is before us, because the argument lies in a narrow compass, and it has already been set forth fully and forcibly. However, as conviction generally depends more upon feeling and upon personal testimony than upon any logical process of argument, it may be worth while to say a word about my own experience as determining my point of view.

It is almost thirty years since Professor D'Ooge gave me my entrance examination in Latin and Greek. I liked classical study, and for that reason, and for no other, I have continued to read the classics ever since; without pursuing any systematic course, I have, I think, in every year since I left college, and in most of the months of every year, read more or less Greek and some Latin.

In this connection I wish to record a doubt as to the advisability of casting aside classical studies at so early a stage in the college course as seemed to be suggested by Dean Hutchins. You can get the discipline by the end of the Freshman year; but unless you have much better preparation in Latin and Greek than it was my lot to have, no man who has finished his Freshman year has gotten or is able to get the cream of what is to be had from the study of these languages. You must be able to read at sight—you must be independent of Liddell and Scott; and such a command, of Greek at least, cannot be acquired without a longer preparation. The ability to read Greek and Latin at sight has, in my estimation, a value aside from the disciplinary for professional purposes: in that way, and in that way only, can one get the close and intimate knowledge of literature, which after all is most essential. I dismiss consideration of the disciplinary effect, for that is common to all studies involving hard intellectual labor.

Fundamental in the work of the lawyer is the investigation of truth. This investigation he carries on under great disadvantages, because his material is the infinite multitude of facts of human life continually shifting and changing, imperfectly understood at the best, being subject to continual modifications. He can carry on no exact experimentation in his work, and the instrument of his

investigation is language considered as a vehicle for the exact expression of thought. I know that it is commonly thought that the lawyer is not primarily concerned with the investigation of truth, but rather with the success of a particular cause or interest; I had that opinion myself when I began practicing, but any professional man who is worth his salt, if he ever held that opinion, changes it before he achieves substantial success. Primarily the interest of the lawyer is the interest of his client, but every lawyer who attains any great measure of success comes to realize that he best fulfils his professional duty who serves his client with full recognition of his higher allegiance to the truth.

For the purposes of this investigation he must learn to pick out from the mass of circumstances, relevant and irrelevant, essential and unessential, the controlling facts. He must learn to see them clearly, and to perceive them in all their relations and bearings uninfluenced by imagination or by sympathy, but making due allowance for the effect of imagination and sympathy upon others. A prime characteristic of the classical literature, and particularly the Greek, is an ever-present sense of measure and proportion, clear perception of the idea in mind and adequate expression of it, a perfect command of all the resources of expression and of all the powers of the mind, so that no one either dominates or is dominated by another. The study of such literature to the point which I have suggested, when you can really sense it without looking through the pages of the dictionary, will give, as I think, better than anything else can give, the ability essential for professional success. In this connection it has been suggested that Latin is of more importance than Greek. With that point of view I cannot agree;

for the purposes I have indicated, Greek seems to me to be more valuable than Latin.

As social relations become more complex and the huge accumulation of material resources and of the apparatus of material civilization grows ever greater, so grows the difficulty of attaining real knowledge and mastery, and so grows the need of it. And so also, the importance of the profession of the law increases as an interpreting and co-ordinating power. And so, too, grows the necessity of a sound method of classical training for those who would discharge the full measure of service that the profession owes to society.

VI. CONCLUDING REMARKS

THE CHAIRMAN, HON. LEVI L. BARBOUR
Of the Detroit Bar, Regent of the University of Michigan

Aside from the point of view of the professions, the value of the humanistic studies as making life worth living ought to be emphasized. These studies are of more value than any others for the character which they give to life.

In this country we have made a very grave mistake in reducing the requirements for the bachelor of arts degree so that almost any study, or a half-dozen miscellaneous studies pursued, as the student may desire, will entitle him to this degree; that is, to a reputation for knowing something which he does not know, and of having earned something that he has not earned. I should like to go back to the old condition of things, when the degree of bachelor of arts meant classical education.

SYMPOSIUM IV

THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A PREPARATION FOR THE STUDY OF THEOLOGY

I. THE PLACE OF GREEK AND LATIN IN THE PREPARATION FOR THE MINISTRY

WILLIAM DOUGLAS MACKENZIE, D.D., LL.D.
President of Hartford Theological Seminary

I count it a matter of great importance that this Conference has been invited to discuss the question how the study of Greek and Latin is related to preparation for the Christian ministry. It is true that indeed the classical department in our schools and colleges deeply affects the whole character and level, the tone and quality of the general education of our people; for it is still held by a very large number of men whose opinion we cannot afford to ignore, that ultimately the best culture of any modern nation must rest upon the basis of Greek and Latin history and literature. Apart from that wide topic, it must be confessed that the study of these subjects has a direct relation to the leading professions which is of the utmost importance to the dignity and power of those professions. But, above all, as we shall see, the relation of Greek and Latin to the Christian ministry is so intimate and so organic that it is no exaggeration to assert that the way in which it is measured and handled by the colleges and seminaries will practically settle the future intellectual influence of the Christian pulpit.

We cannot therefore discuss our subject adequately without asking ourselves, first of all, What is the function

of the ministry? There are those who maintain that it is possible to carry on the ministry of the gospel without a classical training, and in proof of this position they are able to name many persons who have occupied and occupy prominent positions as Christian preachers, and who have brought many souls into the Christian experience, who are entirely innocent of Latin and Greek. It must be admitted quite frankly that for the specific work of evangelism such a training cannot be proved to be essential. We must also recognize that many very useful pastorates have been carried on by men without that kind and level of education. But we must be all the more careful, when these facts have been admitted, to realize what relation the ministry sustains to the life of the church as a whole, and, through that, to the general life and culture of the entire nation. For religion is no mere secluded section of human life. It rises and it lives, it fights its battles and wins or loses them in close contact and struggle with all the other forces and institutions of a civilized life. It does not continue its existence and influence by mere spontaneity. It requires and demands the exercise of the highest functions of human nature, of imagination as well as faith, of the disciplined mind as well as the purified heart. As truly as it demands the secret agonies of repentance, it demands also the outward glories of public worship and the concrete burdens of human service. Religion never will come to its own unless it leads all the other interests and forces of civilized man. It is all or nothing, it is supreme or least among the complex conditions of human experience. It carries in its life and heart absolute authority, or its voice is a mockery and its claims a superstition.

The Christian religion maintains its life through the

continual assertion of its nature as the supreme self-revelation of God, and as carrying in itself a supreme authority over the conscience and the will of all human beings. It seeks—by its very nature it must die or seek—to make its spirit effective in the midst of all human interests. It must meet every strain which is brought to bear upon its fundamental claims. This the Christian religion cannot do in the face of the modern world except through men who are trained for a task sublime as this task. Whoever these are, they must stand to the community as the chief representatives of the Christian faith, its spokesmen, its advocates, its intelligent teachers, its confident promulgators. They must be men who are able to face the deepest things which Christianity may fear, and the deepest things which Christianity may do, among the wayward minds and the wayworn hearts of men. Moreover, such men as these must stand in every community. For it is not at a distance, by mere printing of elaborate arguments and dealing with scholarly situations, that this supremacy of the Christian gospel is to be maintained. This work can only be done through the lives of men in contact with the lives of men. This religion cannot be content with mere formal acquiescence, with mere outward conformity to its routine practices. It must seek by its very nature to penetrate every section of the country with all its influence, that it may bring every individual to all his perfection. And in every section of a civilized land the same battle must be engaged in as in every other section. The educated are everywhere, the disputers of this world are in every hamlet and side street of all this vast country. There is no place where it is safe to say that Christianity can successfully be maintained unless it is fully represented by those who

know its nature and manifest its power both in their word and in their life.

If these things are true, then they may be summed up in the blunt statement that the Christian religion cannot possibly retain moral and social leadership if its ministers lack an intellectual equipment which is equal to that required by any calling in the most highly civilized regions of the world. The idea that Christianity can conquer by means of men who do not know what mental discipline is, who hope to maintain their influence by a piety that is divorced from intelligence, or a message that is delivered by intellectual incompetents, is one of the most disastrous which any generation could inherit or cherish. The ministry must have its schools in which work must be as severe as in any other professional school in the land. The pulpits must be occupied by men who have given themselves to specific and technical preparation with as deep self-sacrifice, with as real diligence, as those who hope to occupy the front places in medicine or in law or in education.

It is in the light of this whole view of the ministry and of its preparation that I must approach the specific task which your committee has assigned to me. What place, then, shall the study of Greek and Latin occupy in the preparation for the ministry?

First as to Greek. The Christian religion not merely arose out of the Hebrew religion (and therefore every theological student ought to *wish* to know a *little* Hebrew), but in a world whose intellectual life was deeply saturated with the influences of the Greek language and literature. Greek, in fact, was the *lingua franca* of the world at that time, and hence we find that the writings of the New Testament are all preserved to us in that language.

Traditions that one or more originally existed in Aramaic are probably true, but the originals are entirely lost, so necessary was it that if they were to gain permanent place and influence they should promptly be translated and circulated as Greek documents. Even those apostolic letters which were addressed to the church in Rome itself and to that other church in the Roman colony of Philippi were in the Greek language. It is further to be noted that early Christian literature emanating from the city of Rome was not in Latin, but in Greek—as witness the Epistle of the Roman Clement. It has on apparently good grounds been concluded that down to the latter half of the second century the language used in the life and worship of the Christian church at Rome was not Latin, but Greek.

Many problems have always been felt to exist regarding the kind of Greek which we find in the New Testament literature. It is not until very recent days that material has been found for an approximate answer to that question; but it is becoming clearer every year, through a closer study of inscriptions and from writings disentombed in Egypt, that the Greek which is used in this New Testament is not merely Attic Greek modified or degraded, but is the vernacular Greek of that period. The first preachers of the gospel of Christ, by the divine instinct which has lived ever since in the church, especially in its great periods of missionary activity, addressed themselves directly to the people in the language which the people knew and used. The clearing-up of some of these facts has added new zest to the scholarly investigation of this aspect of the Greek language, and may throw new light upon various aspects of New Testament study.

In all this the older apologists used to see the work of a divine providence. In the fulness of time, it was said, God sent his Son into the world and that fulness, that fitness of all the circumstances, included this fashioning and perfecting of a language better adapted to record and express the Christian facts and truths than any other which the world had known. If many of us cannot today, with the same conscientious confidence, insist upon that argument as a piece of apologetics, we can yet recognize the actual and living importance for the Christian religion of the fact that, through its origin and permanent connection with the Greek language, it was brought into a living connection with the whole marvelous literature of the Greeks. It is one of the most significant of all facts that when this religion began to take its place in the large life of the Graeco-Roman world, and when its theologians were compelled to face the fundamental intellectual problems which it presented, then, as at the present day, they found in that most highly developed philosophical language of antiquity keen weapons ready to their hand.

It follows from all these facts that the thorough investigation of the New Testament in its history and meanings must forever rest on a knowledge of the Greek language. He who knows it not is shut off from a personal consideration of the deepest problems concerning the origins of the faith which he professes.

To turn now to the Latin language, we must observe that toward the end of the second century, in northern Africa, there arose that fierce Christian spirit, Tertullian of Carthage. He it was who really began the history of Latin Christian literature, and in his rugged paragraphs and sometimes tumultuous vocabulary we seem to feel

the burden of the task laid upon the beginners of that history. It is no easy thing to adapt a language to a view of human nature and its eternal relations, which is so vast, so subtle, so complex as the Christian view. It requires time, even as the missionaries of today discover, to refashion the great words of any language that they may move, as it were, at home in the universe which is opened by the Christian faith for the human spirit. From that time forth, Latin gradually and rapidly became the official language of the church, and the great theologies came to be written in that tongue. As the Roman Empire, now with the church at its heart, spread over Europe, it carried, for all the purposes of church and of state, the Latin language with it. It is true that in southern Europe—nay, even in Italy itself—the real Latin disappeared, and was replaced by the various vernacular tongues which, in their turn and at a much later period, had to be reconquered for the purposes both of literature and of religion. But down to the time of the Reformation, Latin continued to be the prevailing language in the higher life of all civilized peoples in Europe. In that tongue they wrote their science and their philosophy, they carried on the amenities and the burdens of diplomacy and government, they recorded their biographies and histories. In that tongue they taught all the peoples to say their prayers and to build their theologies. This language it was which became the instrument for keen dialectics of scholasticism and much of the deep-souled music of mysticism.

When the Renaissance arose there was a rediscovery of the ancient literature of Greece, and over Europe it spread its flowers and its song, breaking in upon the monotony of the heavier tongue of the Latins with its

lissome grace, its keen discriminations, and its close-knit vigor. But the Renaissance was accompanied by the Reformation. The Reformation brought about a still greater change in the uses of language, for the effort was made to give the Scriptures to the peoples of Europe in their own tongues—the languages of the home and the street and the marketplace. In spite of this strenuous missionary effort which, of course, began soon to produce its appointed results in the great literatures of those modern tongues, the discussions of the theologians continued to be conducted in the Latin language. Hence it is that so large a part of the theology of the Reformation period is inaccessible to those who are unable to use this language, while many of the most important aspects of ecclesiastical as of secular history in all the Christian centuries lie beyond their reach.

In view of all these facts, it seems almost needless to assert that no one can move easily in the region of theological discussion nor read very far into the history of the Christian church to whom the simplest Latin is utterly unknown. I know that there are those who feel persuaded that, through translations of the Scriptures and through reading of modern theological books, they can obtain all that is necessary for the conduct of their ministry. That depends entirely upon what their ideal is. There are deep and curious psychological results produced by ignorance as well as knowledge, and many paltry and viewless paths are trod because a man has to avoid certain topics and cannot enter upon certain courses of reading which he would naturally have entered upon if he had possessed even a little better equipment. The tendency, as I believe, of those who do not possess these weapons of a full Christian culture must ever be

to read what is easier, to avoid those greater works which confront one on so many of their pages with words printed in Greek or with quotations from Latin, with references to phases of history which only they are likely to know who have studied Greek and Greek history, Latin and the history of Rome. Thus, as I believe, the lack of Greek and Latin does of itself tend to lower the general authority of that portion of the ministry which is without them. Many a question the young college men in their churches could ask which must bring the blush to their faces because they know not these two things. Many an address must be made which shall be poorer because they cannot speak with confidence on points which a very little Latin or Greek would enable them to determine with somewhat of authority.

I am aware of the possible argument that we cannot expect the average minister to be a thorough classical scholar. And I admit at once that the average ability may not be high enough for such excellence, the average diligence may be unequal to its maintenance, and the average tasks may interfere much with its constant cultivation. But, on the other hand, I may urge a view of the matter which I think affords basis for a complete answer to that difficulty. It is ever idle to discuss a concrete situation in terms of an impossible ideal, and I wish today above all to be practical.

If anyone will look calmly and without prejudice over the field of work which is being carried on by those churches in this or other lands which insist that every minister shall have learned some Greek and Latin, he will find that, as a result, there are various grades of attainment in these languages and that each of these has its real value and function. First, there are those whose

acquaintance with and taste for classical learning is such that they are fitted to become specialists in this region. For them it is possible to do original work in the investigation of sources, in the discussion of minute linguistic problems, in the discrimination of one Greek usage from another, in the power to date a Latin document by the quality of the Latin. The church needs this kind of work for its large and varied life, and hence it must continue to call upon the preparatory schools and colleges to prepare such men for its service. I fear that we in this country hardly realize how much opportunity there is in this direction, and how great a leeway American scholarship needs to make up. One is glad to be able to say that in recent years much work of the best kind has been done at some American institutions by our younger scholars in this field. It is a mistake to suppose that there is no fresh ground to break either in biblical study or in the general field of church history. The discovery of ancient manuscripts of all kinds, the closer co-ordination of various fields of investigation, in economics as well as politics, in the minutiae of literary scrutiny as well as in the measuring of large movements of thought, is adding fresh light to our understanding both of the institutional history of the church and of the significance of its great doctrinal discussions. Much of this work can be done only by those who are trained philologists and who bring to the investigation of history the expert linguist's tastes as well as the grasp of the philosopher and the insight of the religious man.

In the second place, we must, however, remember that there is a place for that much larger number of men whose tastes are somewhat different, who are able and glad to acquire a reading knowledge of the classical lan-

guages without concentrating attention upon the grammarian's interests. Here there is a wide range of possibility—from the man who reads any Latin and Greek with ease, and prefers to do all his work in the original, down to the man who reads them faithfully but with difficulty, who, therefore, depends largely upon translations, but who, when he comes to critical decisions, is careful always to compare the translations with the original. There are great varieties of power between these two extremes, and a very large amount of the best work in several theological departments—biblical, historical, and theological—is today being done by those who have this equipment in some one of its varying degrees. And one must recognize that this is necessary, for there are various departments of theological investigation which require the use of quite other languages, which take men into the study of other periods than those covered by Greek and Latin writings. In cases like these, expert use of the classical tongues is not easily maintained. They grow rusty, translate laboriously, and feel that they are losing time if they depend merely upon their own slow progress through the pages of their authors. For such men the use of translations is not only allowable but necessary, and some of the most important books in many fields have come from such scholars. I believe that a far larger number of our ministers ought to belong to some grade in this class. If they have had the foundations well laid in school and college, if they have been inspired in the seminary to cultivate the use of Latin and Greek in preparation for their classroom work, if they have formed a habit of frequently reading even a little in those languages, of never depending merely upon translations but, where possible, of exer-

cising themselves in direct and personal translation and, at important points, checking the best translators by comparison with the original, they will not only maintain through life a reasonable knowledge of the classical tongues but will thereby be able to go to the fountain-heads of philosophical and theological history for themselves. They need not merely depend upon interpretations and reports of other scholars, but may have that noble joy of comparing these directly and personally with those ancient writers who are under discussion.

But there is a third class, consisting of those who have never gained a power of reading the classics easily; but who, being faithful and diligent men, gained their degree in both languages. They realize the great advantage of the measure of knowledge they have won. They rejoice that quotations from Latin, and Greek references to classical literature and history, are not all "blind" to them. Such men will rejoice to have on their shelves the best modern commentaries on both the Old and the New Testaments. They will ever keep up the study of the New Testament by the use of commentaries which treat the Greek text. They will rejoice to get as close to the originals as they can, and will be stimulated to buy books that deal directly with the sources. This measure of scholarship and ideal of practice is within the easy reach of practically every minister in the land. It is by no means to be despised. It is a measure of power which sets a man far beyond all his brethren who, however naturally able or pious, are without the knowledge which he possesses of these languages. The least in the kingdom of God is greater than all those without, and he who is able to use Greek and Latin in the degree I have described occupies always, in discussion, and in the

consultation of books, and in the judgment of controversies, a position such as even abler men cannot hold, whose minds are dead to these languages. I cannot strongly enough insist upon this point because, while it is the lowest part of the ideal I am setting before you, it is one which brings within every minister's reach whole ranges of theological work which otherwise he would never think of reading. It is safe to say that there is hardly one, for instance, of the excellent series of International Commentaries which does not imply some knowledge of Greek and Latin. Even translated commentaries on the New Testament, like that of Meyer, imply the power to turn the pages of the Greek Testament. No man can fruitfully read the translation of Harnack's *History of Dogma* who does not know these languages. He cannot follow the discussions on the authorship of the New Testament books, the history of New Testament times, without feeling at every step his deficiencies if he is unable to refer to the quotations or to follow even sparse references to Greek and Latin words. The tendency for such a man must always be to purchase and read books which belong to the more ephemeral class —those which are avowedly popular, whether in exposition or in theological discussion. His mind moves, therefore, always on smooth waters, and goes surely and easily to sleep.

His imagination is unenkindled by the rugged struggle with big problems. His faith is unbraced by conscious facing of the strongest winds of criticism. A large number of weaklings in the pulpit are men who might have become strong and vigorous in their intellectual and spiritual life, if their equipment had been sufficient to make them appreciate the important works, to buy one

first-class commentary rather than three or four commonplace productions of respectable piety. Men like these are the victims of every wind of doctrine that blows in any direction. Some of them take refuge in the arid regions of narrowness, of a conservatism that is bitter because uninstructed. Or else they yield themselves to the flatulent food of the latest fad, if only the writer of a book or a series of books is possessed of a smooth style and great self-confidence, if only he uses the word "new" for his philosophy or his psychology or his theology, if only he insists often enough and subtly enough that he who does not see these things does not see anything at all. What we need today in our ministry is a great body of men who know enough of the past to understand the real problems of the present. And we cannot have such a body of men unless they are willing to make the sacrifices of toil and patient study to acquire those languages which will open the most important discussions of the past and the present to their eyes.

I feel, of course, with you all, not only that this ideal is necessary, but that it is difficult to attain. I have heard, not so long ago, of ministers, in conversation with theological students, who sneered at the amount of attention which was demanded by their teachers to the languages of Scripture and Christian history, saying that *they* had been in the ministry for so many years and had had not found these things at all necessary. The downdrag of a low ideal, when it exists throughout a vast body of men, is a very powerful force and one which it is extremely difficult to counteract. It will take long to spread through the churches of America—nay, even throughout the ministry of America—the ideals of ministerial scholarship which I have so briefly and slightly

sketched above. For the better day that is coming we must depend very largely upon the spirit which emanates from the classical teachers in our schools and colleges, and the methods which are employed in our theological seminaries. I believe that one of the greatest forces which can be employed by teachers in public schools to induce boys to begin the study of classics and to carry it on enthusiastically, is continually, freshly, interestingly, to argue and to prove and to illustrate the position that the study of classics is necessary, not merely for a noble general culture, but for definite and professional power in the great careers of life. Among these careers not only statesmanship and law and medicine and education, but the ministry of the church of Christ must be named. It ought not to be hard for any teacher of Latin or Greek in any high school in the country to get sufficient grasp of the relation of his language to these professions to enable him thus to influence his scholars, to make them feel that these are not dead but ever-living languages, not useless lumber but the living fountain of fresh inspirations, and that no nation can, in its culture, in its statesmanship, in its professional careers, stand in the front rank which does not, through these languages, relate itself to the greatest achievements of the past.

What is said here of the school must apply all the more powerfully to the college. I believe that the sources of supply for the ministry can be opened by the spirit of the college professors of America. It is absolutely certain that in college many men lose an earlier desire to enter the ministry, and this through the mere fact that the ministry as an ideal form of human service and as an obligation of the higher life does not seem to have the respect of their teachers. I think that colleges and uni-

versities where the truly broad spirit reigns may, without any loss of self-respect, without any taint of sectarian spirit, so arrange their courses, so make suggestions to those who are looking forward to the ministry, as to encourage such men to undertake fields of study that will fit them for their future work in the seminary and in the church. By this I do not mean that any seminary work should be done at college. Attempts to do it have, as a rule, proved a failure. And in any case the man who looks forward to the ministry ought to take the broadest and strongest college course which is possible. But undoubtedly there are departments of study which those looking forward to the ministry ought to pursue, when we take the broad view of the ministry which I have suggested today. I believe that Latin and Greek ought to be studied by such men through the whole four years of their college course, so that, having had eight years in these languages, they can go to the seminary able to use them with some degree of comfort, and able to appreciate their value as soon as they enter upon biblical study and the investigations of church history. And in the seminary these languages ought to be used. No year should pass in which the men are not encouraged to read in the Greek Testament and the Greek Fathers, as well as in Latin theology. Thus eleven years of work ought to send the average man out into the ministry of America with an equipment which shall give him a position in every community he enters, as a man of sound education, of real and thorough preparation for his great career.

I trust that, as a teacher of theology, I am not deaf to the clamant voices which appeal to us for men who are trained to meet a living situation and to deal with the often crushing burdens of our modern world. It is in the

very name of those voices, with their pathos in my heart, that I yearn for a ministry in our land which stands high enough to measure, and is strong enough to grapple with their task. Ultimately a nation is made by its ideals, and social wrongs are permanently corrected, not by superficial rearrangement of outer things, but by deep regenerations of spirit and desire. What we need is the leadership of men upon whom the Christian view of God and the world has shed its light. It is no child's play, it is no idler's listless and perfunctory work, it is a trained man's life-work to make that Christian view and the experience which lies behind it prevail in his own character that it may prevail over the character of his flock and over the history of a nation. The minister of the Christian religion is, alike by the nature of that religion and the nature of his own relation to it, committed to the position of leadership in the community. Woe to the man who undertakes it with mind untrained and will unbraced for a life of intellectual and spiritual labor! But blessed is the nation and secure is its future whose ministry is composed of men who, to the zeal of the evangelist, and the sacrifice of the pulpit, and the practical wisdom of the leader, add the wisdom and the sacrifice and the zeal of the trained teacher. Today the church of Christ needs men possessed of all these gifts and acquirements, possessed even of that culture "to make reason and the will of God prevail" amid the free and tumultuous life of our modern world.

II. THE VALUE TO THE CLERGYMAN OF TRAINING IN THE CLASSICS

REV. A. J. NOCK
St. Joseph's Church, Detroit

The other night, in company with an eminent expert in social problems, I had the privilege of hearing Mr. Post lecture on the witch's work that the railroads are making with our political institutions. As we left the building, the first unmistakable breath of spring in the air brought with it a sudden, disquieting flood of recollections of my home in the Virginia mountains, and there occurred to me at once the pensive and graceful lines from Virgil's *Georgics:* "O for the fields, and the streams of Spercheios, and the hills animated by the romping of the Lacaenian girls, the hills of Taygetus!" The social practitioner, who regards my favorite pursuits with an eye of gentle toleration—thinking them a harmless means of keeping inefficient and sentimental persons from meddling underfoot of those like himself who are bearing the burden and heat of the day—took my arm and said, "I suppose now, your way out of all these troubles with the railroads would be to put Mr. Harriman and Mr. Pierpont Morgan to reading Virgil's *Georgics*." I had considerable satisfaction in telling him that he was not much more than half wrong.

The reply was not dictated solely by my own prepossessions. The function of the Christian minister is to recommend religion as the principal means of making the will of God prevail in all the relations of human society. He promotes the practice of the discipline of Jesus as the highest mode of spiritual exercise looking toward human perfection. But religion is an inward motion, a distinct form of purely spiritual activity; not

an intellectual process, an external behavior, or a series of formal observances. The final truth of religion is poetic truth, not scientific truth; in fact, with sheer scientific truth religion has very little vital concern. The Christian minister, then, has his chief interest in recommending a special mode of spiritual activity, in interpreting a special mode of poetic truth. But his experience bears witness that the general must precede the special. Before one may hope to do much with a special mode of spiritual activity like religion, at least some notion of spiritual activity in general must have made its way. Before one may hope to do much with a special mode of poetic truth like the truth of religion, at least some sense of the validity and worth of poetic truth in general must be set up. Here it may be seen how distinctly progress in religion is related to progress in culture—I do not say progress in education, for the recent changes in educational aims and ideals make of education a very different thing from culture; the recent revolution in educational processes compels us to differentiate these very sharply from the works and ways of culture. Education, at present, is chiefly a process of acquiring and using instrumental knowledge. Its highest concern is with scientific truth, and its ends are the ends of scientific truth. Culture, on the other hand, is chiefly a process of acquiring and using formative knowledge: and while culture is, of course, concerned with scientific truth, its highest concern is with poetic truth. Culture prizes scientific truth, it respects instrumental knowledge; it seeks to promote these, where necessary, as indispensable and appointed means to a great end; but culture resolutely puts aside every temptation to rest upon these as ends in themselves. Culture looks steadily onward

from instrumental knowledge to formative knowledge, from scientific truth to poetic truth. The end of culture is the establishment of right views of life and right demands on life or, in a word, *civilization*, by which we mean the humane life, lived to the highest power by as many persons as possible.

Because material well-being is the indispensable basis of civilization, the more thoughtless among us are apt to use the word civilization only in a very restricted and artificial sense. Our newspapers especially appear to think that the quality of civilization is determined by being very rich, having plenty of physical luxuries, comforts, and conveniences, doing a very great volume of business, maintaining ample facilities for education, and having everyone able to read and write. The civilization of a community, however, is determined by no such things as these, but rather by the power and volume of the humane life existing there—the humane life, having its roots struck deep in material well-being, indeed, but proceeding as largely and as faithfully as possible under the guidance of poetic truth, and increasingly characterized by profound and disinterested spiritual activity. Thus it is possible for a community to enjoy ample well-being, and yet precisely the right criticism upon its pretensions to be that it is really not half civilized—that not half its people are leading a kind of life that in any reason or conscience can be called humane. Let us imagine, say, a community whose educational institutions deal in nothing but instrumental knowledge and recognize no truth that is not scientific truth; with all its people able to read and write indeed, yet with a very small proportion of what they read worth reading and of what they write worth writing; with its social life

heavily overspread with the blight of hardness and hideousness; with those who have had most experience of the beneficence of material well-being displaying no mark of quickened spiritual activity, but rather everywhere the outward and visible sign of an inward and spiritual dulness, enervation, and vulgarity; to apply the term civilization to anything as alien to the humane life, as remote from the ideal of human perfection, as this, seems to us unnatural and shocking. In such a community, no doubt, all manner of philanthropic and humanitarian enterprise may abound; what we nowadays call social Christianity, practical Christianity, may abound there. We do not underestimate these; their value is great, their rewards are great; but the assumption so regularly made, that these in themselves are sufficient indication of a chaste and vigorous spiritual activity on the part of those who originate and promote them is, in the view of culture, manifestly unsound. There is much room just now, we believe, for a searching exposition of Article XIII, "Of Good Works Done before Justification." We of the ministry, therefore, must keep insisting that, as our concern is purely with the processes and activities of the spirit, only so far forth as these things represent the fruit of the spirit can we give them our interest.

The Christian minister, then, is interested in civilization, in the humane life; because the special form of spiritual activity which he recommends is related to the humane life much as the humane life is related to material well-being. He is interested in the humane life for himself, because he must live this life if he hopes to prepossess others in its favor. And here comes in the ground of our plea that Greek and Latin literature may be restored

and popularized. One makes progress in the humane life by the only way that one can make progress in anything—by attending to it, by thinking about it, by having continually before one the most notable models of the humane life. And of these available models we find so large a proportion furnished to us in the literature of Greece and Rome as to force upon us the conviction that in our efforts to exemplify and promote the humane life we simply cannot do without this literature. The friends of education as it now is keep insisting that citizens should be trained to be useful men of their time, men who do things, men who can develop our natural and commercial resources, carry our material well-being on to a yet higher degree of abundance and security, and play a winning game at politics. For these purposes, they tell us, instrumental knowledge and scientific truth are the only things worth knowing. We content ourselves with remarking, simply, It may be so; but with all this we, at any rate, can do nothing. The worst of such justifications is that, like Mr. Roosevelt's specious and fantastic plea for the strenuous life, they are addressed to a public that needs them least. There is small danger that interest in anything making for material well-being, for the development of our commerce and industrial pursuits, will fail for a long time to come. As for politics, statesmen trained on instrumental knowledge may well be instrumental statesmen, such as ours are; and these, too, appear to be for ever and ever. Our interest is in knowing whether education as it now is will give us citizens who can accomplish anything worth talking about in the practice of the humane life. The friends of education tell us that men trained as they would and do train them will turn out shrewd, resourceful business men, competent investi-

gators, analysts, and reporters in the professions, clever, practical men in public life. Again we reply, It may be so; but will they turn out business men of the type, say, of Mr. Stedman, professional men of the type of Dr. Weir Mitchell (if we may venture to bring forward these gentlemen by name), public men and politicians of the type of Mr. Hay or Governor Long? When these questions are satisfactorily answered, we will cheerfully reconsider what we say in behalf of Greek and Latin literature; but unless and until they are so answered, we must continue to point out as in our view the cardinal defect in education, that it does next to nothing for the humane life, next to nothing for poetic truth, next to nothing for spiritual activity; and that its failure in these directions being what it is, our civilization is retarded and vulgarized to correspond.

For the sake of civilization, therefore, we of the ministry venture our plea in behalf of culture. We beg that some of the stress now laid upon purely instrumental knowledge be relieved. How can we even be understood when, for the sake of the great end of our calling, we praise and recommend culture and all the elements and processes that enter into culture, if the whole bent of secular training is against these, and serves but to confirm the current belief that the only real knowledge is instrumental knowledge, the only real truth is scientific truth, the only real life is a life far short of what life might be and what it ought to be? We ask that Greek and Latin literature be restored. We do not pretend to argue for the disciplinary worth of Greek and Latin studies, their value as a memory-exercise, as furnishing a *corpus vile* for our practice in analysis, or as a basis for the acquisition of modern languages. We argue solely for

their moral value; we ask that they be restored, understood, and taught as an indispensable and powerful factor in the work of humanizing society. As these subjects are now taught (if an unprofessional opinion may be offered without offense) their grammatical, philological, and textual interests predominate. Mr. Weir Smyth's excellent anthology, for instance, is probably an example of the very best textbook writing of its kind, and a glance at this—comparing it, if one likes, with the editorial work of Professor Tyrrell, in the same series—shows at once that Mr. Weir Smyth's purposes, admirable as they are, are not our purposes. We would be the very last to disparage Mr. Weir Smyth's labors or to fail in unfeigned praise of the brilliant, accurate, and painstaking scholarship which he brings to bear on all matters that he sees fit to include within the scope of his work. But *sat patriae Priamoque datum;* again we say it is not likely that instrumental knowledge, even in our dealings with the classics, will ever be neglected. Let us now have these subjects presented to us in such a way as to keep their literary and historical interests consistently foremost. Let the study of Greek and Latin literature be recommended to us as Mr. Arnold, for example, recommends it; let the Greek and Latin authors be introduced to us as Mr. Mackail introduces them; let them be edited for us as Professor Tyrrell edits them; let them be interpreted to us as Professor Jebb or Professor Jowett interprets them. Or, if the current superstition demands that we continue to receive the Greek and Latin authors at the hands of the Germans, or at second-hand from the Germans, we make no objection; we stipulate only that our editorial work be done for us not by the German philologists, textual critics, grammarians, or by Ameri-

can students trained in their schools, but by Germans of the type of Lessing, Herder, and Goethe—men who are themselves docile under the guidance of poetic truth, who are themselves eminent in the understanding and practice of the humane life; men, therefore, who can happily interpret this truth and freely communicate this life to us.

The consideration of Greek and Latin studies in view of the active pastorate usually, we believe, takes shape in the question whether or not it is worth while for a minister to be able to read the New Testament and the Fathers in the original. Into this controversy we have never seen our way to enter; nor have we been able to attach to it the importance that it probably deserves. What interests us in Greek and Latin studies is the unique and profitable part these play in the promotion of the humane life. Nor do we argue with the friends of education as to the possibility of generating and serving the humane life by means of the discipline of science; we affirm simply that the humane life is most largely generated and most efficiently served by keeping before one the models of those in whom the humane life most abounds; and that of these models, the best and largest part is presented to us in the literature of Greece and Rome. The men in undergraduate work with us, back in the times of ignorance before natural science had come fully into its own, knew little of the wonders of the new chemistry. Little enough did they know of such principles of botany, physics, geology, astronomy, zoölogy, and so on, as one of our children in the high school will now pretend to rattle you off without notice. But they knew their Homer, their Plato, their Sophocles, by heart; they knew what these great spirits asked of life, they knew

their views of life. And with that knowledge there also insensibly grew the conviction that their own views and askings had best conform, as Aristotle finely says, "to the determination of the judicious." This was the best, perhaps the only fruit, of their training; they became steadied, less superficial, capricious, and fantastic. Living more and more under the empire of reality, they saw things as they are, and experienced a profound and enthusiastic inward motion toward the humane life, the life for which the idea is once and forever the fact. This life is the material upon which religion may have its finished work. Chateaubriand gives Joubert the highest praise that can be bestowed upon a human character when, speaking of Joubert's death as defeating his purpose of making a visit to Rome, he says, "It pleased God, however, to open to M. Joubert a heavenly Rome, better fitted still to his Platonist and Christian soul." It is in behalf of the humane life, therefore, that we of the active pastorate place our present valuation upon the literature of Greece and Rome: for the first step in Christianity is the humanization of life, and the finished product of Christianity is but the humane life irradiated and transfigured by the practice of the discipline of Jesus.

III. SHORT CUTS TO THE MINISTRY, WITH ESPECIAL REFERENCE TO THE ELIMINATION OF LATIN AND GREEK FROM THEOLOGICAL EDUCATION

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I am not responsible for the title given me, and I suppose we are all agreed that there is no royal road to learning, no short cuts to anything worth having. I

imagine that the title was chosen in condemnation of any attempts to lower the standard for entrance into any profession. All responsible for education have at least ideals which would impose an irreducible minimum, and would seek to stiffen requirements as soon as it became practicable to do so. The denial of short cuts is, perhaps, not a very palatable doctrine to a generation that wants quick results; and, in any case, it is natural to assume that something less than the long and stately preparation demanded for the old-time ministry could be made to do for the practical needs of our day. In some quarters, also, the shortage in the candidates is met by cutting down the ancient scholastic standards and by shortening the time required for study. It is the object of this convention to protest against this and to show cause why such a policy must fail of its purpose.

It ought to be said that it is not by the will of the churches that short cuts should have become necessary or possible. A completely educated ministry has always been the ideal of the churches of Protestantism. One only needs to know something of the history of education in America to know that this is so. All the older schools of learning had their origin in this ideal. Every college was started for the express purpose of supplying educated men for the ministry. So, when we make a definite pronouncement against the short cuts which would eliminate subjects we think indispensable, we ought in justice to remember that often the church is compelled to do what it can and not what it would. Circumstances are often too strong for us, and sometimes a situation arises in the church when it must use what material it has. In a country like this, where a great tract gets filled up in a few years, the church seeks to follow the movement

of population and must do the best it can under the circumstances. It has to cover the ground, and, if need be, do without some of its own scholastic requirements. Then, there are different kinds of work needed in different situations, and it is fair to keep in mind the distinction between the qualities needed for a regular and long pastorate of the usual type and the qualities needed for what may be called the work of an evangelist. Indiscriminate condemnation of churches and seminaries that have to some extent departed from the old rigid standard is foolish. From what I know of some seminaries in America I am convinced that nowhere, certainly not in Great Britain, is there such a thorough and scientific training insisted on. In no seminary in the English-speaking world is there such equipment and such high class of scholarly and practical work done as in Union Theological Seminary—to mention the one I naturally know most about. But again, I say, we must consider the facts which make this standard impossible throughout the whole country. For instance, I have now in mind a seminary which takes men otherwise qualified who have had no college training. Personally I am at one with you in thinking it a matter of regret that this should be necessary, but it *is* necessary, and in that seminary they are doing according to their opportunities magnificent work for the outlying parts of a great state which otherwise would not be supplied with men at all. They take the best men they can get, and give the best training they can provide, a training, I may mention, which includes Greek.

But the subject given me suggests a different and more difficult question than this one of practical means. It is the heresy that the old subjects, which at one time were

thought necessary for the best education, have no longer their place of pre-eminence. It is frankly held by some that the time could be better spent than on the old classical subjects. It is held that even for the training of divinity students Greek is no longer needed, that modern views of the Bible have altered the relative value of subjects, and that the New Testament has been well enough translated to give all that a minister needs even for preaching about it. Scientific subjects, political economy, sociology, are of more practical use for the up-to-date minister than the old discipline. It was to be expected that this view should be taken, since it is in line with a change in the whole world of learning generally. Professor Kelsey said that, in this matter of the value of Greek, we must educate the people. That would perhaps not be so hard as the other task in which we must educate the educators. We must fight out this question and settle it among ourselves as to the contents of a scheme of education designed for certain classes. We give up the old claim which called nothing education which was not built on the classics, but we are in danger of being swamped and denied even a place for the older discipline.

We suffer from a false democracy in learning which seems to hold that one subject is as good as another, and so we find an elective system run riot. I believe in an elective system and I believe that the general American ideal of a university is a great and magnificent one, but I do think that this ideal ought to be separated from an academic course where the authorities settle, out of their wisdom and the wisdom of the ages, what is the best general training along certain lines. A university ought to be hospitable and should, if it have the means, be willing to teach any subject; and from this wide point

of view it is true that one subject is as good as another. What is wrong is that this theory, which has its right place in a university with its varied professional schools, has been brought down to the ordinary college course, and even to some extent down to the high school. There is a sense in which it is unspeakably false to say that one subject is as good as another, if by that we mean that for the purposes of education and general culture of the mind any sort of instrument will do as well as another. A university, for example, puts Spanish on the same level as Greek for entrance and for graduation; but anybody who knows anything knows that for discipline of mind alone, to say nothing of the literatures, the two languages are not on the same level. We ought to decide on relative values in education. Human nature being what it is, we cannot expect the ordinary student to choose Greek when Spanish would be so much easier to him, and when the whole current is against him.

The same thing is true about other things of equal importance in the ministerial education. The colleges send graduates to the seminaries who have never studied philosophy in the old sense of the word and who have never had Greek. They are supposed to have had their equivalents. In the philosophical department they have had psychology and sociology, and other courses to make up the required amount; and all this is of course on the principle that one subject is as good as another. It is perfect nonsense to say that these subjects, again for purposes of education, are of equal value with philosophy, which is the history of thought itself. It is to miss the strategic points; for just as a man trained in Latin and Greek will learn French and Spanish in half the time, so the student of philosophy is already half way to know

all about the newer "ologies" sometimes substituted in its place. The colleges should look toward the professional needs of students, and the authorities should have their minds made up as to what in the general experience of the world is the accredited discipline, say, for a student who means to go on to the study of theology. I do not see why a boy who goes to a university with the intention of being a minister should not be taken in hand by advisory authorities who would wisely counsel him as to the things he ought to study; and even the boy who has not his mind made up as to his future course should have his course so far prescribed that the recognized subjects for the finest culture cannot be omitted. I do not want the colleges and universities to do seminary work, but it ought not to be left to the seminaries afterward to do what is really college work.

Complaint has often been made about the short pastorates that are so common today in the ministry. There are many reasons, but one is that the intellectual demands are greater than ever before, and men find it difficult to last out. We are perhaps justified in assuming that a profounder training in these foundation subjects would enable a man to wear longer. An early training which included Latin and Greek would give some mastery not to be attained by the varied browsing of more modern methods. We would not have so many fads in religion if men knew more of the history of thought. I do not need to go back over the argument covered by President Mackenzie to prove that a minister cannot know his own subject if he is ignorant of the classical languages. Apart from the absurdity of a man dealing in any profound way with a book of whose language he is ignorant, it ought to

be remembered that practically all learned commentaries are unreadable to the man who does not know Hebrew and Greek. It does not mean that we want to make men all specialists in these languages, but it is not so hard to get a working knowledge which enables one to get the good out of the work of other scholars.

I find great discouragement among teachers of the classical languages in the universites, and some of them have given as their judgment that in twenty or thirty years there will be little Latin and hardly any Greek at all taught in our universities. They say that the utilitarian subjects, so called, are sweeping these out ruthlessly. I might believe this if I did not believe that in the long run it can be demonstrated that, for the highest education, the languages and literature and history of Greece and Rome are supremely utilitarian and that nothing can take their place. In any case there will always be many to whom utilitarianism of the gross type is not the final test of anything, and these are the men who sooner or later become the leaders of men. I am optimistic about this as about many other things. It is a great matter that a symposium like this should be held, of men who are convinced because they know. We discover in education as in other things the swing of the pendulum, and it is even now swinging back to a more reasonable position. Certainly in the question of the value of Latin and Greek for the ministry that is acknowledged, and whatever place is given to other methods of training for special work, Latin and Greek will remain as a necessary part of the equipment of the theological scholar.

IV. GREEK IN THE HIGH SCHOOL AND THE QUESTION OF THE SUPPLY OF CANDIDATES FOR THE MINISTRY

FRANCIS W. KELSEY

In 1870, according to the reports of the Commissioner of Education, there were enrolled in the theological schools of the United States 3,254 students. Ten years later, the number had risen to 5,242, an increase of more than 60 per cent. In 1890 the enrolment was 7,013, an increase for the preceding decade of about 34 per cent. In the twenty years from 1870 to 1890, then, the increase in the number of students of theology far outstripped the increase in the population of the country; for, in the decade preceding 1880, the population increased only 30.2 per cent, while in the following decade the percentage of increase of population was even less, or 25.5 per cent.

A reaction was to be expected. Under normal conditions, in the case of any occupation which enrols members at a rate greater than the rate of increase of the population, it is only a question of time when society will fail to furnish means of support for the larger numbers and a readjustment will follow. The enrolment of students in schools of theology continued to increase until the year 1897–98, when it reached a maximum of 8,371, the increase in eight years being nearly 20 per cent, still exceeding the rate of increase of the population. After 1898 the number declined until 1901–2, when it had shrunk to 7,343. In that year there were actually fewer students in attendance at theological seminaries than there had been ten years previously, in 1891–92.

Since 1902 there has been an increase, small the first two years, then larger. In 1904–5 the enrolment in

theological schools was 7,580, and in 1905–6, 7,968, a gain of 388 students in a single year, the number of men enrolled being greater by 305 than in the previous year. In contrasting these statistics with those of earlier years it must not be forgotten that at the present time there is a considerable number of women in schools of theology; the enrolment of women reported for 1905–6 was 252. Since 1906 the gain has been rapid. In 1909–10 the number of students of theology reported in 184 schools was 11,012, of whom 491 were women. Less than one-third of these students, however (3,064 out of 11,012), had been graduated from college before entering the theological school.

The recent increase is only another phase of readjustment, and it well illustrates the subtle operation of the law of supply and demand. For, while the conditions, as we shall see, were unfavorable for the development of a constituency from which students of theology would naturally be recruited, the decline in their number aroused earnest discussion in the larger Protestant denominations; the outcome was a systematic campaign which had as its object the influencing of young men to consecrate themselves to the ministry and to missionary work.[1] The fruits soon became manifest.

In 1900, the decline in the number of candidates for the ministry had not yet made itself numerically apparent in the profession. In 1870 there were in the United States 43,874 clergymen; in 1880, 64,698; in 1890, 88,203; and in 1900, 111,638.[2] In the three decades the number of

[1] A particularly important contribution to the discussion was the volume on *The Future Leadership of the Church*, by John R. Mott (New York, 1908).

[2] Unfortunately the statistics for the Census of 1910 are not yet available. And no attempt can be made here to bring the figures of the

clergymen had increased more rapidly than the population. In the decade from 1870 to 1880, while the population of the country increased 30.2 per cent, the number of clergymen increased 47.46 per cent. In the next ten years the population increased 25.5 per cent, the number of clergymen 36.33 per cent; finally, in the decade ending in 1900, the number of clergymen increased 26.56 per cent, while the increase of population was only 21.2 per cent. But again we must notice that of the 111,638 clergymen enumerated in the census of 1900, 3,373, or 3 per cent, were women, of whom probably only a small minority were occupying pulpits. In 1870 there was a clergyman to every 878 persons—men, women, and children—in the United States; in 1880, one to every 775; in 1890, one to every 714, and in 1900 (women included), one to every 681.

In judging of the significance of these figures, account should be taken of differences in race; for negro clergymen in the decade preceding 1900 increased more rapidly in number than white. In the supplementary analysis

Census of 1900 into relation with those published in the Special Report for 1906 (*Special Reports: Religious Bodies, 1906*, Part I, pp. 91, 514; Washington, 1910) which is based upon reports furnished by the various denominations; in this the number of ministers in the United States and Alaska in 1890 is given as 111,036, and the number of ministers in the continental United States in 1906 as 164,830. Obviously the basis of classification is not the same as in the Census. The 164,830 clergymen reported in 1906 are distributed as follows: Protestant bodies, 146,451; Roman Catholic, 15,177; Jewish, 1,084; Latter-Day Saints, 1,774; Eastern Orthodox churches, 108; all other bodies, 236. "The family reporting the greatest number of ministers for 1906 is the Baptist, with 43,790, or 26.6 per cent of the total, while the Methodist bodies come next in order, with 39,737, or 24.1 per cent of the total. These two families show a little more than one-half the entire number of ministers. The Presbyterian bodies report 12,456 ministers; the Disciples, or Christians, 8,741; and the Lutheran bodies, 7,841." The Congregational church was credited in 1906 with 5,802 ministers, the Protestant Episcopal with 5,368.

of the Twelfth Census[1] the statistics covering this point are summarized as follows (p. 234):

The number of negro clergymen in continental United States in 1900 was 15,528, as compared with 12,159 in 1890, the increase being 3,369, or 27.7 per cent. White clergymen increased somewhat less rapidly, from 75,972 in 1890 to 94,437 in 1900, or 24.3 per cent. With both races the number of clergymen increased more rapidly than the population. In the South the number of non-Caucasian clergymen rose from 10,159 in 1890 to 12,841 in 1900, the increase being 2,682, or 26.4 per cent. The increase in white clergymen was from 17,688 in 1890 to 21,387 in 1900, or 20.9 per cent. Of the total clergymen in the South in 1890, 36.5 per cent were non-Caucasian, and in 1900, 37.5, a gain of 1. Clergymen of all races increased somewhat more rapidly in the North and West than in the South. In continental United States the number of clergymen of each race to each 100,000 persons of the same race was:

Negro, Indian, and Mongolian clergymen, 160 in 1890, 171 in 1900.

White clergymen, 138 in 1890, 141 in 1900.

That the statistics showing this steady increase in the number of clergymen should not coincide with the statistics indicating increase and decrease in enrolment of ministerial candidates in theological schools is not strange. It would be some years before even a marked decline in the number of students of theology would perceptibly lessen the number of clergymen in the country. But there are other reasons which are, in part, manifestly phases of the operation of the law of supply and demand, in part the result of conditions peculiar to the ministry as a profession.

With the vast throngs of emigrants that have entered

[1] Bureau of the Census, Special Reports: *Supplementary Analysis and Derivative Tables, Twelfth Census;* Washington, 1906.

the country since 1870 have come pastors and priests of many tongues; and, on account of the increasing scarcity of theologians and preachers of the first class trained in American schools, stronger churches and theological chairs have increasingly sought out and brought to the United States clergymen educated in other English-speaking countries. Of the 108,265 male clergymen listed in the census of 1900, 84,760, or 78.3 per cent, were recorded as "native born"; 23,505, or 21.7 per cent, were reported as born outside the United States; the percentage of clergymen of foreign birth in 1890 (21.1 per cent) was not much smaller than in 1900. In 1900, 11.2 per cent of our physicians and surgeons, 6.3 per cent of our lawyers, and 8.4 per cent of our teachers, were of foreign birth, a fact which may be interpreted as indicating that 5 to 7 per cent of our doctors, lawyers, and teachers were born in foreign countries but educated in the United States, the rest of those reported as foreign born being also educated in foreign countries. We are probably safe in assuming that one-half or two-thirds of the 23,505 clergymen of foreign birth recorded in 1900 were educated outside the United States, coming to this country after the completion of their professional study.

Again, it is understood that in some parts of the country, particularly the South, many have been licensed to preach without having pursued a course in a theological school. It is, however, difficult to secure statistics in regard to this practice, or to judge in what degree the total is affected by accessions to the ranks of the clergy from this source.

Finally, the census enrolment of clergymen differs in an important particular from that of members of other professions. When graduates of law or medical schools

turn aside from their profession to enter other fields of work they ordinarily drop their titles and are afterward not enumerated as lawyers and doctors. If, however, men have once taken orders, they generally keep up their ecclesiastical relations and continue their life long to be recorded as ministers; though for a period of years they may have been engaged in secular teaching, in life insurance, or other occupations having no direct connection with the sacred office, they retain the right to vote along with the active ministry in ecclesiastical assemblies, in which they form a strongly conservative element. A comparison with the statistics of enrolment in the medical profession is in this respect instructive. In 1880 there were 11,929 students of medicine, enrolled in 90 schools; in 1890, 15,484 students in 129 schools; in 1900 the number had risen to 25,213, enrolled in 151 schools. In the twenty years the number of students of medicine more than doubled, but the increase in the number of men set down as physicians and surgeons in the first period was below the increase of population, in the second period only slightly in advance of it. The census records the number of physicians and surgeons in 1880 as 85,671, and in 1890 as 104,805, an increase of 22.3 per cent, while the increase in population was 25.5 per cent; in 1900 the number was 132,002, an increase of 25.9 per cent in the decade, the increase of population being 21.2 per cent. In 1880 there was a physician or surgeon to every 585 persons in the country; in 1900 the ratio was somewhat higher, one to every 576.

How many are enumerated in the census as clergymen who cannot properly be considered of the ministry, either active or retired, it is not possible to estimate; but it is plain that all errors of classification on the part of census

enumerators reckoning those as clergymen who once were clergymen but were such no longer except in name, would go to swell the total enrolment in the profession and would so far vitiate the correctness of the figures.

If the death rate computed in the Twelfth Census for "the professional class" (15.3 per 1,000) held true in the case of clergymen, the loss by death in 1900 among the 111,638 clergymen should have been about 1,700, and this loss should have been offset by the influx, into the profession, of the 1,773 graduates from theological schools recorded in that year—not to speak of other sources of supply. But the death rate among clergymen in the "registration states" in 1900 reached the surprising ratio of 23.5 per 1,000, a rate of mortality higher even than that among physicians and surgeons (19.9 per 1,000).[1] It is not certain that this high death rate would hold true of the clergymen of the United States as a whole; but if it could be proved to be valid for the larger area,[2] the fact would imply that the average age among clergymen had increased considerably above normal because not enough young men had of late been entering the profession to keep the average age and death rate down; and under such conditions, again, a dearth of clergymen trained for their work in the United States might be anticipated, so soon as the number of graduates in theology in any year should fail to exceed somewhat[3] the number of clergymen removed in that year by death. Of the clergymen in "registration states," regarding whom data

[1] *Twelfth Census of the United States, 1900*, Vol. III, pp. cclxiii–cclxv.

[2] At the rate of 23.5 per 1,000 the loss of clergymen by death in the United States in 1900 would have exceeded 2,600. The death rate computed for clergymen in 1890 was much lower, only 18.2 per 1,000.

[3] There must be a surplus to recruit the ranks of missionaries who, expatriated, are not reckoned in the census of the United States.

were collected in 1900 (23,485, about one-fifth of the clergymen in the country), more than 45 per cent were above the age of 45 years; but of the lawyers less than 38 per cent, and of the physicians and surgeons less than 37 per cent, were more than 45 years old. The number of graduates from all the theological schools of the United States in 1906 was 1,551; in 1910, 1,759.

We see, then, that the determination of the significance of the figures which have been cited is no simple matter. Statistics in any case are only a partial or approximate expression of conditions; and the relation of the rate of increase in the census of the professions to the enrolment of students in professional schools involves the weighing of many considerations which cannot be taken into account at this time. No interpretation of such data is trustworthy, however, which does not view them in relation to the general educational movement of our country in the past thirty years, a movement which, in point of numbers affected, is without parallel in the history of education. In 1889–90 the number of collegiate and resident graduate students enrolled in the universities and colleges of the country, including the separate colleges for women that were such in fact as well as in name, and in schools of technology, was reported as 55,687; in 1905–6, only seventeen years later, it was 135,834 (97,738 men, 38,096 women), an increase of nearly 144 per cent; in 1909–10 the total enrolment was 171,893 in 602 universities, colleges, and technological schools, the men numbering 119,578, the women 52,315. In the same period, as we have seen, the enrolment in secondary schools, public and private, ran from 297,894 to the almost incredible figure 1,032,461; if to this we add the enrolment of secondary students in public and

private normal schools, universities and colleges, colleges for women, and manual-training schools, we have the total of 1,131,466 students receiving secondary instruction in 1910.

In this enormous increase of students in institutions of secondary and higher education, schools of dentistry, pharmacy, and engineering have fared relatively as well as schools of law and medicine, or even better. The students of dentistry registered in dental colleges in 1880 numbered 730; in 1890, 2,696; in 1900, 7,928; in 1910, 6,439, the falling off being in part due to the adoption of higher requirements. Of students of pharmacy 1,347 were reported in 1880, 2,871 in 1890, 4,042 in 1900, and 6,226 in 1910. In the thirty years from 1875 to 1905 the increase in attendance at schools of theology was 44.8 per cent (5,234 in 1875, 7,580 in 1905); at schools of law, 450 per cent (2,677 in 1875, 14,714 in 1905); at schools of medicine, 201 per cent (8,580 in 1875, 25,835 in 1905); at schools of dentistry, 1,424 per cent (469 in 1875, 7,149 in 1905, the number in 1905 being somewhat smaller than in 1900); and at schools of pharmacy, 436 per cent (922 in 1875, 4,944 in 1905). A similar computation for the three decades 1880–1910 would give to the enrolment in schools of theology a relatively more favorable showing; but such comparisons are of slight value. The enrolment of students in schools of technology increased from 7,577 in 1889–90 to 16,110 in 1905–6, or 112 per cent in seventeen years.

It would be natural to assume that the increase in the enrolment of students of applied science and of law was due in large measure to the multiplication of technical schools since 1875, and to the raising of professional standards which drove out of fashion the time-honored

method of preparing for a professional career by office study. Schools of law numbered 43 in 1875, 114 in 1910; schools of medicine, 80 in 1875, 135 in 1910; schools of dentistry, 12 in 1875, 53 in 1910; and schools of pharmacy, 14 in 1875, 79 in 1910. The increase in the number of schools of theology has been less marked; the number was 123 in 1875, 184 in 1910. But the schools of theology, nevertheless, in 1910 outnumbered the schools of law by 60, the schools of medicine by 49, and were 52 more than the combined number of schools of dentistry and of pharmacy. The multiplication and wide distribution of professional schools has undoubtedly had a stimulating effect upon the enrolment of students; yet they were called into existence in response to a social need, and they would not have had so many students if the time had not been ripe for their establishment. Such influence as they have exerted in stimulating the enrolment of students has been in part offset by the increasing difficulty and stricter enforcement of the requirements for admission and graduation. We are forced to the conclusion that, though the last census furnished no indication of a serious diminution in the supply of clergymen, the attendance at schools of theology until recently showed a falling off out of all proportion to the increase in attendance at other professional schools.

As the statistics indicate (pp. 11–13) the rush of students into institutions of secondary and higher education in recent years is a concomitant of the increasing concentration of our population in cities and towns, which in turn is consequent upon the enormous and unanticipated development of our industries and commerce. The extraordinary increase in the number and size of cities and towns has caused the rapid multiplication of public high

schools, which in 1889–90 numbered 2,526, with 9,120 teachers and 202,963 pupils; in 1909–10 there were 10,213 public high schools, with 915,061 students.

Urban life in general is more stimulating to the desire of advanced education and the choice of a professional career than rural life; and the growth of public high schools has established a line of least resistance leading to higher institutions. There are some indications that we are on the eve of a reaction, not for sentimental but for economic reasons, toward farm life, and that in the next few decades the concentration of population in cities and towns will proceed less rapidly, in proportion to the increase of our rural population, than in the past quarter-century. Be that as it may, a survey of present conditions reveals no obvious reason why the ministry should not rank, if not with engineering, at least with law and medicine, in the preference of students choosing a profession, especially since the changes in the distribution of population have not been accompanied by a decline in the activity or influence of the religious denominations as a whole. There are also many fields of work outside the ministry that attract young men who are seeking an opportunity for religious service.

But the ministry is not the only calling which, at the present time, is confronted with a shortage of men, imminent or actual. The number of men and women engaged in the work of teaching is vastly greater, greater in fact than the combined number of clergymen, physicians and surgeons, lawyers, dentists, and engineers.[1] The increase in the number of teachers has not only kept pace with

[1] These were 431,004 in 1900, made up as follows: clergymen, 111,638; physicians and surgeons, 132,002; lawyers, 114,460; dentists, 29,665; engineers, 43,239. The number of teachers in 1900 was 446,133.

the growth of population, but has far surpassed it. In 1870 there were 73 teachers to each 10,000 persons of school age (5 to 24 years); in 1880, 102; in 1890, 127; and in 1900, 140. But the proportion of male teachers has steadily declined. It was a trifle more than one-third of the whole number (33.7 per cent) in 1870; in 1900 it was just above one-fourth (26.6) in the continental United States, if teachers of all races are reckoned together. The percentage of male teachers was somewhat higher among the negroes and Indians; of the 424,422 white teachers recorded in that year only 26.1 per cent were men. In 1905–6, according to the report of the Commissioner of Education, less than 24 per cent (23.6) of the 466,063 teachers in common schools were men, the percentage being higher in country than in city schools and in the southern than in the northern states; in the north Atlantic states male teachers were only one in seven (14.2 per cent). In the 661 cities of the United States containing over 8,000 inhabitants, the ratio in 1906 was very nearly one male to twelve female teachers. In these same cities in the public high schools there were 4,912 male teachers to 7,491 female teachers; in the other public high schools of the country the division according to sex was more nearly equal, the number of male teachers being given as 9,424, of female teachers, 9,017. In 1909, only 21.4 per cent of the 506,040 teachers in the common schools were men.

In the decade from 1890 to 1900, while the number of teachers in the country increased nearly 28.5 per cent and the population increased 21.2 per cent, the increase in the number of male teachers, in all classes of schools and colleges, was only 17.02 per cent (from 101,278 to 118,519), a relative decline so great as to produce a marked

effect upon the profession. That the loss of men to the profession of teaching has not been more keenly felt is due to the fact that the large increase in the number of women graduated from secondary and higher institutions in recent years has furnished substitutes or recruits for almost all classes of positions. Had the increase in the number of male teachers kept pace with the increase in the number of teachers, the census enrolment of men engaged in teaching in 1900 should have been about 130,000 instead of 118,519; had the rate of increase been only as great as that of the population, the enrolment would nevertheless have been above 122,000.

But the United States does not stand alone in the decline either in the number of students of theology or in the proportion of men among its teachers. In the following table the enrolment of professional students in the German Empire is shown for the university faculties of theology (Protestant and Catholic), law, and medicine, at different periods since 1875:

ENROLMENT OF STUDENTS IN CERTAIN PROFESSIONAL DEPARTMENTS IN GERMANY*

YEAR	THEOLOGY			LAW	MEDICINE
	Protestant	Catholic	Total		
1875–76	1,519	710	2,229	4,537	3,333
1880–81	2,384	648	3,032	5,260	4,179
1885–86	4,403	1,068	5,471	4,825	7,680
1890–91	4,190	1,232	5,422	6,670	8,381
1895–96	2,860	1,469	4,329	7,655	7,664
1900–1901	2,437	1,584	4,021	10,292	7,815
1905–6	2,166	1,680	3,846	12,456	6,142
1906–7	2,167	1,707	3,874	12,524	8,217
1907–8	2,213	1,700	3,913	12,254	8,930
1908–9	2,172	1,663	3,835	11,827	10,223
1909–10	2,320	1,698	4,018	11,925	11,627

* The writer is indebted to the Commissioner of Education for these statistics.

The conditions in Germany are so unlike those of the United States that a detailed comparison with our conditions would be fruitless. It is, however, important to notice that the enrolment of students of theology, as with us, has not kept pace with the enrolment of students of law and medicine; and also that, as with us, the relative decline has been less marked in the case of Catholic than of Protestant students.[1]

The proportion of male to female teachers varies greatly in different countries; yet in all the countries for which recent statistics are available for comparison,[2] there has been a relative decrease in the number of male teachers. This decrease was from 29.6 to 26.8 per cent in Great Britain and Ireland in twenty years (1881 to 1901); 72.6 to 68.5 per cent in Germany in thirteen years (1882 to 1895); 54.4 to 42.4 per cent in France in ten years (1886 to 1896); and 41.2 to 35.4 per cent in Italy in twenty years (1881 to 1901). Here again a detailed comparison would be devoid of value; but the statistics indicate an unmistakable tendency which seems to be common to the foremost nations and which is appar-

[1] The situation was discussed in an article in *Chronik der christliehen Welt* for September 12, 1907, summarized by Professor H. M. Scott in the *Chicago Seminary Quarterly* as follows: "Thirty years ago there were 17,500 students in German universities, ten years ago there were 30,000, and last year there were 45,000, of whom 41,000 were native Germans. The total number of students has grown nearly twice as fast as the population, and in face of this the number of Protestant students of theology has steadily declined. It went, between 1886 and 1905, in Prussia from 2,042 to 719, and the end is not yet. There are only 250 ministers available for 425 places. In 1889 there were in Berlin 570 divinity students; in 1895 there were 292; and in 1906 only 178. Between 1870 and 1903 students of theology made no increase; the numbers were 2,155 and 2,150! And in that period students of philology increased from 2,753 to 5,501, and in 1906 to 8,464! The lack of candidates for the ministry is now between 800 and 900."

[2] Conveniently summarized in *Supplementary Analysis and Derivative Tables, Twelfth Census*, p. 478.

ently a phase of a larger readjustment of modern life to new economic and social conditions.

In the United States at the present time complaints of the lack of trained men for Protestant pulpits are heard not more frequently than of the lack of men properly equipped for certain kinds of educational work, particularly in the secondary schools. Yet for any vacancy in either calling which assured a bare living there has been, up to the present time, no lack of applicants. The difficulty has been to find candidates of the right quality. Rash statements should be avoided; but we may well believe that, while the relative number of first-rate physicians and lawyers is greater than it was twenty years ago, the relative number of first-rate teachers, outside of the universities, and of first-rate ministers, is smaller. This must continue to be the case, in the ministry, so long as the graduates in medicine and law are relatively so much more numerous than graduates in theology;[1] for the larger the number of men entering a profession the greater will be the number of weaker men forced out by competition and the stronger will be the average quality of the remainder. But there are other factors in the problem; surface indications are here no guide.

In the first place, the lack of homogeneity in our cultural conditions directly affects those two professions which are the most obvious expression of the social consciousness upon the ideal side, teaching and the ministry. In the conflict of impulses seeking expression among us there is no clear note, there is a lack of that imperative

[1] While the graduates in theology in 1910 numbered 1,759, graduates in medicine numbered 4,448, and in law, 4,233. Had the graduates in theology been as numerous in relation to the census of clergymen as the graduates in medicine were in relation to the census of physicians and surgeons, the number would have exceeded 4,000.

which forces men to the pulpit or the teacher's desk to become interpreters and prophets for the life around them. How different it was in Puritan New England, when babes were consecrated to the ministry in the cradle! How different is the attitude of society toward the profession of teaching, now that the control and direction of most systems of instruction, and the fate of most teachers, are in the hands of boards composed of men selected generally for other reasons than fitness to deal with educational problems!

Furthermore, in the profession of teaching outside of the colleges and universities there is uncertainty of tenure, with which is coupled insufficient remuneration. Every year men of marked success, with an equipment representing a large outlay of time, energy, and money, are forced out of the profession, and young men of promise are deterred from entering it, because they can foresee no time when the rewards of faithful and successful effort will be assured to them. This results in part from the inadequate endowment and precarious existence of many institutions of private support; but the great majority of teachers are in institutions supported by local taxation, in which, generally speaking, no number of years of efficient service and no degree of eminence in the profession will protect a teacher against a persistent public official using the influence of his temporary position to carry out an ulterior purpose or ride a hobby or vent personal spite. We may grant that the majority of men in elective governing boards are public-spirited and have a lively interest in the schools which they control; can we expect that school administration, under present conditions, will not manifest the lack of foresight and executive continuity characteristic of the administration of all

local affairs in our country? There are encouraging signs of improvement, indications that the American people will attack the problem of local administration and solve it. Meanwhile, the difficulty of finding men able to fill the best positions increases every year.

From the economic point of view the ministry is on a different footing from teaching. Because the social imperative is not heard for either calling, both are generally shunned by men who have financial resources, who make other professions or occupations their first choice. Both callings are therefore in great part recruited from the ranks of those who are not financially independent. Men who purpose to teach must gain their equipment at their own expense—scholarship and fellowship aid assists but a small percentage. This means that professional preparation is in many cases a constant struggle, with an accumulation of indebtedness at the end which the earnings of an ill-paid profession must be relied upon to wipe out. Under present conditions the most farsighted students who are attracted to the work of teaching become increasingly wary of embarking heavily loaded on an uncertain sea. But so soon as a young man manifests a desire to study theology, his church reaches out to him a helping hand. Not only does he receive moral encouragement, but in most denominations a less or greater measure of financial support through college and seminary. Theological schools have been known to pay even the traveling expenses of students from their homes. This subsidizing of the study of theology has given to that profession a distinct advantage in the recruiting of men, and has had the effect of making them feel secure of their future. It has also now and then carried through an extended and costly course of training, as along the line of least resistance, students who possessed no other quality of fitness

than a kind of superficial goodness due to a lack of force; and it has pauperized many a well-meaning fellow who has gone out into the ministry with the perverted notion that the world owed him a living. But these are accidental, not necessary, results of a system that is, on the whole, probably as advantageous as it is, under present conditions, necessary. Nothing could be farther from the truth than the frequent assertion that men shun the ministry because the temper of our time is prevailingly sordid. No one can be found who has dealt with American youth in educational institutions for a quarter of a century who believes that there ever was a time when more young men were ready to give themselves to an altruistic motive, to consecrate themselves with wholehearted devotion to a worthy cause, than now. Are we not, at heart, a nation of idealists? How otherwise is one to account for the attitude of our whole people toward the Spanish War and the problem of Cuban independence? And among our young people there is no lack of interest in religious matters; how otherwise would it be possible to explain the extension of the work of the Christian associations for men and for women, and the rapid rise of church organizations for young people which have as their purpose the development of youth on the side of religious experience and expression?

The chief cause of the decline in the number of our students of theology lies in the lack of adjustment between religious and secular education. One phase of this estrangement, the isolation of theological schools and its unfortunate consequences both for the study of theology and for the universities, I have discussed elsewhere.[1] To

[1] "The State Universities and the Churches," *Proceedings of the Conference on Religious Education*, University of Illinois Bulletin, Vol. III (1906), No. 8, Part 2; "The Problem of Religious Instruction in

how great an extent education in the stages below the college and university has become secularized, is not generally understood, on account of the rapidity with which the process of secularization has gone on. Though the choice of a career is, in most cases, not definitely fixed while the student is in the secondary school, his field of choice is so restricted by his selection of studies in this period as to confine him, in respect to facility of professional preparation, within narrow limits. This is particularly the case with theology, for the advantageous pursuit of which the student must have a previous knowledge of Greek.

The academy of the olden time, the preparatory department of the denominational college, and the college course in vogue to the late eighties and early nineties, led directly and easily to the study of theology; Greek, Latin, mathematics, and moral philosophy in some form were staples of instruction, with a certain amount of prescribed work in the modern languages, English, history, and the natural sciences. Now—how great is the change!

In 1890 nearly one-third of all our students in secondary schools still were in academies and private high schools; in 1910, only one student in eight. Furthermore, of the 117,400 students reported in secondary institutions of private support in 1910, 46,253 were in non-sectarian schools; 71,147 were reported in denominational schools, distributed as follows:

the State Universities," in *Education and National Character*, published by the Religious Education Association (1908); "The State Universities and Theology," *The Outlook*, Vol. XC (1908), pp. 27–29.

Denomination	Schools	Instructors	Students
Roman Catholic	630	3,486	30,124
Baptist	74	415	6,983
Methodist	67	420	6,007
Episcopal	71	658	4,788
Presbyterian	67	300	3,570
Methodist Episcopal South	25	129	2,281
Friends	48	229	2,243
Congregational	35	198	2,322
Lutheran	42	229	3,339
Other denominations	84	682	9,490
Total	1,143	6,746	71,147

Of this number probably about 30,000 were boys. In the same year 32,830 boys of secondary rank were reported in "private universities and colleges," of which a considerable proportion were under denominational control. While exact figures are not obtainable, it is easy to see how small a number of boys of secondary rank (50,000 would be a fair guess) in comparison with the whole number of boys pursuing secondary studies (512,580[1]) were in the classes of institutions in which the claims of the ministry may be presumed to have been kept before them, and in which the course is so laid out as to lead easily to the study of theology.

In 1909–10 students of Greek were reported in only 353 out of 10,213 public high schools; in twenty-eight twenty-ninths of our public high schools there was no Greek at all. The number of students of Greek among the 915,061 students in public high schools was 5,511, of whom 3,079 were boys. In the private secondary schools at the same time 5,228 students were taking Greek, of

[1] Distributed as follows: in public high schools, 398,525; public normal schools, 2,767; public universities and colleges, 9,786; private high schools, 55,474; private normal schools, 977; private universities and colleges, 32,830; manual-training schools, 12,221.

whom 4,395 were boys; possibly nearly as many more were enrolled in Greek classes in college preparatory departments. On the most favorable showing we can hardly suppose that more than twelve or thirteen thousand boys of secondary rank are studying Greek in the United States at the present time.

Seven students out of eight in secondary schools are now in public high schools. The percentage of graduates who make the high-school course preparatory to college has increased in the past decade.[1] Recruits for theology should come chiefly from the colleges and the literary departments of the universities. The best men of college rank who are attracted to the ministry and have not had Greek in the preparatory school, having looked over the course of special training leading to the profession, generally conclude that they cannot meet the requirements of preparation in a reasonable time, and turn aside to other callings. Those who, without a classical training in earlier years, resolve in college to devote their lives to religious work, find themselves handicapped not only by lack of knowledge but by limitations in their vocabulary and in the ability to express themselves effectively. The secularizing of American education has put a greater handicap on preparation for theology than upon that for any other calling. To secure recruits of the right quality and sufficient number from the ranks of college men who have not had Greek is manifestly impracticable; and this aspect of the problem is complicated still further by the enrolment of so large a proportion of the college students of the country in state institutions.

On the part of theological seminaries there has lately

[1] The percentage of high-school graduates prepared for college was 30.28 in 1900, 35.55 in 1905, and 33.95 in 1910.

been manifested a tendency to meet the situation by relaxing the requirements in Greek, if not also in Hebrew, for their students. With how great danger this alternative is fraught, not alone for the future of theological study but for the influence of the ministry, has been made clear by the papers already presented in this discussion. It is no less impracticable to think of restoring the conditions of study prevalent in the last century, and of offsetting by competition of private institutions the trend of the public high school away from the studies leading to theology. The only adequate remedy is that suggested by the situation. Greek must be restored to our public high schools; then the number of young men having Greek will be large enough to furnish a full quota to theological study. It is not necessary that a decision to study theology be reached in the period of secondary study. Let Greek be offered in our public schools by suitable teachers under such conditions that the pursuit of it will not be a handicap in completing a course for graduation, and enough students will take it to make a college constituency from which abundant recruits for theology can be chosen.

The justification of the support of secondary as of other schools by taxation lies in the service that will be rendered to society by those who have received the benefits which they confer. If our secularized education fails to provide society with adequate leadership on the religious side, does not the remedy lie with the taxpayers? Do we not need a ministry, educated in the best sense of the word, as much as we need trained lawyers, physicians, and engineers? Surely no one would maintain that the moral and religious interests are less to be safeguarded than the material interests of society; else why is it agreed

among reasonable men that church property should be exempt from taxation?

If the situation is once understood, it will be righted. Teachers and school administrators as a class are religious men, and American communities are at heart not indifferent to the claims of religion. Let us suppose that in a given city the clergy and the teachers should unite in requesting that provision be made for Greek in the high school, even if the number pursuing the study should be below that fixed for the forming of classes in "practical" subjects; can we believe that the average board of education would resist the appeal?

The amount of Greek that candidates for theology acquire after entering college or the theological school can never be made adequate without the sacrifice of other work of fundamental importance. The service which our institutions of secondary and collegiate education are rendering in return for their support will not be complete until there is such a readjustment as shall put the study of theology on as favorable a footing as other professional study. The first step in such a readjustment must be the introduction of the study of Greek more generally into the public high schools, a step which does not lack justification also on other grounds.

V. CONCLUDING REMARKS

PRESIDENT JAMES B. ANGELL, Chairman
University of Michigan

I have myself been inclined to attribute the decline in the number of candidates for the ministry primarily to the transition which our theology and our biblical criticism are now going through. Many a student who

means to live a religious life is not sufficiently settled in his views of certain questions to dogmatize upon them as a preacher might be expected to do.

I think, nevertheless, that there is ground for the thesis that the lack of training in Greek in so many schools prevents some men from inclining to study theology. I wish I felt more certain that the knowledge of that fact will lead school boards and private schools to reinstate instruction in Greek where it has been dropped.

I am hoping that, when our churches have passed through the period of transition and have become fairly settled on some common ground, young men will not in so many cases as now hesitate about becoming preachers and pastors. They will then demand instruction in Greek as a matter of course.

SYMPOSIUM V

THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A TRAINING FOR MEN OF AFFAIRS

I. LETTERS

1. FROM THE HONORABLE JAMES BRYCE

Ambassador of Great Britain

It is matter of great regret to me that I cannot attend your Conference, for the longer I watch the currents that are now affecting the higher education, the more I lament the diminished attention that is today given to classical studies. Most people seem to think that a language no longer used by a nation as its daily speech is a dead language and has no value for the modern world. But the truth is that no language which enshrines a great literature and through which the thought of the past speaks to the thinkers of the present can ever die. Such a language is far more alive than those spoken languages which contain little worth reading. Now in the Greek and Roman writers we find much that is not only equal in intrinsic excellence to anything produced since, but much that is quickening and stimulating us just because it is ancient, because it carries us into regions of thought and belief which differ profoundly from those of modern times. I do not say that the classics will make a dull man bright, nor that a man ignorant of them may not display the highest literary or the highest practical gifts, as indeed many have done. Natural genius can overleap all deficiencies of training. But a mastery of the literature and history of the ancient world makes every one fitter to excel than he would have been without it, for it widens the horizon, it sets standards unlike our

own, it sharpens the edge of critical discrimination, it suggests new lines of constructive thought. It is no doubt more directly helpful to the lawyer or the clergyman or the statesman than it is to the engineer or the banker. But it is useful to all, for the man of affairs gains, like all others, from whatever enables him better to comprehend the world of men around him and to discern the changes that are passing on in it.

Without disparaging the grammatical and philological study of Greek and Latin, the highest value a knowledge of these languages contains seems to me to lie less in familiarity with their forms than in a grasp of ancient life and ancient thought, in an appreciation of the splendor of the poetry they contain, in a sense of what human nature was in days remote from our own. But it is a mistake to live so entirely in the present as we are apt to do in these days, for the power of broad thinking suffers. It is not the historian only who ought to know the past, nor only the philosopher and the statesman who ought to ponder the future and endeavor to divine it by recalling the past and filling his mind with the best thought which the men of old have left to us.

2. FROM JAMES LOEB
Formerly of Kuhn, Loeb & Co., New York

That a classical course is a valuable training for business life has always seemed to me a self-evident proposition. This question has been discussed often and at great length by those who are much more worthy of a hearing than I am. If I depart from the habit of years, and venture to send a message to your learned assembly, it is primarily owing to repeated urging. I find my only warrant for so doing in the thought that my personal

experience at Harvard University, in business, and now, last but best, in the pursuit of *res dulciores et humaniores*, gives me a perspective that may not be without interest to the Conference.

It would be a waste of your time and of my energy, were I to try to plead the cause of the classics. America does not stand alone in its decreasing attention to Greek and Latin. Schoolmasters and professors in England, France, and Germany make the same complaint. We must not close our eyes to the fact that the prevalent methods of teaching classical literature are largely to blame for this decrease. The dry, pedantic insistence on grammatical and syntactical detail, so usual in high school and university, has driven many a student out of the fold. It is asking too much of even a well-disciplined lad to read the *Prometheus* or the *Antigone* in this spirit. His eyes must be opened to the human values and to the aesthetic charm of ancient literature; and for this the teacher is often too incapable or too unwilling. I am confident that the younger generation of teachers, who are now coming into their own, and who have "tasted the dragon's blood" in Greece or in Italy, will inject new life into their subject, or rather, that they will understand how to show forth to their hearers that eternal life and beauty of the classics which is so often buried under mountains of dry philology.

In an age like ours, where ambitious youth no longer treads the cloistered walk, where "Make Money," "Win Success," "Out-do Croesus" are written in large letters on the blackboard of school, college, and university, usurping the place of the *γνῶθι σαυτόν*, how can we expect people to find *value* in Homer or Euripides, in Caesar or Catullus?

$uccess, written with the dollar sign, instead of with the commoner, but more harmless sibilant, is the shibboleth of our day. In his last year's Phi Beta Kappa oration[1] President Woodrow Wilson, of Princeton, said:

> Is it not time we stopped asking indulgence for learning and proclaimed its sovereignty? Is it not time that we reminded the college men of this country that they have no right to any distinctive place in any community unless they can show it by intellectual achievement? that if a university is a place for distinction at all, it must be distinguished by conquest of mind?

Splendid! But what does the average undergraduate think of such words as these? "Stuff and nonsense; very pretty in theory, but how does this apply to my case—to me, who want to make a *success* of my life?"

We have made the path of education too smooth; our young men and women rush over it on the soft cushions of hurrying automobiles. They are no longer forced to face that healthy struggle for knowledge that wearies the body, but refreshes the mind. Why, there are colleges and universities in our land where "original research" is recommended to young people as a profitable pastime before they know what a bibliography looks like! Most things can be popularized; original research cannot.

Some time ago I had the pleasure of a visit from a quite recent graduate of one of the largest New England universities, who is now taking a classical course at Oxford. This young man, who had distinguished himself on the football field as well as in the classroom, was thought worthy of an appointment to a Rhodes Scholarship. He means to study theology and ultimately to return home as a teacher. Just now classics are his chief pursuit.

[1] Delivered in 1907, at Harvard University.

Our talk happened to drift to an incident in modern history. "Oh," said my young friend, "I know nothing at all of modern history." With the same engaging candor and honesty he protested his complete ignorance of mediaeval history. To my timid suggestion that life at Oxford and the long vacations would give him ample time to make up this regrettable lacuna in his education he archly replied, "Oh, I do not need to know anything about history, because I shall never have to teach it."—Q.D.V.!

The degree of A.B. has been so far cheapened that the graduate of twenty-five years ago reluctantly admits the graduate of today into his intellectual companionship. The elective system has overshot its mark and a decided reaction must soon set in, if we mean to uphold the respectability of a university degree. It may be good business to encourage young men to take their A.B. in three years, but it is bad pedagogics.

The constant and growing abuse of a free choice of subjects is slowly but surely removing the props of solid intellectual achievement. "The distinction that can be gained only by conquest of mind"—to cite President Wilson's well-chosen words once more—is predicated on a much more thorough *general* education than the American undergraduate brings to college. Too much and, above all, too early "specialization" is a further obstacle to his acquiring that broader and fairer culture of two or three generations ago.

Conservation among men, and between men and women, is steadily losing those finer qualities which make an exchange of ideas profitable and uplifting. With the absence of respect for authority, which characterizes the youth of today, we are fast losing that respect for the

dignity of our own work which alone can give that work real and lasting value. The foolish attempt to keep abreast of the so-called literature of the day, of those morbid, pseudo-psychological novels, the prying and indelicate memoirs—to say nothing of the even more pernicious products of untutored writers—would be impossible, were the taste of our growing youths and maidens formed by a proper study of Greek and Latin literature, the Bible, and the classics of our own and other languages. The applause bestowed on the decadent drama, the vulgar comedy, the immoral and dirty play would turn into hisses, were the audience better acquainted with the works of Aeschylus and Sophocles. Those old tragedies served a great moral purpose by focusing motives and lime-lighting consequences. I venture to say that the low ebb of our public and business ethics is due, among other things, to the absence of that fear of consequences which the better acquaintance with the dreaded Μοῖρα of the ancients would necessarily beget in our consciousness. And much of what I have said applies to conditions in Europe as well as at home—in lesser degree, however, because Europe's mighty cultural inheritance still serves as a bulwark against the encroachment of these evils.

A thorough groundwork in the fundamentals of real culture, followed by a rigid training in the severer discipline of honest original research, of some sort, is the *sine qua non* of every successful life. Whether that life be devoted to science or letters, to theology or business, matters not. That an intimate acquaintance with Greek and Roman literature is among those fundamentals of real culture need hardly be urged here.

Business cannot be taught theoretically. The real

school for business is business itself—the railway shop, the store, the factory, or the bank. "Business colleges," good, bad, or indifferent, abound in our country, and recently Harvard and other universities have thought fit to establish "Schools of Business Administration" and what-not else of the same character. A deplorable misconception—I am bold enough to say it—of the true functions of a university. We need ideals in our country. Shall we print the dollar sign on our Bachelor's degrees and flatter their holders into the vain belief that they are better equipped for money-earning because they have spent less time in learning lessons that mean vastly more for the *inner* life?

I have still to hear of the young man whose theoretical knowledge of bookkeeping and finance and international exchange secured him better pay, or a position of greater trust, than that given the lad from the public school. A level-headed college graduate is better worth his pay than a fellow who comes from a business college with his head full of dummy exchange operations and make-believe entries on a ledger.

An old friend of mine, who fought in the Civil War, and who still clings fondly to the high-protection fallacy, once said to me, when I had just entered business in 1888, "My dear boy, you know more in theory today than you are likely ever to know in practice." My young graduate pride rebelled at this, but thirteen years' experience in very active affairs taught me that the time spent at Harvard studying history of finance, political economy, and international law might as well have been devoted to the classics for all the practical value I got out of those worldlier pursuits.

The great and legitimate aim of a business man is to

make money, to provide for himself and his family such luxuries and comforts as his tastes and social standing demand. But when a man has reached the goal of his desires, when he has made his pile and desires to enjoy it, then comes the time for the making of the real and only *balance sheet*. Then he must ask himself, "What are my resources, now that I have everything that money can buy? What are my spiritual and intellectual assets? How can I best spend what is left to me of life?" Lucky is the man whose early training fits him for something more than the golf-field, or the tennis-court, and for something better than the gaming-table when his days of business activity are over. He can taste the gentler pleasures that await him in his study and by the blazing hearth-fire. His Sophocles or his Plato, his Catullus or his Cicero, will make the winter of life seem like its early spring when the greatest struggle he knew was with the elusive rules of grammar and syntax. This busy world of ours cannot stop: it will always whirl and rush and hustle. But some of us—and the more the better—must learn that on one side of the rushing stream of life lie the peaceful backwaters, in which the clouds and the sun, the shrubs and the birds of the air appear reflected in their true, undistorted image, gently floating on the limpid pool of reverie.

3. FROM WILLIAM SLOANE
President of W. and J. Sloane, New York

A classical education is a large asset for any business man. His equipment for his life work is that much better, and will prove to be so in increasing measure as he rises to positions of responsibility and influence in his business and elsewhere. A wider horizon means greater ability to see through complex situations, to understand motives,

to measure men; to say nothing of the more intelligent interest he may be enabled to take in those outside matters which increase general culture in the community, in the state, and in the nation.

An American man of affairs is hardly in the same category with the old-world shopkeeper. He must be well prepared to serve his day and generation in a great variety of ways. He may be called from the counter to the cabinet. The only limitations to success in America are those of capacity. But the great trouble with us is that we are forever looking for the short cut. This characteristic has caused a lack of thoroughness in our educational system which is unfortunate. If a man can skim over history and economics, and a modern language or two, and secure a college degree, he is ill prepared to perform in business the drudgery of an apprenticeship, which after all constitutes the only basis on which to build. I believe that the slow processes of translation of the classics (which in my opinion should be compulsory in the academic course for a B.A. degree) make good training for the boy who has chosen a business career. This is entirely aside from the advantage, which he will never enjoy again, of communing with the gods. The business man's day is prosaic, the men he meets are, as a rule, men of little or no schooling. The business principles he finds are not always in accord with his preconceived ideas of honesty; there isn't much art or poetry in it all; and unless he has something to fall back upon, some background to his life and thought, some such continual source of quiet comfort and pleasure as a classical education will afford him, life will be a very empty thing; while business cares and business successes will become such paramount issues with him that the man will be lost in his pursuits.

Again, a business man who has had a classical education cannot fail to remember with reverence and affection those patient, consecrated men who taught him Latin and Greek, and awoke in him a love for the beautiful. Such men as these, with ideals, he perhaps no longer meets in his daily vocation. With the passing years he may have forgotten the very names of the classics he read at college, but the memory of those days, of those men, of their enthusiasm in their work, has had its effect on the man himself and he is better for it, and I believe a better business man, too, for unconsciously he has acquired something which he values as a precious possession, a something which distinguishes him from his fellows and makes him singularly happy in his work.

II. THE STUDY OF THE CLASSICS AS A TRAINING FOR MEN OF AFFAIRS

THE HONORABLE JOHN W. FOSTER
Washington, D.C.

My experience in the practice of law and my observation of public affairs have led me to look with regret upon the diminishing interest in our higher institutions of learning in the study of the ancient classics. The modern university spirit seems to tend to the elective system and to study in the scientific and more practical departments of knowledge. I doubt very much whether it is wisest to leave entirely to the immature youth the selection of his course of study. So also it may be better to train and develop the mind in the earlier years than to store it with knowledge, which may well come later. If the university is to maintain its proper place as the seat of higher learning, Greek and Latin should not be rele-

gated to an unimportant position in the curriculum, nor their study discouraged.

History tells us of the unequaled refinement of the Greek race in the days of Pericles. Only a few doubtful and imperfect specimens of the chisel of Phidias and his school remain, and the skill of Apelles' brush is entirely lost to us; but the highest evidence of the art, refinement, and thought of that golden age has come down to us unimpaired in the Greek language, the most perfect achievement of the human race. No better training for the youthful mind can be devised than the study of this language and the mastery of the high and polished thoughts which it has preserved. It matters not if, in the resistless hurry of our practical age, the Greek which we acquired in our youth passes from our memory; its influence on the mind will never be obliterated.

Lord Brougham, one of the first of English statesmen and scholars of the last century, in his inaugural address as rector of Glasgow University, said:

> Be ye assured that the works of the English chisel fall not more short of the wonders of the Acropolis, than the best productions of modern pens fall short of the chaste, finished, nervous, and overwhelming compositions of the Greeks. Be equally sure that, with hardly an exception, the great things of poetry and of eloquence have been done by men who have cultivated the mighty exemplars of Athenian genius with daily and with nightly devotion.

Also that other distinguished English statesman and scholar, than whom no one of his generation was greater master of his own language, Gladstone, wrote:

> The modern European civilization from the Middle Ages downward is the compound of two factors—the Christian religion for the soul of man and the Greek discipline for his mind and intellect.

I have been asked to discuss "The Value of the Study of the Ancient Classics as a Training for Men of Affairs." The quotations which I have just made from two of the most prominent men of affairs of the British Empire show the high estimate which they placed upon the study of these classics. Every man at the bar or in public life who was made familiar with the Greek and Latin languages in his early education knows how valuable that study has been to him in his professional career—not on account of the technical knowledge acquired, for that will pass from his memory unless preserved by constant reference to it—but because of the discipline which the study gave to his youthful mind in its formative state. The mere routine labor of the translation of Greek and Latin authors into one's vernacular, the effort to ascertain their exact meaning and the choice of the words which correctly express that meaning, constitute a mental training which will be invaluable to the future lawyer or public man. True, there is some such training in the acquisition of the modern languages, but not to be compared with the study of the Greek, the most highly refined and perfect of all the languages for the expression of human thought.

I recall my own experience. As a law student and for some time after being admitted to the bar, it was my practice to carry about with me the Latin text of the law maxims extracted from Broom's compilation, in order to memorize them and master the principles therein so concisely and clearly stated. My main object in this exercise was familiarly to acquaint myself with the elementary doctrines of law and government, for practical application in my profession. But the exercise was of inestimable value to me in forming my method of thought

and expression. Whatever of conciseness and clearness of style I may possess is to be largely attributed to such study.

Another great value to be derived from a study of these Latin maxims is that they contain the concentrated wisdom of the philosophers, scholars, and publicists of Greece and Rome. We of the English race, in our exaltation of the common law, are apt to forget that the foundation of almost all modern jurisprudence was laid by the jurisconsults of the Roman Empire in the compilation of the civil law, who availed themselves of the vast storehouse of wisdom gathered from more ancient sources.

Even the advocates of the elective curriculum which requires no Greek and Latin admit that the study of those languages in the writings of their philosophers, poets, and scholars tends to produce the most cultured minds and the highest style of composition and expression. Amidst the great wealth of material in the ancient classics which has come down to us, none is more useful to the lawyer and the public man than the works of Demosthenes and Cicero. We are accustomed to look upon them only as orators and authors of treatises, but they were lawyers by profession, and of all the ancients the most successful in their profession of those whose lives we know or whose works have been preserved. And they also, like their brethren of the present day, were led through their profession into public affairs. For a considerable portion of their public life both Demosthenes and Cicero swayed the destinies of Athens and of Rome.

Demosthenes lived about one hundred years after Pericles, but he had in his education the full benefit of

the refinement and literature of that age and of the later days of Socrates and Plato. Cicero was educated by the most eminent teachers and philosophers of his day, and he perfected his education in Athens and Asia Minor. Many of the forensic efforts of these two men have been saved from the wreck of time, and are available for the study of lawyers and statesmen. They are conceded to be among the choicest productions of the human mind in force of expression, beauty of style, pure philosophy, juridical wisdom, and statecraft. It is well worth while for our public men to master the Greek and Latin in order to study the productions of these great lawyers, orators, and statesmen in their native tongues, unimpaired in their force and elegance by translation.

I have referred to the training derived from the translation of the dead languages, in the accuracy of expression which it requires, and the habit of searching for the true and exact meaning of the author. This training is of prime importance to all those who have to do with the framing or the interpretation of contracts, charters, statutes, or treaties. It has been deeply impressed upon me in my connection with public affairs. A considerable portion of my official life has been devoted to efforts to reach an understanding of treaty stipulations which, on account of their vague and inexact language, have given rise to conflicting interpretations which threatened open hostilities between otherwise friendly powers. The most fruitful source of conflicting interpretation has been the attempt in our treaties with Great Britain to fix our boundaries with Canada and to define our respective rights.

In the treaty of peace and independence of 1783 it was stipulated that in order "that all disputes which

might arise in the future on the subject of the boundaries of the said United States may be prevented, it is hereby agreed and declared, that the following are and shall be their boundaries, viz. . . . ." But the first attempt to put this stipulation of the treaty into force developed the fact that the language used was so vague and uncertain that, owing to the opposing interpretations, it was impossible to put it into effect; and, after much discussion, resort was had to arbitration to determine what was "the true intent" of the treaty as to the initial point of the boundary line. In succeeding years, as efforts were made to establish other portions of the boundary under this treaty, the varying interpretations placed upon its language caused much embarrassment and ill-feeling.

The territorial rights of the United States and Canada on the Pacific coast, the discussion of which had caused the campaign cry of "Fifty-four forty or fight," were sought to be settled by the treaty of 1846, but the uncertainty of the language employed for that purpose caused bitter contention, only to be allayed by submitting the conflicting claims to the arbitration of the emperor of Germany to determine "which of these claims is most in accordance with the true interpretation of the treaty." Similar trouble as to the respective rights of the two countries in Alaska arose out of the proper construction to be placed upon the language used in the treaties of 1824 and 1825 between the United States, Russia, and Great Britain, which culminated in the expensive arbitral litigation at Paris in 1893, and at London in 1903.

The most conspicuous illustration of the defective character of treaty language is to be found in the recent agreement of the United States and Great Britain to

refer to The Hague Tribunal the meaning of the words used in the stipulations of the treaty of 1818 regulating their respective fishing rights in the Northwest Atlantic waters. After nearly a century of diplomatic correspondence, heated local controversy, and long and elaborated arguments as to the meaning of words, it has been determined to organize at The Hague an international tribunal, before which the meaning of the words in dispute will be debated by the most learned lawyers of the two nations, and a final determination secured.

It is true that imperfect geographic knowledge has been responsible in some measure for these international misunderstandings, but the greater part of the ill-feeling, arbitral litigation, and expense in these cases could have been avoided, if the negotiators of the treaties had taken more pains or had possessed the capacity to express their intent in more precise and accurate language. This citation of international controversies with our northern neighbors emphasizes the importance of having our diplomatists and our statesmen in the Cabinet and in the Senate who have to do with the making of treaties, well trained and expert in the force of language and the meaning of words. It is the unanimous testimony of educators and professional men that such a training can be best acquired by a patient and thorough study of Greek and Latin.

I heartily re-echo the sentiment heretofore expressed in these Conferences that there may be in this respect a restoration in our universities and colleges of the old condition of things, when the degree of Bachelor of Arts meant classical education.

III. THE STUDY OF LATIN AND GREEK AS A TRAINING FOR PRACTICAL LIFE

CHARLES R. WILLIAMS
Editor of the *Indianapolis News*

The purpose of education, as I conceive it, is to make youth conscious of its vast heritage, and to train its powers so as most effectually to appropriate and use its endowment. It is well constantly to hark back to foundation principles. What are we trying to do in all the process of education from the time we start with the schoolboy, "creeping like snail unwillingly to school," till the university sends him forth, diploma in hand, to take his place in the ranks of active endeavor? We wish as thoroughly and as quickly as possible to bring him into harmony with his intellectual surroundings, to raise him to the present average of the intelligence of the race, nay, in the university courses, to lift him above the average so that he may hope to be, may be fitted to be, a leader, not a follower in the race; a man that has learned through the mastery of his own powers and inclinations, through the discipline of his own nature, through long association with the best that the world has thought and wrought, to have some adequate conception of life; who has come to "see life steadily and see it whole," or, if not quite that, who has had formed in him some desire and aspiration to attain that high and worthy power.

A good share of education, nearly all that can be given to the majority of our youth, is of an essential, necessary character, such as every citizen ought to have. Most pupils are, to say the least, not geniuses, not even talented. All that can be done for them in their school years, it seems to me, is to give them thorough instruction in the essential elements of education and to quicken

in them the desire for better things—to give them in some degree the spirit of knowledge, which is "that you must base your conclusions on adequate grounds."

Already when the lads reach the college or university the work of selection has gone far. Generally speaking, only those seek the higher courses of instruction who are above the average intellectually, at least in their desire for knowledge and training or in their aims or ambitions for their mature life. But for the most of the students, even in the higher courses, the spirit of instruction remains the same; only with ampler view, with wider prospect, with larger understanding. The minds are still immature, the accomplishment slight, the discipline of powers partial and often misdirected. It is not knowledge of facts that is needed most, so much as it is grounding in principles, right attitude of mind, training of powers in application, and in appreciation of what is right and good, of what is worthy and best. And along with this there needs to be, if best results are to be attained, constant inculcation, by precept and example, by spirit and power, of honesty of thinking, honesty of speech, honesty of action—the love of truth, the scorn of a lie. To my notion, it is quite as important to have instruction so permeated with the atmosphere of right purpose, and the love of all things true and honest, and of good report, that its constant endeavor and effect shall be to

> teach high thought, and amiable words,
> And love of truth, and all that makes a man.

"Three things Yale helped to make William Howard Taft," said President Hadley at the recent notable Yale banquet in New York, "a man, a straightforward man, and a man of high intellectual ideals." He added: "The

central problem for our colleges today is to see that we give the same help and stimulus to those who now come to us."

We have been inclined, especially in the last few decades, to place the greatest stress upon the practical life. Time was in our earlier days when men regarded the pursuit of righteousness as of paramount and dominating interest. Our ideal then, the ideal at least that we loved to exalt and to proclaim, was the life of plain living and high thinking. Is it too much to say that the popular ideal today is rather the life of plain thinking and high living? Does the intellectual life, do the concerns of the spirit bulk as large in our thought, in our approval, as aforetime? Is not it the prevailing sentiment of the youth of the period that the great thing in life is to get on, to lead in material accomplishment, to put money in one's purse?

For years the gospel of strenuosity had been dinned into our ears with inescapable iteration; and we of all peoples, by reason of our temperament and the tendency of our thought, have needed such preaching least of all. The very conditions and opportunities of our life, with a virgin continent to enter into and possess, have set the blood coursing through our veins in a very fever of impetuosity, and made us avid of material conquest and achievement. With so great possibilities demanding development and offering so munificent rewards to those that should succeed, it is no wonder that young men of energy and enterprise and initiative have been impatient to enter the lists and to win their spurs in the sort of activity which the times seemed most highly to regard. It is no wonder, perhaps, that in the swift revolution of thought, the breaking up of old habits of mind, of old

forms of faith, which the marvelous development of science has gendered, and the new mastery of the powers of nature has fostered, it is no wonder, perhaps, I say, that the material side of life has come to occupy so disproportionate a share in the thought and ambitions of the age. Its favors are so obvious and so convenient; it is so good to be lapped in ease, to be luxuriously housed, to be clad in purple and fine linen, to have one's heart's desire!

And so our very education has tended—has it not?—to be materialized; has come more and more—has it not?—to exalt the immediately useful and practical—the utilitarian—side of instruction. The old college education had at least an ideal of culture. It began somewhere, it proceeded by orderly sequence of courses, through clearly defined territory, toward a definite goal. That goal was trained and disciplined manhood—a mind stored with much knowledge of the sources of our culture; a mind with all its powers, at least somewhat, tested; a mind that had been made conscious of its capacities and of its ignorances, that had been disciplined in the ways of attaining knowledge; a mind brought into some reasonable frame toward the great and obstinate questionings of the soul; and a character established on the eternal foundations of principle and morality. That was the old ideal, as I conceive it. Surely that was a very noble ideal. Of course it was only measurably attained or attainable, but it moved on before the hosts of youth seeking escape from the bondage of immaturity and rusticity, of convention and prejudice, of sensualized desire and low ambitions, a pillar of cloud by day and a pillar of fire by night, leading steadily toward the promised land of the enfranchised human spirit.

But in the multiplicity of courses that the college offers today, in the clamor of appeal of its diverse and divergent departments, what ideal controls and co-ordinates the whole? I trust I speak not in the tone of the hopeless conservative, of the mere *laudator temporis acti*, to whom the old, because it is old, seems good, and the new, because it is new, portends degeneracy. I have not that temper of mind at all, I hope. I know that the colleges and universities are greater and better in unnumbered ways than they used to be. But what is the ideal of their courses? This I do know, that it is possible in these days of so large freedom of electives for men to graduate with high honors from some of our higher institutions who, with all their equipment of particular knowledge, with all their specialized power, are devoid of culture and possess no philosophy of life. Doubtless they know more about some things than the graduates of the older day knew, but they know less about everything—the universe, the majestic movement of human culture from its far-off sources in the past, increasing with the broadening times, to its present multitudinous volume.

Not infrequently we hear it asserted that it makes little difference what a young man studies, so only that he studies and learns to study in the right way. All roads lead to Rome, we are reminded. So any subject pursued diligently, we are assured, will certainly bring the student to efficient mastery of his intellectual powers. Well, let us freely admit that there is something, nay, a good deal, in this theory; and yet there is a difference. A student may discipline his mental powers in the study and investigation of subjects which in the end have given him little more than discipline, power for further effort,

but that have left in his mind, made part of his soul-life, to be the furniture of his thought and the subject of his meditation, almost nothing that he cares to remember, almost nothing that has become of the very texture of his inner life. The range of knowledge is so vast, its lines extend with so many ramifications, interlacing and driving wide apart, to the ends of the world, that no one can ever hope to compass it all; much less in the years of his tutelage. Of course, no one line of study is best for the best development of every mind. There must and should be choice and variety to answer the needs of varieties of gifts. The higher institutions have been wise in recognizing this requirement, and so enlarging and enriching their curricula. But, after all, have not they moved too precipitately in this direction? Have not they given to youth, fickle and uncertain in its bent, too great and too early freedom of selection? Have not they allowed specializing and consequent narrowing of intellectual interest to begin too soon? Have not they, in the flush of zeal for the new learning, gone too far and too fast in encouraging the abandonment of the old ways and the old paths? Does not the experience of the ages of successful tuition, after all, count for anything? Should not the wisdom of the elders have some weight—far more than it has seemed to have in late years—in guiding, counseling, and directing callow youth in the courses that promise most for their best development?

It does make a difference, a very great and momentous difference, to my notion, what a youth studies in his formative and impressionable years. He is to gain discipline, he is to win mastery over himself, to learn to use his intellectual powers; but if he can attain these necessary ends and at the same time be adding vastly

to his spiritual resources, to the comfort of his soul, to the joy of his true life in the years to come, when the cares and responsibilities and distractions of professional and business activity shall absorb his time and energy, should not those subjects for study be preferred which shall enable him most easily to bring about these most desirable results? Let us never long leave out of our thought that life is not mere getting and spending, mere sowing and reaping, mere material success of whatever form. That is only the basis for something better and higher and more enduring.

And so, especially for the young men that hope to be leaders in the professional and business life of the time, in finance and affairs of state—in practical life, in a word—those studies are to be preferred which shall make him more a man, give him a wider outlook, a larger prospect of life, quicken his power of vision, enlarge his range of sympathy and appreciation, and bring him into fullest consciousness of the sources and development of the culture we enjoy. It may be tremendously interesting, to be sure, to be able to determine the distance of the sun from the earth or to measure the diameter of the moon; power of observation and a magnified sense of the miracles of nature's adjustments all about us may doubtless come from microscopic study of the eye of a wasp or of the delicate whorls of a lichen. But, after all, what do such investigations furnish the mind withal besides the added power except just the facts ascertained? How have they, except in infinitesimal degree, made a man more a man, or helped prepare him for his life among men? And never more than in this age of crowded activities, of enlarging governmental functions, of militant socialistic agitation by half-educated theorists and lop-sided senti-

mentalists, was there need of men that know the world was not made yesterday nor the day before.

Pope voiced a profound truth when he declared that "the proper study of mankind is man"; and some wise man, whose name I do not now recall, uttered the dictum: "There is nothing noble in the world but man; there is nothing noble in man but mind." Whether or not we accept that as wholly true, we must unquestionably recognize that in it lurks great truth. What man has been, what man is, what he can hope to be—is there any other theme of such enthralling interest, any other field of investigation that can so widen the spiritual horizon, that can exert so humanizing an influence? It embodies the whole accomplishment of the race, in civil society, in religion, in letters, and in art.

And it is into just this field of investigation that the study of the Greek and Latin literatures and polities conducts us with enticing appeal and supreme authority. It is no accident, no assumption of conceit, no pedant's caprice, that named the Greek and Latin courses "the humanities." That title is the expression of exact and suggestive verity. In these courses certainly we are studying humanity in concrete manifestation and in abundant wealth and variety of intellectual and spiritual achievement. While the life presented has all the air of maturity and presupposes antecedent ages of preparation, yet for us it has all "the freshness of the early world." For us it presents the foundations on which our civilization is built, the germ out of which our culture has developed. Our jurisprudence recognizes principles established by the Greek and Roman lawgivers; our municipal administrators could find much to emulate in ancient methods; our philosophers still quote the authority of

Socrates and Plato and Aristotle; our literary forms were given to us by the poets and orators and historians that made Greece famous; our art tests itself by comparison with the scanty derelicts of the studios of antiquity. How can one possibly have appreciation of the higher things in modern life who has made no thorough study of the sources from which these have sprung or in which they have found inspiration?

And there is no way to study these sources so effective as to study them in the original languages. The very fact that the languages are so different from our own, that their content is so remote and alien to present moods, and that therefore progress in their mastery is slow and laborious, adds to their value as disciplinary material and deepens the impression that the knowledge they convey and the wisdom they impart make on the mind and the memory. A man in after-life may forget the declensions and the conjugations, may lose power indeed to read or translate, but the effect of the study on his mental development, the knowledge of men and the world that he thereby gained directly or indirectly, the uplift of soul, the widened vision—these have entered into and become a part of his being, that shall never leave him more. They have helped to give him an understanding of life, a grasp of principles, a consciousness of the solidarity of the race which otherwise he would have failed to gain, or at least to gain so strongly and distinctly. "Will such studies make anachronisms of us?" asks Mr. Lowell, "unfit us for the duties and the business of today? I can recall no writer more truly modern than Montaigne, who was almost more at home in Athens and Rome than in Paris. Yet he was a thrifty manager of his estate and a most competent mayor of Bordeaux."

Unless a student is dull indeed of comprehension he will have learned by his contact with the ancient world, by his pursuit of the humanities, that the problems of government and sociology, the just division of powers, the distribution of wealth, the relations of classes to one another, the incidence of taxation, and the control of great estates are not new problems peculiar to this age and continent. He will thus be prepared to deal with them with larger intelligence, with wiser patience; he will not be carried away with every wind of doctrine fanned by the flippant but ignorant mountebank of yesterday, nor prone to accept the long-ago rejected, but freshly discovered, panacea of political or financial ills proclaimed by insinuating rhetorician or crafty demagogue. He will stand, he must stand by reason of the training he has had, of the wisdom he has absorbed, as a bulwark of defense for the things that are sane and sensible and that experience has proved and approved.

So far I have discussed the general effect and influence on mind and character in fitting a man for leadership in the practical affairs of life, which in my opinion a study of the humanities is pre-eminently suited to produce; and perhaps I might properly arrest my discussion at this point. But there is another phase of the question, no doubt, of comparatively minor importance, but still in my opinion of great significance, to which I cannot forbear to give attention. No man is well educated, is well fitted for leadership among his fellows, that has not a thorough and easy command of his own language. Language is the instrument of thought, whether we fully agree with the nominalists or not, the instrument of expression, of human relationship. There can be no clear thinking, no adequate expression except by one that

has mastery of the instrument of thought and expression. It is hardly possible therefore, to my mind, to exaggerate the importance of inculcating and cultivating the knowledge and power of our native tongue. Indeed, the greatest heritage we enjoy is our English language with what it contains. It is the noblest instrument of thought that the human mind has developed, with the possible exception of the ancient Greek. And when we recall the complexities—one might almost venture to say, the perversities—of Greek etymology, one may be permitted to express unqualified preference for our so-called formless speech. At any rate it is acknowledged to be, for all practical purposes, far and away superior to any other modern tongue.

To this transcendent language of ours we owe a profound respect and devotion akin to the feeling of patriotism or loyalty. It is our duty as educated men to do all in our power to maintain its integrity and to preserve its purity. Students ought to be impressed with the thought that the language is not theirs to do with what they will; it is a great patrimony given to them in trust, to be transmitted unimpaired, though perhaps enriched, to their successors. It is theirs to use, to enjoy, to glory in; but not to abuse, to mutilate, to degrade.

Now, in my opinion, there is no other way by which students can come to so thorough a knowledge of the powers and possibilities of the English language, to working familiarity with its ample vocabulary, to a comprehension of slight distinctions of significance in its profusion of synonyms, to a precise discrimination among its wealth of epithets, and to ease of movement in marshaling word and phrase in orderly formation, that is to be compared with the study of Greek and Latin. Every

hour with text and lexicon and grammar, every exercise in classroom, becomes a practice, an experimenting, a successful engagement in what Mrs. Malaprop thought she was saying when she boasted of her aptitude for "a nice derangement of epitaphs." At a period of his development when a student has few thoughts of his own to express, and scant power to express even what thoughts he has, he has placed in his hands a masterpiece of the world's literature couched in alien idiom and surcharged with allusions to customs and traditions and events remote from his cognition or experience. For high thought and strange form and antiquated mode he must find adequate interpretation and expression in his own language. Almost imperceptibly he finds his range of expression amplified; his appreciation of delicate shades of thought quickened; his vocabulary expanding; his sense of the value of words, inherited from the Greek and the Latin, deepened; his ability to think more clearly and to give utterance to his thought with propriety and precision vastly augmented. In all his efforts to translate the classical authors he has been sounding the depths and exploring the heights of his own vernacular. He has been away for the time, at any rate, from the flippancies and irrelevancies and slang of the campus and the athletic field, and drinking large draughts from the well of English undefiled. He may have thought he was only trying to learn Greek and Latin, but all the time he was perfecting himself in the mastery of English, perfecting himself in the power of precise and accurate statement, of adequate and appropriate expression. If any man hopes to be a leader in the practical life of the time he must have the power to think straight and to give forceful utterance to his thought.

For the man that seeks to be a leader in the practical life of the world the study of the humanities, of Greek and Latin, is to be recommended and urged, therefore, because of the thorough understanding and mastery of English that it gives; because of the discipline of the intellectual powers it affords, in determining the precise meaning of an author's discourse; because of the knowledge gained of the sources of our own language, our institutions, and our culture; because of the cultivation of taste that comes thereby in all that is high and fine in literature and art; because of the wider vision it gives to the spirit of men, and because it deepens one's sense of the continuity of culture, of the solidarity of the race, of our debt to the past, and so of our obligation to the future. It makes a man more a man, the more he knows of what men aforetime have borne and done and thought. The most practical man, in the final survey of human life, is the one that puts the emphasis on *man* and not on *practical;* who is never too absorbed in the cares and triumphs of life to ask himself soberly now and then: "What shall it profit a man, if he shall gain the whole world, and lose his own soul?"

IV. THE VALUE OF THE STUDY OF GREEK AND LATIN AS A PREPARATION FOR THE STUDY OF SCIENCE

HARVEY W. WILEY
Chief of the Bureau of Chemistry, Washington, D.C.

In this twentieth century, when the world is full of men of affairs, when so much is accomplished in a material sense, when the intellectual power of certain men over their fellow-men is so marked, when our leaders are of

sueh eonsequence, it is a matter of interest to study every phase of the training of young people, for they will be responsible for the progress we shall make in the future. All of us, teachers and students, workers in every line, are striving to make our work tell in the final result, and not one of us is willing that the precious time of the youth of this generation should be spent on studies that give no value received at all commensurate with the time spent upon them.

In the general education, whieh all of us agree should precede the study of the scienee, art, or profession whieh is to be a person's life work, sueh good and broad foundations should be laid that later in life no trained man shall feel that his early training has been essentially defective. That mueh, at least, we older men owe to those coming after us, for we are supposed to have learned, by our experience as working members of this busy world, what parts of our education have given us the best training for the things we may have aceomplished.

To estimate the value of the study of Greek and Latin as a preparation for the study of seienee, it is well to know what is thought on the subjeet by men of eminence in the various branches of scienee. If the matter is passed upon by chemists only, the conelusions to be drawn from opinions rendered would be very different from those to be drawn from the opinions of astronomers exelusively.

As a member of the Committee of Nine of the Classical Assoeiation of the Middle West and South, I sent a eireular letter to one hundred prominent seientific men in the United States, teaehers and others, for the purpose of elieiting information respeeting their attitude toward the promotion of classieal learning and their estimation of its value. This letter is in part as follows:

I particularly desire to present the matter of classical studies to the scientific men of this country with a view to securing more extended study of the classics as a basis for scientific studies. The great tendency in the past few years has been to eliminate any requirement of classical knowledge from courses in science. I hope that a careful study of these problems will lead to the return, at least in part, to former conditions of qualification.

I feel deeply that a man who proposes to follow a scientific pursuit especially should be well trained in both Latin and Greek. I do not mean that he should become a specialist, but that he should have such a knowledge of these languages as will enable him to appreciate their beauty and utility. I desire to have your views on the following points:

1. What value do you place upon a fair knowledge of the classical languages, especially Latin and Greek, as a basis for scientific studies and activity?

2. What practical utility may such a knowledge of the classical languages have for a scientific man in the active work of his profession?

3. What particular branches of science would be most benefited by such a knowledge?

4. What effect upon the style and clearness of expression will such a knowledge give to a scientific writer or speaker?

5. What practical help will such a knowledge be to the scientific man who is required to learn some modern language in addition to his own?

6. What effect will such a knowledge of the classics have upon the pleasures arising from knowledge rather than its application which may be enjoyed by an active, educated man?

7. At what age in a person's training should the knowledge of the classics above referred to be acquired or the acquirement commenced?

8. What effect would such a knowledge have upon the success of a scientific man in his professional activity?

9. Any miscellaneous or explanatory expressions respecting the value of classical study to scientific life and scientific research.

To this letter thirty-five replies have been received, of which the following is a tabulated summary, as regards the first eight questions:

Replies received	35
Favorable to the study of Latin and Greek	14
Unfavorable to the study of Latin and Greek	17
Favorable to the study of Latin, but not of Greek	4

Point 1.—What value do you place upon a fair knowledge of the classical languages, especially Latin and Greek, as a basis for scientific studies and activity?

No value	3
Very little value	4
All knowledge is of some value, therefore Latin and Greek must have some value	2
Latin and Greek have little value in comparison with the time needed to acquire a knowledge of them	3
Training in language is needed, but French and German are better than Latin and Greek	3
Latin is valuable, but not Greek	4
Helpful	2
Great value	11
Essential	3

Point 2.—What practical utility may such a knowledge of the classical languages have for a scientific man in the active work of his profession?

No specific answer	4
No answer whatever	4
Very little value	9
Practical utility of Latin varies with the nature of the science followed	1
Some knowledge of Latin and Greek is of benefit in making English scientific terms intelligible	4

Latin is of great value in obtaining a knowledge of the proper use of English, so necessary to any educated man 2
A student of Latin and Greek really learns syntax while he is studying Latin and Greek. He could do this equally well by studying a modern language and better still by analyzing English authors 1
The value of Latin and Greek is the resulting acquaintance with English etymology 1
Severe attention to detail which the thorough study of Latin and Greek requires is of value, but strictly scientific studies might give the same result 1
The nomenclature and terminology of science are based on Latin and Greek, hence knowledge of them is very important to a scientific man 8

Point 3.—What particular branches of science would be most benefited by such a knowledge?

No specific answer 7
All sciences 3
Astronomy 1
Biological sciences 6
Botany 3
Chemistry 3
Geology 3
Humanistic sciences 1
Mathematics 1
Medicine 6
Natural history 2
Natural sciences 1
Paleontology 1
Philology 1
Physics 2
Zoölogy 1
No use in any science 9

Those sciences in which an elaborate terminology is supposed to be a mark of scientific activity 1

NOTE.—Several answers to Point 3 named more than one science. Several left the question blank.

Point 4.—What effect upon the style and clearness of expression will such a knowledge give to a scientific writer or speaker?

No specific reply 5
No influence 8
Often injurious 1
Tends to make the style obscure 2
Depends on personal peculiarities of the man; some people are benefited, others injured 2
Teaches grammatical precision 1
Training in English is better than training in Latin or Greek 4
Effect is beneficial 4
Knowledge of classical languages is very important to a scientific man to teach him how to use English with clearness and precision 8

Point 5.—What practical help will such a knowledge give to the scientific man who is required to learn some modern language in addition to his own?

No specific reply 4
Effect will be to hinder the acquisition of a modern language 3
Any language training is helpful as a preliminary to other language training 2
A knowledge of Latin is of some value in the acquisition of French and Italian, but this is no motive for the study of Latin and Greek. Such a laborious and indirect approach to modern languages is wasteful in the extreme . . 6
A help in learning any Romance language 15
No help in learning German, the most important of modern languages to a scientific man 3
English is the best language to study as the basis for another modern language 2

Point 6.—What effect will such a knowledge of the classics have upon the pleasures arising from knowledge rather than its application which may be enjoyed by an active, educated man?

No specific reply..... 10
All knowledge gives pleasure; there is no special pleasure to be obtained from Latin and Greek classics..... 5
Much more pleasure is found in the great works in modern languages than in the classics in Greek and Latin..... 5
A source of great pleasure..... 9
A source of pleasure, provided the study of Latin and Greek be carried far enough..... 4
A knowledge of the classics in Latin and Greek is essential to a broad education..... 2

Point 7.—At what age in a person's training should the knowledge of the classics above referred to be acquired or the acquirement commenced?

No specific reply..... 8
Should not be acquired at all..... 1
After French and German have been acquired.. 2
If studied at all, begin as young as possible..... 4
Between 8 and 10..... 2
Between 11 and 20..... 3
About the age of 12..... 6
In the secondary schools..... 6
In college..... 2
Before professional studies are begun..... 1

Point 8.—What effect would such a knowledge have upon the success of a scientific man in his professional activity?

No specific reply..... 9
No effect..... 6
Little effect..... 9
Culture value only..... 1
Many of the best schools have given a very large part of their time to Latin and Greek. Of

course the graduates of these schools are better trained than those of poor schools with better programs 1
Advantageous effect on a man's reading, writing, and speaking 2
Effect of drill in careful use of language 1
Other things being equal, the botanist with a good classical education is more likely to succeed, because he is less dependent upon others for certain essentials in his science, such as etymologies of words, translation of Latin descriptions, and writing Latin descriptions . . 1
A man becomes a better popularizer of science . . 1
Classical knowledge is of much value for the success of a scientific man 4

I select some typical replies to Question 9, giving them in full, since in many cases the attitude of the writer to the whole subject under discussion is most clearly shown in his reply to that question:

J. M. BALDWIN, JOHNS HOPKINS UNIVERSITY

I think the attempt to continue so-called "classical" study in its traditional artificial position is quite useless and unwise. Let it take a place it can hold—one in common with other literary and linguistic groups of studies. To give it great importance in connection with science is a conceit, *me judice*, of its foster-parents.

R. P. BIGELOW, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

To summarize my opinions in the matter of scientific education, it seems to me that the essentials are of two classes: First, a thorough training in the use of the tools required by a scientific man, namely, the modern languages and mathematics; second, a training in the scientific method, especially as applied to the branch of science in which he desires to specialize. If to the curriculum, the study of the classics can be added without

interfering with these essentials, then it seems to me that in some cases it would be desirable as a means of culture and enjoyment.

M. T. BOGERT, COLUMBIA UNIVERSITY

No reason for a scientific man to go beyond Caesar and Xenophon. Much more important for a chemist to be familiar with German than Latin, and Italian, French, or Danish than Greek. In fact, I would place the languages in about the following order for an organic chemist: German, English, French, Italian, Danish, Swedish, Latin, Greek, Russian.

G. C. COMSTOCK, WASHBURN OBSERVATORY, UNIVERSITY OF WISCONSIN

The value of the classical languages and their study appears mainly to result from the drill and mental exercise upon a host of constantly recurring small problems and the applications of flexible rules which the diligent student cannot escape, and which are especially adapted to the discipline of immature minds. The initial stages of such study appear to me of much more value for general training than anything which can come after the first three or four years of such work.

J. U. NEF, UNIVERSITY OF CHICAGO

I think everyone realizes as he grows older that he has his limitations. I, for one, regret very keenly that I took a great deal of Latin and Greek and did not spend far more time on advanced mathematics and physics. I am, however, not now wasting any time in vain or useless regrets on this account, but simply doing the best I can with the knowledge that I have acquired.

ORMOND STONE, LEANDER MCCORMICK OBSERVATORY, UNIVERSITY OF VIRGINIA

The tendency to eliminate classics as required subjects from courses in science is pedagogically correct. Life is too short for everything. Modern languages (at least German and French) are essential to the English-speaking man of science.

W. F. OSGOOD, HARVARD UNIVERSITY

I value linguistic training, and I believe that for the English-speaking person German offers all the advantages of Latin—not German crowded into a corner with Latin five hours a week for four school years, but German taught by the ear and by the eye, with thorough schooling in grammar and reinforced a year or two after the start by French, similarly taught, both languages strengthening each other through their comparative study. From such a study come the advantages, first, of the discipline, of the exact knowledge and the intelligent performance of a task well understood; second, of the broadening influence of wider human contact through really seeing something of the thought of other peoples; and, third, of having in our possession a useful tool for our science.

C. R. BARNES, UNIVERSITY OF CHICAGO

While I should advise every young man who is going to make a special study of some branch of science to study both Latin and Greek, I should greatly deplore *requiring* either. I do not think it possible to run every scientific intellect into the same preparatory mold.

FLORIAN CAJORI, COLORADO COLLEGE

Modern languages are indispensable. I have seen scientific men who could read their Virgil, but to whom a German book was a sealed book. Their scientific work was seriously hampered.

C. W. DABNEY, UNIVERSITY OF CINCINNATI

I do not know how a man can understand the terminology of science, much less keep up with its literature, unless he has a full knowledge of the classical languages. The scientific man must be able at a glance to know the meaning of all the terms used in science and I do not see how he can do this unless he has a moderate knowledge of Latin and Greek. He needs French and German to keep up with their literature, and those languages are, in part, based on the classical languages.

E. S. DANA, YALE UNIVERSITY

I may say in general that my experience has shown that a knowledge of Latin and Greek is of great benefit to the scientific man, particularly in natural history, since without this he is ignorant in regard to the meanings of a considerable part of the scientific vocabulary, and, if his work requires him to invent new specific names, he has not the basis of knowledge to allow him doing this intelligently. Furthermore, the drill in Latin and Greek translations seems to me one of the best ways of studying the English language and thus training the individual in a clear style.

J. W. MALLET, UNIVERSITY OF VIRGINIA

But in a broader way such a one may well desire to have his share with his fellow-men in the mental strength and enjoyment which a moderate acquaintance with these tongues opens up in history, in literature, in art, and generally in a knowledge of the mental life of the chief races of men who have before us inhabitated the earth. In the selection of subjects with which to fill the time and thoughts of the young during the part of life which can be given to formal training there must of necessity be close instruction within practically attainable limits, and the teacher must constantly keep before him the problem of what best may be *left out*, but, in the so-called conflict between classical and scientific studies, it may, I think, be truly said, "This should ye have done, and not have left the other undone."

B. OSGOOD PEIRCE, HARVARD UNIVERSITY

I do not regret the years that I spent in school and college (not very willingly at the time) upon Latin and Greek.

EDWARD RENOUF, JOHNS HOPKINS UNIVERSITY

Every scientific man knows what a dismal farce the result of classical instruction in the American preparatory school is, and I do not think it possible for classical instruction to scientific students to be prolonged beyond the second college year. The result obtained at that period, with the material the teachers have to handle, is still pitiable, and, to my mind, of little value,

especially if it has lessened (as is usually the case) the time allotted to modern languages. I cannot but feel that it is "up to" the teachers of classics. Scientific teachers starting with a freshman—about equivalent to entrance into *Ober-Secunda* of the *Gymnasium*—turn out an average undergraduate product which compares favorably with that turned out in German universities in the same working time from *Real-Gymnasium* graduates.

Why cannot the preparatory school teaching Latin to boys from 12 to 18 equal, or at least approach, the product produced between 12 and 17 by the classical *Gymnasia?* *When* they do, the questions on this sheet will not be needed—the man with classical training will be the only man who will be practically received as university or college teacher in science, as it is practically in Germany today.

C. O. WHITMAN, UNIVERSITY OF CHICAGO

I have long held that a good knowledge of Latin and Greek is quite essential to the modern man of science. In my own department, the ablest men are, without an exception, men who have had a thorough classical training. Those who have failed of this show it in inability to express themselves accurately and concisely. They do not have a fine appreciation of the primary meanings of words. . . . .

The scientific man must not only know how to use English, but also how to *form new words* for new purposes. Besides, his terminology is made up almost wholly of Latin and Greek derivatives. Over half of our whole vocabulary is founded on Latin. A knowledge of Latin aids immensely also in the learning of French, Italian, Spanish, etc.

The replies to the circular letter have been difficult to classify, considering each one as a whole. Examination of a letter often showed that different parts of it should be classified under different heads. I have endeavored, however, to separate them into two classes. First, those which upon the whole favor classical instruction; and, second, those which upon the whole oppose classical

instruction; but even with this clear-cut line of demarcation it has been found impossible to make a just distribution in all cases. Some of those which are found in class 1 will contain sections which should be placed in class 2, or vice versa.

The most prominent deduction from a study of the replies is the existence of two schools of thought based upon different premises or points of view. In the one instance there is quite a respectable element among scientific workers and teachers favoring decidedly, or, in a limited manner, the requirement of classical instruction for the college degrees. This school believes, as will be seen in the detailed analyses given, that classical studies upon the whole are advantageous to those engaged in scientific work and also contribute to the enjoyment of scientific life. On the other hand, we may class those who are of very positive opinion that all the time spent in learning dead languages, especially Latin and Greek, is wasted, and that the knowledge which the ordinary student obtains of these languages is not a working knowledge, nor is it of sufficient extent to warrant the belief that it adds anything to the pleasure or to the efficiency of those engaged in scientific pursuits. That such a difference of view would be secured was clearly foreseen. The surprise that has come to me in studying the replies I have received was produced rather by the large amount of testimony in favor of the classics than by that which is opposed to them. In general, I think it may be conceded that, in so far as actual utility is concerned in scientific research itself, a knowledge of the classical languages is not of any very great importance. On the other hand, in so far as nomenclature of science is concerned, especially biological science, a knowledge of Greek and Latin is

almost indispensable. Moreover, it seems to me there is a decided opinion to the effect that a knowledge of the classics is more or less indispensable to one who claims to be a man of culture and education in the broadest acceptation of those terms.

In regard to the period at which classical studies should begin, the preponderating testimony is in favor of an early commencement. In other words, it is the opinion of most of those who have expressed any conviction at all upon the subject that a good knowledge of classical studies should be acquired during, or even before, the schooling which is designed to fit the young man to enter the freshman class of a good college or university. There is a very decided preponderance of opinion to the effect that the time of the more mature studies, that is, of the last three years of the college course and practically the whole of the technical courses in scientific studies, should be free from any special devotion to classical researches.

I may cite as a typical advocate of classical learning the letter received from Professor Bessey of the University of Nebraska. He states in part:

> In the management of the department of botany in the University of Nebraska, I require a knowledge of Latin at least, by those who take up the serious study of botany, and I urge such persons to have some knowledge of Greek also. The botanist *must* know something of Latin and he should know something of Greek also. One young man who came to me a number of years ago with a preparation in modern languages only, soon became so convinced of the necessity of a knowledge of Latin and Greek that after entering the University he went back to the beginning of Latin and brought up his knowledge of this language, so that he became a critical Latin scholar. He did the same with Greek, and always defended his action on the ground of its being necessary for him in his botanical work. He is now one of the eminent botanists of the country.

As a typical illustration of the attitude of those opposed to classical learning I may give the letter received from Professor Carl Barus of Brown University:

> It seems to me little short of ludicrous that anybody at the present age of progress should make an endeavor to reintroduce classical philology, particularly at a time when at such venerable seats of learning as Oxford and Cambridge determined efforts have been made to get rid of this incubus. How is it possible for anybody to fail to realize that the trend of science is ever toward mathematics, that in the next generation the demand for a mathematical equipment and the need of it will be increased tenfold? How is it possible to ignore the fact that this is the direction in which specialization should be made, beginning at an early age, for the burden is continually heavier, and that this is precisely the direction in which nothing is being done? As for philological work, let us have English, French, German, Italian, etc., which not only have the same cultural value, but open to their possessors a world of life and learning and science. I can't answer your questions for they put me in a temper.

These two letters plainly join the battle between the opposing forces and in neither of them is there any uncertain sound.

Professor McKee, of Lake Forest College, sent a most interesting letter. He states that he is distinctly convinced from experiments he has made that classical studies are a positive disadvantage to scientific students. He finds that students who have come with a knowledge of Latin rather than with a knowledge of German do not rank as high as those who have studied German. This is not a mere opinion but is based upon actual data of the examinations of college students.

Professor Branner, of Leland Stanford Junior University, does not agree with Professor McKee. He says:

I believe that a systematic examination of the records would show that the men who have the most enduring reputations in the science I know most about are men who have more or less training in the classics.

This may well be true, since the men who have enduring reputations are older men, and the older men were educated at a time when classical training was required and not made optional, as it is at the present time. Even, however, should the records of scientific men show in the future that those who have acquired distinction in sciences are those who have had no classical training, it would not be a proof of the lack of value of classical culture. It is well known that the taste for scientific studies often develops early in life to such an extent as to exclude all desire for the study of any languages, except those necessary to scientific reading and research. Hence it would happen that men with a natural bent for scientific studies would naturally omit the study of classical languages when such a study was not required for college graduation. Upon the whole, it seems to me that the class of data submitted by Professor McKee is likely to be the most reliable. Unfortunately for my own personal views in the matter, the results of his observations seem to be distinctly unfavorable to the classical scholar. I should not, however, like to rest content with this one instance, but should like to see it supplemented by others. If we think for a moment of the vast number of distinguished men who have already made their mark in science, and recall the fact that practically all of them were well trained in the classics, we would hardly be able to condemn classical studies on the ground that they are positively injurious, as is claimed by many of those who have responded to my inquiries.

My own opinion, partly formed, I must say, before receiving the replies to my circular letter, though somewhat accentuated by reason of these replies, is that it would be a very serious mistake to omit from the higher learning of the United States instruction in classical studies. I believe, on the other hand, that more attention should be paid to these studies, as was the case forty years ago, when it was deemed not possible to have a liberal culture without a knowledge of Latin. I believe that most of the objections to classical studies made by those who have responded to my inquiries would be removed if these studies were begun at an earlier age. I am led to believe after many years of careful consideration of the subject, and as a result of four years of teaching the classics to young college students, and as the result of six years of instruction in the classics received from very competent teachers, that the failure to reach the full value of classical instruction lies essentially in the fact that this instruction is attempted at the wrong time and, to a certain extent, in the wrong manner. The general practice in this country is to defer classical studies until the time a young man begins to prepare for college. While there are many notable exceptions to this, exceptions that are, by the way, the strongest evidence of the pertinence of these remarks, I think it may be demonstrated that four years of classical study, beginning at the age of sixteen, as a rule, would produce no more mastery of these studies than would two or three years of study if commenced at the age of ten or twelve. Youth is the natural period for learning a language. In extreme youth the brain may be regarded as almost unwritten upon and the sensations which it registers most indelibly are those which pertain to language. If the brain may

be regarded as a palimpsest, I think we will all agree that the first inscriptions upon it should be those of language. Mathematics and science and philosophy can be written over words with good effect, but if you try to write a language over the other inscriptions you will have but little success.

V. THE CLASSICS AND MODERN LIFE

THE HONORABLE JAMES BROWN SCOTT
Solicitor for the Department of State, Washington, D.C.

Ever since the Renaissance there have not been lacking able exponents of the view that the modern is superior to the ancient world; that the literature since the great revival of learning is superior to the literature of classical times, and that the duty of the modern world is to develop itself along modern lines without any great regard to the past. The supremacy of the modern world was ably proclaimed by Perrault in the reign of Louis XIV. The literature of this period, however original it may be, was based upon classic models; and the Battle of the Books, to quote the expression which Swift has made famous, has raged in England as well. That the question is still debated and considered debatable can only mean that the contest is undecided and that the arguments advanced have been neither convincing nor exhausted.

Without attempting to enter upon this controversy, it is perhaps not improper for a layman to observe that even if the supremacy of the modern world in literature, in art, and in philosophy be admitted, the supremacy is the result of the achievement of the ancient world in literature, art, and philosophy, and that the modern world has reached its present degree of civilization and culture by a return to the traditions of the ancient world, inter-

rupted by the ignorance and indifference of what we are pleased to term the Dark Ages; that the present is a development out of the past, which cannot be understood without a knowledge of the past, and the civilization and culture of the present are therefore a growth rooted in Greece and Rome, not a condition developed by the immediate past or created by the conditions of the present day.

The question, however, is not one of supremacy of either the past or the present, but of the value to the present of the art, literature, and philosophy, the institutions and civilization of the ancient world. Indeed, the question is still narrower, for an expression of opinion is not desired as to the theoretical importance of this knowledge, but as to the practical importance of the humanities to one actively engaged in the world's work. While it may be admitted that a public servant may perform the duties incumbent upon him without a knowledge of Greece and Rome, and with no very great familiarity with the institutions and problems of the ancient world, it is almost self-evident that the usefulness of a legislator, as distinguished from an administrator, would be enhanced by an adequate conception of the institutions of Greece and Rome as well as of the masterpieces of their political philosophy. Men change, governments rise and fall, nations pass out of existence, but the political relation of man to man, the problems of government, whereby individual liberty may be reconciled with the requirements of society, remain, and must be considered by each generation. The experience of the past, however remote, or of states, however small, cannot safely be overlooked by one who regards government and governmental theories as a development. Constitutions grow, they

are not made; the Constitution of the United States was not created in the constitutional convention in 1787, but was the result of centuries of conflict and growth.

Again, it cannot be maintained for a moment that the artistic conceptions of Greece, and in a lesser degree of Rome, are of no advantage to the painter, the sculptor, the architect, and the critic. The mere statement amounts to a demonstration and we need only look about us to see the persistent, molding influence of Greece and Rome in all these departments of activity.

It may well be granted that the literature of the present day differs widely from the literature of the ancient world; that the conditions of the modern world demand a different treatment, and that various forms of literature have sprung into existence to meet the changed conditions. The standard of taste, however, has changed but little; the principles of composition are substantially the same; and it is not too much to assert that a masterpiece of modern literature would have commended itself to the critics of Greece and Rome just as the masterpieces of Greece and Rome not only commend themselves to the modern world but are models of thought and composition. It is not suggested that the littérateur of the present day must proceed along classical lines, and be minutely acquainted with the literature of antiquity, but it would seem to be beyond controversy that the average writer of the present day would have his thought refined, his taste purified, and his style chastened, by a thorough knowledge of the models and canons of the literary composition of Greece, and its imitator Rome. Genius is a law unto itself, and finds expression in any time and in any language; but the man of talent is strengthened by a knowledge of the past.

In the realm of philosophy the same is true. We cannot eliminate Greece and, in a much lesser degree, Rome, if we would construct a system universally applicable. We cannot create a system without reference to the systems of the past which it has taken the past itself centuries to develop. These contentions may be readily admitted and yet it may be insisted that they apply to but limited classes; that they concern specialists in these various lines, and do not affect the overwhelming mass of our people engaged in the practical questions of the present day. However strong this objection may be, it is susceptible of an answer which amounts to refutation; for the study of these subjects, or of any of them, gives training and balance to the mind, and we must perforce admit that the trained mind is essential to the proper conduct of affairs whether we be called upon to discuss problems of state, questions of literature, or canons of art and philosophy.

It is not asserted that training and balance may not be acquired by the study of the natural and physical sciences, or that an acquisition of modern languages will not supply linguistic training. It is maintained, however, that the study of classical literature, art, and philosophy supplies a training based upon models which have stood the test of time and which may therefore be considered universal; that the training derived from their study is therefore correct training, and that we cannot, even if we would, omit these subjects in any curriculum which aims to fit a man for the problems with which he will be confronted in his daily life. It is not necessary to maintain the superiority of these studies; it is necessary, however, to assert their right to equality of treatment and that they be not discriminated against in our colleges and universities.

May I, in conclusion, illustrate, and enforce the necessity, at least, of a comprehensive knowledge of Latin by calling to your attention the subject of international law, in which department I may perhaps speak as a specialist?

The student may, indeed, obtain a knowledge of international law as it exists at the present day from a careful reading of texts in English, supplemented by French and German treatises; but if he would trace international law to its beginnings, and estimate rightly the force of public opinion, which not only controls our national policies but is shaping the international policies of the world, he must master the sources of international law; he must familiarize himself with the leading writers of international law who have in the past three centuries laid broad and deep the foundations of a stately structure, and he cannot do this without a thorough and practical knowledge of Latin. For not only did Grotius himself appeal to the public opinion in that language with which public opinion was familiar, I mean Latin, but his predecessors and those who carried on the Grotian tradition and perfected the science of international law composed their treatises in Latin. The history of international law is a sealed book to one who is not a Latinist, and the ignorance of Latin argues at best but an acquaintance with secondary sources.

SYMPOSIUM VI

THE VALUE OF HUMANISTIC STUDIES: THE CLASSICS AND THE NEW EDUCATION

I. THE CLASSICS IN EUROPEAN EDUCATION

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The ancient classics, the literature of Greece and Rome, were regarded as a vital constituent of education from the moment when they were produced. Studied with devotion as the immortal memorials of a great past, they have led, when rightly followed, to new and high achievement in the present. With this consideration as a clue, let us travel on as briskly as the moments at our disposal require down the centuries of European history.

I know not what Homer studied when he went to school—for may we not, encouraged by recent discussions, not only think of Homer in personal terms, but even boldly picture him as a schoolboy once upon a time?—I know not what Homer studied; but everybody knows that Homer was part and parcel of the education of a great age that came after him, the age of Periclean Greece. In that age, moreover, we see that twofold impulse of the human spirit which the study of classical literature normally inspires—reverence for the past, and the passionate desire to act worthily in the present. Aeschylus, who described his dramas as mere slices from the Homeric feast, prepared for his own times, as Herder remarked, another kind of banquet. The Alexandrian Age, which created canonical lists of the best authors, among whom Aeschylus now took his place, was also an

age of startling innovations in philosophy and politics; in literature, much pondering of Homer led, not to remote and archaistic fancies, but to the translation of heroic types into contemporary terms. Then came the Romans, not an alien race with a hybrid culture, save in the sense that all culture is hybrid, but creators of another great period in the development of antiquity, a period less novel in the invention of literary forms, but fertile and to the highest degree original in the adaptation of the old. Rome's innovations in human history are conspicuous enough; they followed naturally from a loyal consecration to the past. Beginning with a devotion to their own heroic past, they connected this past deliberately with the glories of Greek literature and history, when once that potent influence had made its presence felt. Think for a moment of these typical Romans, and the double outlook on the past and on the present, conspicuous in their lives and works: Ennius, who refashioned Latin verse in the new Grecian measure, that in this verse he might immortalize the history of his country; Cicero, reverent student of the ancient poetry of Ennius and leader of his times in the year 63; Horace, who bids the learner

> Thumb Greek classics night and day

and, thanks to such a training, arraigns the age in a splendid series of Alcaean odes. Poets who know their own day only are the "singers of Euphorion," in Cicero's contemptuous phrase. Young Virgil, perhaps included in that phrase, has so little fame from his early poems, which bear the mark of Euphorion, that until recently nobody believed he could have written them. Virgil's great message to his generation, and to ours, came in a

poem which reveals an intense study of his country's past and an intense study of Homer and Greek tragedy.

I have tarried a moment with the ancients, instead of beginning much later in the history of Europe, expressly to suggest that the best things in ancient literature were not written solely from the artistic but often from the social motive as well. Letters, and, originally, men of letters, were not sundered from public life, but actively contributed to it. If the classics have molded later history, it is not merely because of their great qualities as literature, but because they are involved in the history of their own times and because they enshrine the ideals of a liberal and four-square education, such as their authors possessed. This is a matter that will become obvious, in a moment, when we consider the educational program of Italian humanism.

But first we must quickly traverse the intervening ages—Middle Ages, but not wholly dark—which a new system of education controlled. It is a mistake to suppose that the Christian church was hostile to pagan culture; on the contrary, after a brief season of combat and readjustment, the old learning was appropriated for a new purpose. But the purpose was new. Whereas to Cicero and Quintilian the goal of education was *eloquentia*, the art of expression and its application to the business of state, the Christian monastery removed from the world and prescribed hours of silence. Ill would the sophist Polemo have fared there, who was buried before the breath left his body, that he might not be seen above ground with mouth shut. The Christian church maintained both systems of education for some time, but monasticism gained the day and was the main strength of education till later, in the Middle Ages, the university

came. Now the classics did not perish under the new régime; in fact, we can thank the monastery for preserving them for us. They constituted the first step in education, the "Human Readings," as Cassiodorus called them, to be succeeded by "Divine Readings" later. More than that, in the revival of learning under Charlemagne, and later at the school of Chartres, the ancient idea came again to the front. John of Salisbury in the twelfth century had a great deal to say about *eloquentia*, while Hildebert of Tours wrote epigrams delightfully antique, which could deceive the very elect; for they are included in certain modern editions of the *Anthologia Latina*. Church, state, and learning were more intimately associated than before. The university, too, though its tendencies were philosophical rather than humanistic, created a new interest in Greek by finding the real Aristotle again, and thus led the way for the humanists' quest of all Greek literature. Men of the Middle Ages did not differ radically from those of succeeding centuries in their attitude toward the classics. Humanism and philosophy had their battles in that period as in every period, but the importance of classical culture for education was in general unquestioned. The great and striking difference lay in the amount of classical culture available. The division of the empire into an East and a West effected curious results in civilization. Byzantium, after dark ages of its own, settled down to an eminently respectable scholarship which created little in literature or thought. It treasured the Greek authors but forgot the Roman. When the monk Maximus Planudes at the end of the thirteenth century translated various Latin authors into Greek, he selected those most in vogue in the West at that time, such as Ovid, Boethius,

Augustine, Donatus, Dionysius, Cato; there was evidently no separate tradition of Latin literature at Byzantium. In the West, similarly, the stream of Greek was trickling feebly; the knowledge of the language had not completely disappeared, and technical writers like Aristotle and the author of the Celestial Hierarchy were directly introduced, but the writers typical to us of the Hellenic genius were none of them known. Now a world without Homer, the Attic drama, Thucydides, Herodotus, Demosthenes, Theocritus, a world without the real Plato, is bound to be a very different world from our own. Not that this loss which befell the Occident was ultimately a calamity. The very isolation of the Roman spirit permitted its most triumphant expression in Dante, for whose poetry we should willingly forego whatever a combined East and West might have achieved.

To see how the mediaeval imagination was still fixed faithfully upon antiquity, though less able than before to understand its meaning, we turn to Dante, who mirrors truly the vital sentiments of his times. Many a reader has felt the beauty of that scene in the Purgatorio, where Dante and Beatrice come upon a troop who sing:

> *Benedictus qui venis,*
> E fior gittando di sopra e dintorno,
> *Manibus o date lilia plenis.*

Christian liturgy and pagan poetry, which to some could sound only a discord, blend harmoniously here. But for a more striking instance still I turn to Dante's seventh letter, addressed to Henry VII of Germany in 1311. In this letter Dante speaks of "the new hope of a better age" which "flashed upon Latium" when that monarch came down into Italy. "Then many a one, anticipating

in his joy the wishes of his heart, sang with Maro of the kingdom of Saturn and of the returning Virgin." But since this sun of their hopes seems to tarry, as though bidden to stand by a second Joshua, Italy is tempted to cry: "Art thou he that should come, or do we look for another?" Dante himself has firm faith in the "minister of God" and "the promoter of Roman glory," but wonders still why he can delay, apparently believing that the boundaries of Rome end at Liguria. But the real Rome "scarce deigneth to be bounded by the barren wave of ocean. For it is written for us

> Nascetur pulchra Troianus origine Caesar
> Imperium Oceano, famam qui terminet astris."

Had not the edict "that all the world should be taxed" issued from the "council chamber of the most righteous princedom," the Son of God would not have "chosen that time to be born of a Virgin." So let the emperor not delay, but "let that word of Curio to Caesar ring forth once more—

> Dum trepidant nullo firmatae robore partes,
> Tolle moras; semper nocuit differre paratis;
> Par labor atque metus pretio maiore petuntur.

Let that voice of the chider ring forth from the clouds once more against Aeneas—

> Si te nulla movet tantarum gloria rerum. . . . .
> Ascanium surgentem et spes heredis Iuli
> Respice. . . . .

For John, thy royal first-born . . . . is for us a second Ascanius who, following in the footprints of his great sire, shall rage like a lion all around against every Turnus, and shall be gentle as a lamb toward the Latins."

Dante then warns the emperor by the example of David, whom Samuel rebuked for sparing "the sinners of Amalek." He warns him by the example of Hercules, for there are many heads of the Italian hydra, and if Cremona is lopped off Brescia and Pavia will remain. He must strike at the viper itself, even Florence, who is that "foul and impious Myrrha that burns for the embraces of her father Cinyras," "that passionate Amata who rejected the wedlock decreed by fate," thus resisting "the ordinance of God" and worshiping "the idol of her proper will." So come, "thou lofty scion of Jesse. Take to thee confidence from the eyes of the Lord God of Sabaoth . . . . and lay this Golias low with the sling of thy wisdom and the stone of thy strength."

Surely for this act of public service—the greatest, Dante doubtless thought, that he could render his country —the authority of Virgil and Lucan and Ovid seems wellnigh as efficient as that of Scripture itself. May we not say that for Dante, as truly as for any later humanist, the study of the ancients had an immediate bearing upon the problems of the day?

When Dante had finished his work it was time for a new epoch. Scholasticism had run its course. After so minute and comprehensive a vision of the kingdom of this world and the next as St. Thomas records, some sort of protest and readjustment is inevitable if the human sense of wonder is to persist; in a universe where nothing escapes the observer, the observer, as Lucretius knew, will find at last

eadem sunt omnia semper.

So scholasticism declined and a new age came, in which education returned to the methods of antiquity. We

need not pause to examine the causes of this event; but its most significant concomitant is the return of Greek literature to the Western World. There is a humorous aspect to the triumphs of the humanists, who "discovered" Latin authors long treasured on monastic shelves. Quintilian, welcomed back with such a furor, had been the patron saint of the school of Chartres. The humanists could rediscover because in the thirteenth century the classical interests of the twelfth had yielded to philosophy, and in the fourteenth, monastic discipline and the monastic library had lapsed into decay. But I would not belittle the importance of what to the contemporaries of Poggio were certainly discoveries. For the thirst for discoveries led also to the more careful study of the authors existing. Petrarch initiated the movement; though curiously mediaeval in some respects, he deserves his title of the first modern man, and this because of his passion for antiquity. His great service is not so much the discovery of Cicero's letters as the exaltation of Ciceronian ideas, which were from that time on the guiding principle of humanistic education. Petrarch's craving for Homer, too, ill satisfied by the wretched translation which his teacher made, gave impetus to the general demand for the Greek authors. Work after work was won back; practically all the authors that we have today were recovered before the fall of Constantinople in 1453, which date surely does not mark the beginning of the Renaissance. What wonder if the age, intoxicated by the new draught, indulged itself in various excesses? What wonder, too, if at first the habits of centuries prevented men from rightly valuing their new treasures, so that throughout the Renaissance the doctrine prevailed that the greater literature was the Latin? The Greek

authors had at any rate returned, and civilization could not remain as before.

For a glimpse into the new school of the humanists after Greek had its sure place there, we can do no better than open a little book by Battista Guarino, *De ordine docendi et studendi*, published in 1459. Battista Guarino is less celebrated than his father, and distinctly less celebrated than Vittorino da Feltre, the greatest teacher of the Renaissance. The curriculum at this school is narrower than that of Vergerio or Aeneas Sylvius; for this reason it is a safer guide to the average practice of the day. Guarino restricts the disciplines to ancient literature and history, Greek and Latin; logic and ethics, for instance, are introduced, not as independent studies, but because they are necessary for the explanation of Cicero. The program sounds rather barren, but we must study it more deeply to see what it means. Literature involves grammar, of course, and prosody, and likewise composition in both prose and verse. The works of Virgil should be learned by heart, for "in this way the flow of the hexameter, not less than the quantity of individual syllables, is impressed on the ear, and insensibly molds the taste." Nor should the contents of poetry be neglected. Its fictions have moral as well as artistic value. They exhibit the realities of our own life under the form of imaginary persons and situations; Cicero's authority is quoted for this sentiment, and St. Jerome is cited to good purpose. The lessons of history, too, are of great value. By it, Guarino states, the student will learn "to understand the manners, laws, and institutions of different types of nations, and will examine the varying fortunes of individuals and states, the sources of their success and failure, their strength and their weak-

ness. Not only is such knowledge of interest in daily intercourse, but it is of practical value in the ordering of affairs." Now though logic and ethics may have been an aside, they involved the direct study of Aristotle and Plato. We find other asides, too—astronomy, and geography, and Roman Law, and the writers on those subjects. Moreover, independent reading is a vital part of the plan, and among authors suggested as appropriate for such reading are St. Augustine, Aulus Gellius, Macrobius, the elder Pliny, "whose Natural History is indeed as wide as nature herself." The pupil is bidden to practice his memory by going over at the end of each day what he has just learned; he is told to do much reading aloud, since this will give him the confidence which the public speaker needs. Throughout these instructions there is constant reference to the moral goal of education. "In purity of grace and style," Guarino affirms, "in worthy deeds worthily presented, in noble thoughts nobly said, in all these, and not in one alone, the learner finds the nourishment of his mind and spirit." But literature is not merely moral; it trains the dramatic imagination. "In this way," he continues, "we are not disturbed by the impieties, cruelties, horrors, which we find there; we judge these things simply by their congruity to the characters and situations described. We criticize the artist, not the moralist." The ultimate secret of this method is its foundation in personality, and humanity. "Finally," he declares, "through books and books alone, will your converse be with the best and greatest, nay even with the mighty dead themselves. . . . . To man only is given the desire to learn. Hence what the Greeks called *παιδεία* we call *studia humanitatis*. For learning and virtue are peculiar to man; therefore our forefathers

called them 'humanitas,' the pursuits, the activities proper to mankind. And no branch of knowledge embraces so wide a range of subjects as that learning which I have now attempted to describe."

Nothing but Greek and Latin. Under Guarino's cultivation, these ancient roots branch out as widely as the flower in the crannied wall. These studies of antiquity educate the whole man—moral, aesthetic, intellectual; they train him to independent thinking, for the authors are but the starting-point; they inculcate reverence for the past; they teach its application to the present. Now two historical facts are plain with reference to this program. First, it is simply the ancient method of Cicero and Quintilian all over again. Both authors are constantly cited for principles as well as facts; *virtutis laus omnis in actione consistit*, said Cicero, and Vittorino echoes the words. Second, it is the basis of every truly humanistic program established from that day to this. Its principles appear in some dozen treatises of the day, and from Italy spread to the North. What I have quoted does not touch all the elements in humanistic education. Science and mathematics received more consideration than one might suppose. Religious training was not neglected, as it is with us; polite demeanor, dress, physical exercise, all were matters for attention. And let me emphasize again the point I would specially make: the twofold character of their education, its reverence for the past and its interest in the present, derives clearly from the ancient prototype.

It is not necessary to quote *in extenso* the leading humanists of the North for proof that the new educational ideals are eagerly appropriated and applied. Rudolphus Agricola in Germany, Vivès in Holland, but

originally from Spain, Dorat and the learned Budé in France, diverge in no essential particular from Vittorino. Let Erasmus, the most cosmopolitan man of his day, speak for them all. "The first object of education," he declares, "is to teach the young mind to foster the seeds of piety, the next to love and learn the liberal arts, the third to prepare itself for the duties of life, the fourth, from its earliest years to cultivate civil manners." Erasmus truly represents England, as well as his own land, but a native voice was also heard from our mother-country at that time. I mean not Roger Ascham, who comes later in the sixteenth century, and whose system is a bit lady-like in its painful propriety, but Thomas Elyot, who, in his *Book of the Governour* (1531), interpreted Erasmus and Budé to England. The idea that the study of the classics was merely the study of two foreign and ancient tongues would find no favor with him. "Only to possess language," he declared, "is to be a popinjay." Homer holds for him far more than that. "If by reading the sage counsel of Nestor, the subtle persuasions of Ulysses, the compendious gravity of Menelaus, the imperial majesty of Agamemnon, the prowess of Achilles, the valiant courage of Hector, we may apprehend anything whereby our wits may be amended and our personages more apt to serve our public weal and our prince, what forceth it us though Homer writes leasings?" As with Guarino, the poetic lie has its moral function. Elyot concludes: "I think verily if children were brought up as I have written, and continually were retained in the right study of every philosophy until they passed the age of twenty-one years and then set to the laws of this realm . . . . undoubtedly they should become men of so excellent wisdom that throughout the world, men

should be found in no common weal more noble counsellors."

These words have the ring of a familiar passage in Bacon's *Advancement of Learning*, concerning the learned governor. "Nay, let a man look into the government of the Bishops of Rome," he remarks, "as by name, into the government of *Pius Quintus*, and *Sextus Quintus*, in our times, who were both at their entrance esteemed but as Pedantical Friars, and he shall find that such Popes do greater things, and proceed upon truer principles of Estate, than those which have ascended to the Papacy from an education and breeding in affairs of Estate and Courts of Princes." Or, to translate this into modern terms, let future lawyers take Classics in college, and not confine themselves to Economics.

Need I say that all Bacon's thinking was seasoned through and through with the classics? He was no pedantic advocate, surely no advocate of the Ciceronianist whom he berates as soundly as he does the scholastic. "Then did *Car of Cambridge*, and *Ascham*, with their Lectures and Writings, almost deify *Cicero* and *Demosthenes*, and allure young men that were studious, into that delicate and polished kind of Learning. Then did *Erasmus* take the occasion to make the scoffing Echo: *Decem annos consumpsi in legendo Cicerone;* and the Echo answered in *Greek*, Ὄνε, Asine."

Bacon brings us naturally to Milton, a Puritan and a rebel, who also, thanks to the ancients, could temper his virtue with Epicureanism, and show in his poetry that liturgic reverence for the past which is ingrained in classic literature. Milton writes a brief treatise "Of Education" to his friend Samuel Hartlib, and in it he says: "I call, therefore, a complete and generous education, that which

fits a man to perform justly, skilfully, and magnanimously all the offices, both private and public, of peace and war. And how all this may be done between twelve and one-and-twenty, less time than is now bestowed in pure trifling at grammar and sophistry, is to be thus ordered." Then, outlining his main topics, as studies, exercise, and diet, he treats of the first: "First, they should begin with the chief and necessary rules of some good grammar . . . . and . . . . their speech is to be fashioned to a distinct and clear pronunciation, as near as may be to the Italian, especially in the vowels." He is speaking, of course, of Latin grammar. He proceeds with a lengthy list of readings in Greek and Latin literature, which soon runs into mathematics and many natural sciences, politics, philosophy, and religion. "And either now or before this," he interposes, "they may have easily learned at any odd hour the Italian tongue." As with Guarino, education was not all done by courses.

Thus far our examination of the history of classical education in Europe has been pleasant enough, at least for those who are favorably disposed toward the classics. We have seen the ancient ideal reintroduced in the Italian Renaissance, disseminated in the northern countries, and established once for all, we should imagine, by mighty thinkers like Bacon and Milton. But no human institution is permanent and, even in the times with which we have been dealing, forces were at work which tended to discredit an educational program based on the classics.

One such force was the decay of the method itself. All movements tend eventually to a period of formalism and petrifaction. Petrifaction seized the classical program when the limits of good Latin style were restricted

to Cicero, and taste in general became puristic. Politian had read sympathetically in the authors of silver Latinity and appropriated their phrases at will, because, he said, he was expressing not them, or Cicero, or anybody but himself. Bombo shrank from calling deity anything but *dii immortales*, and warned a young friend against too much reading of the New Testament, lest it spoil his Latin style. That was the age, too, when handbooks of imaginative etiquette were compiled to save the poets from mistakes. Lists were furnished of proper epithets for frequent nouns; thus *aer* could be *liquidus* and *igneus* and a few other things, but under no circumstances anything else. Clearly a system which engendered such absurdities was not destined to long life. Two events came to the rescue of humanism. One was its transfer to the other countries, where its vital elements were bound to take hold, and where the absence of patriotic interest left the judgment more free and critical; though France was somewhat bitten with Ciceronianism, though the delicate Ascham approved it, the sturdy sense of the greatest men of the period, like Erasmus and Bacon, dealt it crushing blows.

The other event was the Protestant Reformation. The relation of the Reformation to humanism is somewhat complex. In its wilder and iconoclastic manifestations it was the foe of all culture, but the national element in protest against Rome should not be forgotten. Nationality is allied to secularism, and both are allied to humanism. Further, the method of the schoolmen had a stronger hold in the North, especially in France, the land of its birth, than it had in Italy. There the normal antagonist of humanism was the Sorbonne, and the Sorbonne stood for Catholic theology and the Roman church.

Thus George Buchanan, in temperament much like Erasmus, at any rate untouched by the evangelical fervor of Protestantism, found it natural, not, like Erasmus, to remain in the Roman fold, but with many of his French associates to go over to Protestantism. In Italy this *via media* did not exist. It was humanism and the church, or, for the humanist who did not care for the church, it was humanism and neo-paganism. Now while we must appreciate the great service performed by the Reformation for the humanistic ideal, and admire characters like Melanchthon and Zwingli, and not form hasty generalizations on the barrenness of Puritanism when it includes a Milton, we must also recognize the other half of the truth which I have just suggested, namely, that the exaggerations of the spirit of the Reformation were a blow to culture, and that they must be reckoned as a second force operative against the classics.

From France there proceeded another disturbing influence toward the close of the seventeenth century, the famous *Querelle des anciens et des modernes.* The moderns, whose sentiments first found effective expression in Charles Perrault and his poem on *Le siècle de Louis le Grand* (published 1687), represented a wholesome national and Christian feeling, but committed absurdities both in the defense of their own position and in their attacks on the ancients. The chronological argument loomed large. With centuries of high achievement behind them, why should not the present, profiting by experience, do still greater things? This reasoning seemed convincing, so long as the modern illustrations of superiority were not mentioned; when Chapelain and Desmarets were adduced as such, the proof fell rather flat. For the literary works of the moderns, so far from

representing anything of the spirit of romantic revolt, were pseudo-classic in character, and their literary criticism was distinctly pseudo-classic. Virgil came off fairly well at their hands; it was because he stood several centuries nearer modernity than Homer did, and because he was comparatively free from glaring inelegancies. On Homer fell the brunt of their attack; the vulgar characters admitted into his poems, and the indecorous behavior of his nobilities, made him an obvious target for the well-mannered critic of the seventeenth century. The reply of the beleaguered classicists is not particularly significant. Most of them were ready to acknowledge the superiority of Virgil over Homer; in fact, it had been accepted ever since Vida and the Renaissance, and most vituperatively proclaimed by the elder Scaliger. Fénelon, it is true, refused to decide between the poets, and Madame Dacier even gave the palm to Homer. But her declaration that nature had exhausted its resources in Homer and had not the power to produce another like him, is of the excessive, pseudo-classic sort of criticism that makes appreciation stagnant.

At all events, the close of the seventeenth century was not an auspicious epoch for the classics, especially for Greek. Indeed, it would seem that nobody had really entered into the spirit of Greek literature, save possibly the members of the Pleiade in the sixteenth century, since its recovery in the Renaissance. The interrelation of Greek and Latin, the dependency of Latin literature was recognized; Latin is a rivulet, Greek a mighty river, said Erasmus, in the words of Cicero. Ascham laughs at the good bishop who thought the need of the Greek tongue was fulfilled now that everything had been translated into Latin, and compares the Latin scholar without

Greek to a bird of one wing. At the same time a remark of his own betrays an intelligence hardly finer than the Bishop's: "And surely," he says, "if Varro's Books had remained to Posterity, as by God's Providence the most part of Tully did, then truly the Latin tongue might have made good comparison with the Greek."

Are we distressed, sometimes, that we live no more in the ages of accepted humanism, and that Greek is going to the wall? We have only to remember that it has seen gloomy days, days of misappreciation, before. Even in the sixteenth century Casaubon could write: "I am deep in Athenaeus, and I hope my labor will not be in vain. But one's industry is sadly damped by the reflection how Greek is now neglected and despised. Looking to posterity or the next generation, what motive has one for devotion to study?"

We should take heart of grace, likewise, in recalling that educational follies are not exclusively the product of the nineteenth and twentieth centuries: Montaigne's father brought him up by the latest pedagogy. "As to Greek," he remarks, "of which I have but a mere smattering, my father also designed to have it taught me by a trick; but a new one, and by way of sport; tossing our declensions to and fro, after the manner of those who, by certain games at tables and chess, learn geometry and arithmetic. For he, amongst other rules, had been advised to make me relish science and duty by an unforced will and of my own voluntary motion." We see that the method of "not teaching but informally introducing" is not the last word of the latest philosophy. In such fear was this good father that he might disturb the brain of his child that in the morning he did not rudely wake him by a shake but had gentle music played to him that

the waking might be gradual. This educational scheme did not last very long; the boy was so heavy, idle, and indisposed that, he declares, "they could not rouse me from my sloth, not even to get me out to play." He therefore was sent to school, where the discipline was so strict that he enjoyed reading Ovid on the sly; even so the poet Lowell cut conic sections for a private hour with Aeschylus.

To pass on now to the eighteenth century, we may note pseudo-classic influences in all the countries as a preservative of the humanistic scheme—they preserved by embalming it, but contributed nothing to its growth. In France, especially, Roman Catholic education was closely identified with the Jesuits; from the end of the sixteenth century they had shown, by basing their own instruction upon the classics, particularly the Latin classics, that humanism was not the exclusive property of the Reformers. The famous Delphin editions, published toward the close of the seventeenth century for a very indifferent young Dauphin, proved acceptable in many other schools besides those of the Jesuits. The order maintained its prominence in education in the eighteenth century, and has not ceased its activities today. Whatever else may be said of this illustrious company, it is interesting to note that its tremendous missionary undertakings have been the product, or the concomitant, of an educational system that is classical, if not pseudo-classical, in character. England was not influenced vitally by the Jesuits in the eighteenth century, but in its own way maintained the supremacy of the classics. "All the faculties of the mind," remarked Gibbon, "may be exercised by the study of ancient literature." A classical training was firmly believed to be an admirable preparation

for political life. Statesmen like Chatham and Fox and Pitt and Burke did not fail to recognize its bearing upon modern problems, or to point an argument with a classical quotation. They were simply continuing the tradition that we have seen before in Bacon, and before him in Vittorino, and before him in Dante.

To England, too, is due a fresh appreciation of ancient literature for the reason that the meaning of Homer was at last beginning to grow clear. Pope, whatever his offenses, deserves, with Bentley, whom he abused, no small share of the credit, and Blackwell and Wood made further advance. This is a quiet little movement, the approach to romanticism in eighteenth-century England, and a gain for classical education. But the doctrines of Rousseau and the impetus of the French Revolution broke in a romantic storm which in principle carried with it little reverence for antiquity. At the same time it benefited the classics by clearing away false notions of their immaculateness, and by revealing Greek afresh. For the latter event we must be grateful not only to England but to the German school of criticism, inaugurated before the days of Romanticism by Winckelmann, and completed by Lessing, Herder, Schiller, and Goethe. True, in this Teutonic Hellenism there are exaggerations, strange lights that never shone on land or sea, and it led to a dearth in the appreciation of Latin literature in Germany, down till only a few years ago. England took the movement more soberly. Wordsworth, the high priest of nature, could look back to Horace and sigh for

> The humblest note of those sad strains.

No change in the humanistic ideal was made in the nineteenth century, wherever that ideal was truly inter-

preted. Arnold of Rugby, who typifies English education at its best, founded his system on the classics. "The study of language," he said, "seems to me as if given for the very purpose of forming the human mind in youth; and the Greek and Latin languages . . . . seem the very instruments by which this is to be effected." Arnold was also deeply impressed with the moral inspiration that comes from association with the past, not only with the literature of the past, but with the very buildings in which education has made its home. "There is, or there ought to be," he declares, "something very ennobling in being connected with an establishment at once ancient and magnificent, where . . . . all the associations belonging to the objects around us, should be great, splendid, and elevating. What an individual ought and often does derive from the feeling that he is born of an old and illustrious race, from being familiar from his childhood with the walls and trees which speak of the past no less than the present, and make both full of images of greatness, this, in an inferior degree, belongs to every member of an ancient and celebrated place of education." Finally, Arnold directed the enthusiasm thus gained from the past upon the immediate present. He writes to a friend: "I cannot deny that you have an anxious duty—a duty which some might suppose was too heavy for your years. But it seems to me the nobler as well as the truer way of stating the case to say, that it is the great privilege of this and other institutions, to anticipate the common time of manhood; that by their whole training they fit the character for manly duties at an age when, under another system, such duties would be impracticable." The classics, he thought, then, so far from abstracting the learner from the present, prepare

him more speedily than any other system does for its service.

As we go farther in the nineteenth century, and especially as we come to our own times, we are forced to acknowledge that to many thinkers the classics are no longer an indispensable part of education. The causes of this attitude are not far to seek—romanticism, naturalism, and the breaking-down of authority of all kinds. Germany has contributed largely. Germany rediscovered Greek literature and exterminated Latin. Germany has led the way to the scientific study of the classics, and garnered more results than any other nation. It contributed the philosophy of relativity which, joining forces with the doctrine of evolution, the product of English science, led to new methods and manifold results in the study of history. But an excessive scrutiny of origins has impaired the efficacy of the classics. The tendency of the historical spirit is to compel illustrious characters of the past to know their place, whereas the Middle Ages and the Renaissance summoned the ancients to transgress their periods—yes, to walk down the centuries and shake hands. A late mediaeval tapestry at Langeais sets forth a goodly troop of knights, all caparisoned cap-a-pie in the same manner; they are Godfrey of Bouillon, Julius Caesar, Samson, and some others. We shudder when we find the Byzantine chronicler Malalas putting Polybius before Herodotus, or John the Scot setting Martianus Capella in the times of Cicero, but are ourselves inclined to forget that, though history has its periods, the imagination has none. We should encourage it to glorious anachronisms, or rather hyperchronisms, for if it is chronologically fettered the classics become demodernized. A further tendency of historical

analysis is to resolve great personalities and traditions into causes and effects. An author is not regarded as an entity unless he is influencing somebody else; when the critics look at him, he disappears in a mist of sources. Let me not be misunderstood. I regard the critical method of the historian as indispensable; but this very method is imperfect if it does not reckon with ethical and imaginative values as well.

But to proceed no further with this arraignment of the age, let me conclude by referring to the hardest problem of all, which has been gradually accumulating for our generation, namely, the presence of various modern literatures of great power and beauty, which were only beginning to exist when the humanists based all teaching on the classics. May not the literature of any of the great nations of Europe serve the purpose as effectively? How can we neglect any of them, and how can we elect? Further, I would inquire, how have we teachers of the classics fulfilled our tasks? Have we always kept before us the true ideal of humanism? Have we made the sacred past living and contemporary, or have we banished our subject to a timeless district, illumined, not by the dry light of reason, which is a wholesome effluence, but by the dry darkness of the unprofitable? I raise these issues contentedly and bequeath them to the other speakers at this meeting. With many startling leaps down the centuries, and, I fear, with many hasty generalizations, I have at least made clear that the true program of humanism, which is nothing but the ancient program revived, has always pointed men to the treasured ideals of the past and inspired them to action in the present.

II. THE CLASSICS AND THE ELECTIVE SYSTEM

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Πτεροφυέω

My classical colleagues—whom I hold in due awe, knowing just enough to appreciate my dense ignorance in their field—have evinced no little temerity in summoning me to this assize. As for them, I can only suppose that they think philistinism an incurable disease, and that, hopeless, they revert to the consolations of philosophy. Unhappily, consolations are very like salt water: the more we slake our thirst, the thirstier we grow. So I issue fair warning.

"The Classics and the Elective System!" What shall I say? Shall I hark back to the benches of that distant Greek classroom, nigh forty years down the files of time, alas, and transcribe this early effort? "The Isles of Greece were always quarreling as to which was the birthplace of Homer. Chaos has the best right to claim him." Rather let me exclaim—

Exegi monumentum aere perennius—

"I have eaten a monument more lasting than brass," as a Glasgow student translated on an auspicious morning; "Then, for God's sake, sir, sit down and digest it," as Ramsay retorted instantly. Worse luck, I too must perform the operation "ore tenus"; worse still, "magna comitante caterva."

Why, the job's as bad
As if you tried by reason to be mad.

Like comets, earthquakes, trusts, suicide, and anarchism, not to mention other lambent phenomena, the elective system may be tracked to its causes. Whether these

vindicate its existence were another question. For, as every Freshman philosopher discovers, it is one thing to justify the ways of God to men, another to justify the ways of men to God. Let me step in where Mr. Rand feared to tread. What a truncated business the knowledge of a century ago appears to us now. Given the eighteen bodies forming the solar system, with inertia and gravitation, it was possible both to tell and to foretell their positions relative to each other in space. Nothing had been learned of their physical constitution—the future held Kirchhoff's happy birth. In the same way, chemistry was just breaking the bonds of the phlogiston legend, sorry recriminations resounding. Gelatine was believed to be the febrifuge agency in quinine, while otherwise the less said of the "sciences" of medicine, physiology, and the rest, the better. The surprise bath—tumble the patient from a high tower into an icy tub—was prescribed as a remedy for insanity, on the principle that like cures like, I presume. Further, if these marvelous fribbles characterized nature-study, the notions entertained about man, in his total structure and history, might well be described by Terence's line: "Better or worse, help or hurt, they see nothing but what suits their humor." Even Heyne, as you Grecians remember, could only gird at F. A. Wolf—his greatest title to fame. But a profound revolution had set in. Thereafter followed: (1) the extension and almost complete transformation of mathematics and the physical sciences; (2) the growth and progressive subdivision of the biological sciences; (3) the organization and startling ramifications of the human sciences; (4) inventions—the application of the new knowledge in engineering, commerce, manufactures, and the immense multiplication of practical outlets.

As a consequence, numerous subjects forced their way into the curriculum. It were superfluous to specify, but, as everyone is aware, unprecedented enlargement ensued. At length, as has been alleged, so bemused did we become by the very wealth of our own successes, that we abandoned the problem of higher education and clambered into the elective automobile—the omnibus being voted too slow—recking not of destination. Having little Latin, we had never heard Seneca's comment: "Among other evils, folly has this special peculiarity: it is always beginning to live." In a word, the tried education went by the board, adjudged inadequate or even "sterile." Such was the first stage.

The sequel next, an oft-told tale that runs somewhat thus: The world of our habitation had changed so radically that we attributed a parallel transformation to man. So, without much reflection, we presumed that any boy or girl, at nigh any age, might study anything with advantage. The idea flourished luxuriantly within the university. Pursuits permissible to the graduate, after extensive preparatory *drill*, seeped into the undergraduate college. Pathetic spectacles ensued. The goddess fled our altars, because the high mass of the human spirit had fallen into desuetude. Like his prototype, the political parson, the wire-pulling professor served other deities. We were midmost a sorry comedy, of the kind that takes its rise in the second-rate. Talk about culture and other precious possessions had displaced the fact. Horizons had been destroyed. The arts faculty, in particular, had gone to pieces—what did it import after all? The professional school alone provided a center of real "work." In these days every inhabitant of Israel did as seemed good in his own eyes. And now

we are wondering—wondering why these things be! We may take this indictment as we please, the patent truth is, some very serious problems are upon us, and we cannot, indeed dare not, evade them. Blink it as we may, trumpet our numbers and appliances as we choose, a fateful situation exists relative to the future.

The elective system and classical studies belong to the arts faculty. Therefore I am restricted to this aspect of higher education. Fortunately the limitation renders the subject less hopeless and unmanageable, even if the undergraduate jungle be thick. Further, I must address myself to the select class of reasonable and, above all, independent men, leaving my hearer to fit the cap. For I do not propose to manipulate statistics, although I have them—this were too easy. On the contrary, I desire to arouse reflection.

As I see it, the problem presents two phases. (I) Remembering that we are to consider the mother faculty alone, we cannot ask, What is a university? But we must inquire, What is the condition requisite for the continued efficiency of higher education under present circumstances? (II) This immediately raises the pendant question, What arrangements are most likely to realize the aim contemplated?

I

It is tolerably plain that any plan worthy the name "educational" implies a definite purpose. This may be easy or difficult to discern; without it, education can hardly exist. What, then, is *our* plan? We may assert, first, that it is not the German idea. No matter how some may complain that we have imitated Germany, we have

not reproduced her system; our secondary schools are not designed to prepare "maturity-examination" material. The arts college makes no pretense of producing the most accurate scholars imaginable, or the best-disciplined experts in pure science. The intellectual aim has not contrived to subordinate every other. Whether we congratulate or bemoan ourselves, we are bound to recognize the fact. Nor can we be said to follow the French. Numerous posts under government, attainable only after successful trial in competitive examinations *ad hoc*, exert no influence over the American university. We know next to nothing of the severe apprenticeship demanded by them. We cannot realize the meaning of an academic test that anchors a man securely in a superior class. Once more, thanks to social contrasts, we have drifted far from English practice. The very name "public school" indicates why. With us a public school is an institution supported by popular taxation, providing instruction free or at nominal charges, on the ground that this is a necessity if we are to develop "intelligent citizenship." With the English a public school is an expensive private school maintained to provide from the "directing classes" men who may be trusted to serve the empire in responsible capacities, or designed to perpetuate this type of training. Consequently the colleges of Oxford and Cambridge are in many respects continuations of the public schools. There is no such break between school and university discipline in England as in the United States, or even in Germany. Nevertheless the American boy "goes to *school*" at Ann Arbor, Chicago, Iowa City. In contrast with these countries, our purpose is expressed frequently in the somewhat vague phrase, "preparation for life." Vague, I say, because life happens to be fluid

and equivocal, especially in this new land of kaleidoscopic shifts and manifold experiments. So the statement bristles with possibility of quibble. What better proof of this could we desire than the existence of the elective system itself?

Now, if you ask me—as you must here—to attempt an interpretation, I am compelled to raise certain questions. On the one hand, Do we mean education to mold life? On the other hand, Do we intend life to dictate education? Or, combining both, Are we interested more in the quality of person whom we produce or in the niche he will fill, perchance, the moment he escapes the campus? Let us be quite frank, and make the confession that is good for the soul. If we thus confront the reality, the dilemma solves itself, of course. We allow life to dictate education, and material life at that. We dote on the "position," we reflect very little on the man. Our foremost thought is vocation; we even have difficulty in grasping the bare import of avocation. We plagiarize from the world of utility, and are so insensible of our debt that we plume ourselves on the "originality" of our system, and flaunt it before foreigners as a model. We figure our pupils as eventual pedagogues, clerks, salesmen, journalists, landscape-gardeners, library-assistants, and so forth. It seldom occurs to us that, first and foremost, they are, and must continue, human beings, and that our prime responsibility is to inoculate them with an estimate of life commensurate with this, their privileged calling. Our education follows, it does not lead, our practice. Hence the jibes hurled at our devoted heads today. And the elective system is nothing more nor less than the principal form in which utilitarian accommodation levies blackmail upon our universities.

It exhibits compromise on a big scale. Now compromise is weakness or indecision. And as both parties to it—our life no less than our education—lack definite backbone, the equivalence of interests resultant were surely something to consider critically rather than to flourish as a paragon of perfection. Anarchy *plus* the breadbasket offers a curiosity in ideals! At all events, I am acquainted with but a single defense for our "educational" purpose. You may take it or spurn it as you prefer. Opportunism is the one "system" of life that has carried conviction to men who never go through the labor of consecutive thought. So far, then, the outcome is a stalemate.

But, by implication, I have hinted the true purpose of any such education as an arts faculty can give and retain its reason for being. If I be not wide of the mark, the tide of our contemporary routine is set, and set decidedly, against originality. Unluckily, nobody can be held accountable for this deplorable state of things. It has ensued naturally upon an expansion too rapid to escape muddle. On the contrary, the fundamental aim of an arts faculty is precisely to elevate intelligence above all else, to make men thoroughly pervious to ideas. For the primary condition of efficacious higher education is intellectual resilience, widely diffused, constantly active, and, beyond everything, mobilized upon definite points of spiritual attack. The things of the mind, not as the decorative appanage of a favored few, not as a private concern of a professional guild, but free to the whole people, familiar equally to the poor and to the rich —these uplift, sustain, and anneal. I declare emphatically that this process and result, and nothing but this process and result, constitute higher education. Remem-

ber, I have no reference to portentous learning, to recondite information, or the like, but to education—a certain quality induced in men, which enables them to evaluate the issues of life as human beings should. With it, peoples may lay the potter's hand upon civilization; without it, they are fated to become a "scape in oblivion." What a flush of shame should suffuse our faces at the thought that, sometimes, the arts faculty has sunk to the level of a "bazaar or pantechnicon, in which wares of all kinds are heaped together for sale in stalls independent of each other"; and that, as an inevitable consequence, mental elevation has been displaced by the cant of the "up-to-date"—a naïve euphemism for the "obvious." Why these terrible dangers? Because we have had little care to *think through* the indispensable condition of higher education. This is none other than conversion of spirit, a transformation of mind by mind, eventuating in disinterested anxiety for intellectual completion. Genuine appreciation, by a personality made alert and supple, is at once the condition and the outcome of higher education. Of this we can affirm with certainty, the education of man is the judgment of man. And an arts faculty finds its true reason for being, simply in constant reminder to the human spirit that it is ever outward bound. We representatives of the humanities and the pure sciences are not here as hucksters of information, but as prophets of the Platonized intelligence that reproduces its own vision in those who are soon to transmit the cultural conscience of the nation. A tremendous responsibility; for, lacking this kind of conscience, independence, the fruit of sleepless vigilance, will wither.

There can be little doubt that superficialization, our scourge now, is due to confusion between education and

encyclopedic instruction. It is a bane of pupal democracy, which never understands that individuals cannot make a people, that public spirit is important, not because it is public, but because it is spirit. Hence, in the care for immediate utility, according to *individual* hopes, intellectual virtue, as a *national* habit, has languished. Nor is any salvation likely under a system that stands for compromise on the cardinal points of unity and liberality. The tendency of the elective system has unquestionably been to level down in some studies, to foster luckless irrelevancies and positive crudities, above all, to obscure the fundamental unity of the arts course by a feeble routine. Hours of credit, and idleness, are the alternatives it offers to not a few, and happy is he who contrives to grab both. Nothing could well militate more against the end which we arts teachers live to witness—power in perspective. We are here to enable humanity to control itself, not to prolong the day when "things are in the saddle and ride mankind."

II

But how to accomplish our mission? Let us take an example, and reason from it to the underlying forces that inform it. Listen to those paragraphs. So far as I am aware, they were written, not by a great scientific authority, not by a prominent classical scholar, not by a philosophical genius. But I do know that they bear the hallmark of an educated man, of the kind who ought to be the distinctive glory of the arts course. He calls himself "Kappa"; he would adorn Phi Beta Kappa rarely.

> Once more I look abroad from my study window, but this time with a different preoccupation. What I saw before—whether with the bodily or the mental eye—was a clot of matter

orbed in the turning-lathe of cosmic forces; swinging with headlong velocity round one of an infinite host of incalculably greater orbs; carrying with it an atmosphere of subtle and complex chemistry; swathed about with life-giving oceans; its crust built up and crumbled down by the patient energies of ten thousand ages; and clad as to its surface in a motley robe, woven of myriads of living, multiplying, and dying organisms, some of which, by an ultimate miracle, have broken loose from their roots, and move palpitating through the atmosphere, on wings, or hooves, or feet—or motor-bicycles. Now, as I look around, I fix my attention on another order of phenomena: those associated with the mental as distinct from the merely vegetative functions of the organisms which, in the absence of auxiliary mechanism, move on two feet. These creatures have somehow developed the power of remembering, grouping, abstracting, recording, communicating their sense-impressions; of distinguishing between the I and the Not-I; of using tools; of telling stories and singing songs; of forming societies, offensive and defensive, which are themselves elaborate organisms; of killing each other with weapons of far wider range than the tooth and claw of nature; of disputing about the Whence, How, and Whither of life, and adopting theories for which they are willing to persecute or to die. . . . .

From my point of outlook, then, what evidences do I see of the activities of this order of beings? I see men and women labouring the earth with various implements, some of them drawn by horses. I see a man on horseback inspecting and directing their work, and infer that he owes his place in the saddle to the fact of his having more money, and possibly more intelligence, than they. I see a large red-brick house, with classic pilasters and cornices, embowered in the ancient trees of a spacious and beautiful park. I know that it is not the home of the labourers in the field, nor even of the man on horseback, but of another man to whom he pays money for the privilege of using the land. At the same time I see people freely passing across this "property," thus showing that the community has certain prescriptive rights, even as against the lords of the soil. . . . . By the roadside stands a village of about a thousand people, with one church, one school, three

chapels, and fourteen public-houses. The church is many centuries old, and contains half-effaced brasses and tombs of knights in armour, with their ladies by their sides. Its architecture, its monuments, the doctrines preached in its pulpit, and the ritual conducted at its altar are so many relics and vestiges, to the understanding mind, of the spiritual contests and compromises of two thousand years. . . . . I can hear an express train thundering along the railroad on the other side of the valley. It is one of the greatest of world-highways, issuing out from a giant city, a nation in itself, and carrying men the first stage of their journey to the remotest regions of the globe. It passes by earthworks piled by races whose very names are forgotten; battlefields where the fate of dynasties was decided; glorious cathedrals, like arks left stranded on the hill-tops by the shrinking of a deluge of faith; volcanic chains of furnaces, sending forth pillars of cloud by day, of fire by night; and vast, clanging factories, where the forces that for aeons lay dormant in matter have at last been enslaved by man, and have in their turn imposed on him the fetters of an abhorrent thraldom.

On every square inch, in fact, of this portion of the planet, unnumbered generations of men have left their stamp; and it is even now the abiding-place of a generation which is battling —blindly and purblindly, in wisdom and in folly—with the thousand problems of its own and its children's fate. Its name —England—is writ large in the annals of mankind, for the past thousand years. It is a treasure-house of great and inspiring, or humbling and chastening, memories. Love yearns toward it, hatred scowls at it. The burden of greatness lies heavy on it, and its sons are partakers in a tremendous responsibility; for it is one of the six or eight organized societies of men which must work out, in co-operation or in contest, the future of the race.

Through the open window floats the sound of a distant voice, and a nearer voice replies: "I am coming immediately." The first three words call up before the mind's eye the Baltic fenland or Frisian forest, whence they were imported fifteen hundred years ago. The last word, more sonorous and stately, "sounds forever of Imperial Rome." Its syllables were heard

in the four-square village on the Palatine, and were familiar to the lips of Cicero and Caesar.[1]

Now, these paragraphs tingle with intimation. Scan them even a little, and you will find that they convey at least five important truths. (1) The classics dare not continue to subsist upon a perpetual dream of possibilities. For (2) under modern circumstances an educated person must know something (*a*) of nature, meaning either the stable physical universe, or the living organisms illustrating "matter" in unstable equilibrium; (*b*) of man, meaning thereby man's significant creations—language, society, morals, literature and art, religion, and so on. (3) A human being cannot be held educated unless he possess ability to set the miscellany of acquisition in philosophical perspective, and thus to divine the internal affiliations of wayward facts. As Darwin put it, "no one can be a good observer unless he is an active theorizer." (4) Grasp of historical development is an essential condition of authentic knowledge, it makes little difference in what field. (5) Education itself is not a "subject," the *corpus vile* for some facile sciolist, but a state of the human spirit whereunto one can be baptized only by certain experiences, and primarily by intercourse with masters who incarnate it already.

The inference is not obscure. Unity and variety form the poles of our present pedagogical antinomy. As our national life grows more complex, whether by internal division or by immigrant increment, the more insistent becomes the call for an educational system designed to conserve its unitary *ethos*. On the contrary, as knowledge diversifies and vocations spawn, the greater the need to include typical "supporting" subjects; but also, mark

[1] *Let Youth but Know*, 69 f.

you, the greater the futility of the counsel which urges anybody to "learn everything." The student is to know something of nature, and everything of man; or everything of nature, and something of man. What an absurdity, of course! The intent plainly is, that he should be grounded in natural science so that he can appreciate its standpoint, method, and worth, whatever his predominating interest in humane studies, and *vice versa;* the case for all *Wissenschaft*, natural or human, is identical, as against seductive smattering. A broad outlook is imperative, or, as the editor of the *Westminster Gazette* says, the student ought to have "a reasonable equipment of practical knowledge, with a mind awakened to the interest and mystery of things, and free from that absorption in the trivial which is one of the worst signs of modern youth." His preliminary instruction cannot but be largely utilitarian, or disciplinary, and more or less in the nature of a "grind." The arts faculty must assume this, and undertake to test fitness in its own way. We may note in passing that at present it makes little pretense to search candidates, and as a result deliberately degrades itself to the level of a school. I presuppose that we shall cease to compete with preparatory institutions. I presuppose we grant that every student should learn the outlook of science, and this by means of courses designed for him, not for those who intend to specialize on the scientific side. Further, it is admitted that classical partisans were wrong in their efforts to limit "sound learning" to the languages of Greece and Rome. It is asserted that they were right in their insistence upon the pursuit of knowledge for its own sake. It is admitted that the supporters of science were correct in their proposal to adjust the curriculum to the vast extension of

information. It is asserted that they were mistaken in their emphasis upon utility.

We are left, then, with the humanistic subjects, and with the aim of the arts faculty, to produce not "things," but persons in whom reason is exercised for insight upon materials which compel this quality. In a word, we have to consider the case of those students who will devote their main attention to man. A controlled elective system, with sane options for educational ends, as I have described them, is understood. At this point, the situation begins to clear quickly. The human sciences are: (1) languages and literatures in their numerous ramifications; (2) historical studies in their many developments; (3) economics in all its branches; (4) philosophy in part—for metaphysics, logic, and epistemology bear as much upon natural as upon human science. Each of these groups is interminably complex. Accordingly, the student who contemplates "expert" skill must devote his life to one, nay, to a portion of this one. To be direct, only a fraction of those who elect the humanistic side will approach classical scholarship as a career. The classical men must recognize the fact, and adjust themselves to it. I would not presume to lay down a law to my colleagues here. But they might familiarize themselves with the question, What can we arrange for pupils who take our courses merely as supports, and with no thought of eventual mastery? I venture to hint that sometimes the problem has not been faced with the necessary frankness. For those who intend to become classicists, the classical departments have both the right and the duty to plan as they deem wisest on the basis of contemporary demands. But for the rest, the great majority, the needs of other subjects should be consulted

carefully. This agreed, we cannot but recognize that classical studies furnish supports all round in a unique way. Without them, how are men to be philologists; to get at the inwardness of the English and the Romance tongues and literatures; to probe the beginnings of Western philosophy; to understand rhetoric; to learn the sources of English style; to handle great stretches of history; to follow the development of education; to trace the present position of jurisprudence; to uncover the growth of Christianity; to appreciate the scope of ethics; to fathom the drama, and a hundred other things? It seems inevitable, therefore, that, when we recover our sanity about educational values, we shall see a revival of the classics as an essential accessory. So I must record my agreement with that ideal "professor of education," Matthew Arnold:

> I cannot help thinking, therefore, that the modern spirit will deprive Latin and Greek composition and verbal scholarship of their present universal and preponderant application in our secondary schools, and will make them, as practiced on their present high scale, *Privatstudien*, as the Germans say, for boys with an eminent aptitude for them. For the mass of boys the Latin and Greek composition will be limited, as we now limit our French, Italian, and German composition, to the exercises of translation auxiliary to acquiring any language soundly; and the verbal scholarship will be limited to learning the elementary grammar and common forms and laws of the language with a thoroughness which cannot be too exact, and which may easily be more exact than that which we now attain with our much more ambitious grammatical studies. A far greater quantity of Latin and Greek literature might, with the time thus saved, be read, and in a far more interesting manner.[1]

[1] *Higher Schools and Universities in Germany* (1882), 171-72. Arnold has reference, of course, to the exclusive classical discipline of the great "public schools" of England, as they then were. But, *pari*

The problem, then, is twofold: (1) general and (2) special.

(1) With regard to the *first*, whatever humanistic group a neophyte may elect, it is essential that he should be turned out a person to be reckoned with—an originating force. In other words, he must possess a nimble and full mind. This difficult, priceless acquisition depends upon individual effort directed toward material of a certain quality. I have indicated already from this platform[1] why the classics excel for this purpose, and I need add little. It is fair to say, however, that youth needs perspective and a sense for relative values—never more than in these distracted times of ours. Now if my experience tell me anything—and eight thousand students are on my head, in two lands divided by many contrasts—it is this: sanity and insight cannot be obtained most readily and effectively from study of "modern" affairs. Inevitably, judgment suffers prejudgment here. For example, if I insist that Browning, alone among nineteenth-century poets, ranks with Homer, Dante, Shakespeare, and Goethe, many loud protests arise forthwith. Whatever his greatness, he is not a classic yet, and possibly he will never become classical. Nay, I, in my turn, should be compelled to admit the contention of the psychologist, Rabier, that the Frenchman reading a page of a French author "only half grasps it." That is, author and reader jostle each other so that likes and dislikes destroy the balance. And what is true of literature holds of other human creations. Paul planted, Apollos watered,

passu, the passage bears upon our old "college" curriculum, and the remedy holds for any proposed rearrangement of the elective system on the humanistic side.

[1] Cf. "The Nature of Culture Studies." See pp. 59 ff.

but God gave the increase. On the contrary, when you turn to the classics you find that these distractions vanish, you become consubstantial with the substance of your author. As Euripides has it, "the Greeks walk in light"; in this light we see light clearly. Lapse of time, and the happy fact that the greatest ancients could overlook the social "organism" as we never can, have sifted things unseen and eternal from things seen and temporal. By a magic that is yet no mystery, we feel the master's unerring touch. Need I do more than suggest that you compare the rivers of insipid stuff flowing from the modern "religious" press with the classical splendors of the Bible? I could name you men whom Nietzsche has turned into purblind fanatics, aye, and, nearer home, men whom even the urbane William James has turned into gibbering echoes. But I defy you to distil fanaticism or fashion from Plato and Thucydides, from Cicero and Livy. The classics are classical because in them, as concerns the intellect, we find the secret of eternal life. They illustrate, not the surface play of momentary events, so often mistaken for "history" at present, but the constitutive operation of the human spirit, the same yesterday, today, and forever. They reveal the quintessential motive-force of significant achievement; they lay a steady finger upon the permanent factors of civilization, brushing aside the petty nine days' wonders. Their appeal lies to reasonable and independent men, by the simple fact that nothing human is indifferent to them, the indifferently human abhorrent. Accordingly, when it comes to *the* condition for the continued efficiency of higher education—a mind

> more and more
> Personal, comprehensive of world-life—

the classics still furnish the surest guide to mastery in our own house. As a preparation for success in any humanistic study, as a preparation for maintenance of one's humanity, irrespective of one's vocation, they are, and must remain, incomparable. He who runs may read the moral regarding their place in any elective system that could command rational confidence.

(2) With respect to the *second*, classical representatives must have a care that some things do not get "between the wind and their nobility." With all diffidence, and fully aware of the manifold difficulties, I say to them that the great matter is to renew the nature of classical study for the average student. Surely there be persons, like Julius Caesar, events, like Thermopylae, principles, like the golden mean, fit to convince men of the import of their destiny. Surely exercises in unraveling the solutions of Greek and Roman affairs are admirable indices to our weightiest matters. Surely in these astonishing culminations, if anywhere, we may detect the nature of man's travail with himself in common, daily things. The clamant need is to pierce to the ideas and to the movements mediated by them. Remembering that the time is short, rapid and wide reading assumes prime importance. Put every aid at the disposal of the student, remove every obstacle to direct intercourse, and the sin of curious specialization that doth so easily beset. The depths and beauties of the authors clamor for appreciation. In some such way, the classics can perform inestimable service for the non-professional student and in the newest education. They enable him, first, to realize the winsomeness of literature and art. "In all Greek work," as Percy Gardner says, "whether poem or speech, history or sculpture, there is an evenness of devel-

opment, a simplicity of motive, a beauty of outline, which cannot be found elsewhere." Second, they reveal the essentials for which man has ever struggled, will ever struggle. No other section of history is pregnant with such vasty issues as the millennium from Draco to Justinian. No fitful fever this, but a slow, regular, most momentous march. Stamp its real inwardness upon the nascent mind, attune to its wonder, and you have familiarized with the majesty of mortal effort. A cosmos looms athwart the soul, a cosmos set in rare perspective. What were the pulsating influences that rendered it so remarkable? Miss them, and you miss everything. Master them, and you are prepared for anything. A *Thathandlung*, as Fichte expresses it, sends forth its penetrating challenge, deep calling unto deep. It is with this that the classical mentor of higher education must reckon, for the sake of other humanists, with no thought of himself or of his fenced corner. Thirdly, no other period of history has so enriched the common stock of human ownership. Greek literature, art, and philosophy; Roman government and law; Christianity—produce a parallel inventory! Now, we non-classicists care little for the mere words that convey these mighty things. But we demand to know the matter face to face. Here be documents of a period, no doubt, fashioned thus and so; but what do they tell? We ask that formal erudition be accounted secondary for our nurslings. As has been well said, "disconnected from moral, social, and philosophical considerations, history, geography, and linguistics are still material sciences, just as physics or geology. And they have an additional inferiority in being not only much less scientific, but much less useful." Accordingly I conclude that you classical teachers occupy

a position of unique advantage, because you can disentangle these "moral, social, and philosophical considerations" from technical accompaniments which, however final for you, are accessory for us. In a reformed elective system, with the classics as the most available foundation for all humanistic study, this attitude will spell deliverance from banality all round. I believe you are able to convert even our young barbarians to the conviction that, in essence, man is distinguished principally by the things of the mind. Admittedly, perhaps,

> the times are not yet ripe
> Save only mine and thine.

Yet,

> know, the scheme
> Of truth develops in man's absolute mind
> With grade from false to true; the foregone truth
> Turn'd false, the truth to come not yet ripe truth,
> Save for those souls elaborate beyond

the elements in which they are immersed. You hold the key, not to a modicum of training or information, but to the most educative chapter in the history of the race. We lesser humanists cannot forego your aid, as I have tried feebly to sketch it. Come over to Macedonia and help us, but help us according to *our* necessity.

"The Classics in the New Education!" May a professed idealist speak a word of cheer? For a moment, under the stress of disconcerting change, men may debase self-study to the level of uselessness. But ultimately they may not doff their own reason. Thus they are compelled to return to investigations of human nature as the single means to solve human questions. *Lèse-majesté* may be dangerous now or then, *lèse-humanité* spells sheer suicide

always. And if we conserve the arts which *Alterthumswissenschaft* reveals we shall never forget how to charm the gods of Olympus so that, as of yore, they may descend from their translucent heights, to make divine war on behalf of human mastery in human issues. For, as the philosopher phrases it, led by his great exemplar, Plato,[1] without a "universal" of some kind, all capacity for interpretation—the marrow of education—becomes hopeless.

III. THE CASE FOR THE CLASSICS

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No subject is too stale for a "rattling speech," and the mere praise of the classics and the exposure of the adversary still supply good matter of rhetoric.[2] But this paper is to be printed, and I hope with the aid of footnotes to make it a sufficient, though of course not exhaustive, historical résumé and a repertory of temperate arguments adapted to present conditions.[3] To this end I am prepared to sacrifice not only its temporary effect on an audience but any ambition I might feel to attain the symmetry and classicism of form which befit a classicist speaking in his own cause and which are so admirably illustrated in the apologies for classical studies of Mill and Jebb and Arnold.[4]

[1] Cf. *Parmen.*, 136.

[2] Cf. Professor Forman's *Humble Apology for Greek*, Cornell University, 1904, printed privately.

[3] Cf. *infra*, 322–23. Even in 1868 Professor Gildersleeve had to make the same point (*Essays and Studies*, 5: "Dr. Bigelow is fighting the shadows of the past," etc.—*Ibid.*, 10).

[4] Mill, "Inaugural Address," *Dissertations and Discussions*, IV, 332 ff.; Jebb, *Essays and Addresses*, 506 ff.; *Humanism in Education*,

The situation has improved since I had the honor of speaking here fifteen or sixteen years ago, and many topics which I dwelt on then may be lightly enumerated today. The wearisome controversy has educated the participants on both sides.[1] Both are more careful in their dialectic and more cautious in the abuse of exaggeration and irrelevancy.[2] Our opponents have grown very shy of the kind of logic which delivered them into our hands, though they still grotesquely misconceive the nature and aims of our teaching.[3] But only a few incorrigibles still harp on

545 ff.; *Present Tendencies in Classical Studies*, 560 ff., 600 ff., 566; Arnold, "Literature and Science," *Discourses in America*, 172 ff. To these might be added Lowell's "Harvard Anniversary Address," *Prose Works*, VI, 139, 160, 165: "Oblivion looks in the face of the Grecian Muse only to forget her errand," 166, 174; and *Latest Lit. Essays*, 139, the speech in which the greatest professor of modern languages told the Modern Language Association: "I hold this evening a brief for the modern languages and am bound to put the case in as fair a light *as I conscientiously can.*" See the fine chapter on "Reading" in Thoreau's *Walden*. And for further bibliography of books and papers referred to in this address cf. *infra*, 308, 309–10.

[1] Huxley (*Science and Education*, 83) stretched "nature" to include "men and their ways," and Arnold with more justice made "letters" include Copernicus and Darwin (their results, not their processes).

[2] Huxley, *op. cit.*, 163; Jebb, *op. cit.*, 537. No rational advocate would now recommend either Latin or botany on the ground that it *exercises the memory*. See Gildersleeve, *op. cit.*, 28.

[3] Cf. President David Starr Jordan, *Pop. Sci. Mo.*, LXXIII (1908), p. 28: "Once the student cuts entirely loose from real objects and spends his days among diacritical marks, irregular conjugations, and distinctions without difference his orientation is lost." So Tyndall once demanded "a culture which shall embrace something more than declensions and conjugations." What would President Jordan think of a classicist who characterized the study of science as cutting loose from human interests and counting fish-scales? See Zielinski's rebuke of Father Petroff, pp. 200–201; Lowe, "Speech at Edinburgh," November 1, 1867: "We find a statement in Thucydides or Cornelius Nepos who wrote 500 years after and we never are instructed that the statement of the latter is not quite as good as the former. . . . . The study of the dead languages *precludes the inquiring habit of mind which measures probabilities*" [*sic*]. Cf. *infra*, pp. 314–15.

the false antithesis of words and things.[1] The recollection of Lowell's eloquent protest (VI, 174), if nothing else, would make them eschew the precious argument of Herbert Spencer and Lowe that Greece was such a little country, "no bigger than an English county." Some of them are beginning to apprehend the distinction between education and instruction, formation and information.[2] And if any of them still believe that the intrinsic excellence of classical literature is a superstition of pedants they rarely venture to say so in public in the fearless old fashion of the *Popular Science Monthly*.[3] We have won a victory at the bar of educated opinion in which we may feel some complacency, though we must beware of overestimating its practical significance. The man in the street has not changed his opinion of dead languages, and the great drift of American education and life toward absorption in the fascinating spectacle of the present has not been, perhaps cannot be, checked. A stream of tendency cannot be dammed by argument. As Pro-

[1] Lowe at Edinburgh, November, 1867; Spencer, *passim;* Jordan, *Pop. Sci. Mo.*, LXXIII (1908), p. 29; cf. Youmans, 5, "The relation between words . . . . and ideas . . . . is accidental and arbitrary." Cf. *contra* Masson *apud* Taylor, p. 306; Mill, 347–48.

[2] Gildersleeve, *Essays and Studies*, 13; Zielinski, 28; Brunetière, *Questions Actuelles*, 51 ff., 62, 74–75, 404–5.

[3] LXXIII, 701: "The Dead Language Superstition," a diatribe called forth by Mill's "Inaugural." See in like strain Mach, *Open Court*, November 22, 1894; Bierbower, "Passing of the Linguist," *N.E. Magazine*, n.s. 36, 246 ff. But for a curious reversion to type see in *Popular Science Monthly* (1910), p. 554, the article on "Classics and the College Course," by Professor John P. Stevenson. Professor Stevenson thinks that the *Kalevala* would perhaps prove superior to the *Iliad* if translated by a Pope. Dante is, in his opinion, free from the "grossness which characterizes" Homer. Plato's reputation, he tells us, is due to the fact "that his style is ponderous enough to prevent popularization of his works." No wonder that, holding these views, Mr. Stevenson finds it difficult "to write meekly respecting the ceaseless chatter about culture." See Professor H. H. Yeames in the *Nation*, March 2, 1911.

fessor James says: "Round your obstacle flows the water and gets there all the same."[1] The majority still believe that modern civilization can find not only entertainment but also all the instruction and all the culture which it requires in the contemplation of moving pictures of itself whether in the five-cent theater or the ten-cent magazine or the one-cent newspaper. But among the thoughtful there is a reaction in our favor. They may not accept our estimates of the transcendental worth of the classic literatures or the unique discipline of classical studies. But they have lost forever the illusion that the mere suppression of Greek and Latin will bring in the educational millennium.[2] They are observing with mixed feelings a Greekless generation of graduates and wondering what a Latinless generation will be like. They admit with some natural reserves the breakdown of the elective system.[3] They recognize that a real education must be based on a serious, consecutive, progressive study of something definite, teachable, and hard.[4] And while they may

[1] For an effective answer to this fatalistic *vox populi vox Dei* argument, see Zielinski, *Our Debt to Antiquity* (Eng. trans., E. P. Dutton), 3–8; cf. Lowell, "Harvard Anniversary Address," *Works*, VI, 162: "I have seen several spirits of the age in my time," etc. Paulsen (II, 370) says that in 1770 Kant would never have foreseen that in 1820 Greek would lead science in the schools. Yet he himself ventures the prediction that a third renaissance of classics will never come (pp. 634–35).

[2] "Harking Back to the Classics," *Atlantic Mo.*, CI (1908), 482; L. R. Briggs, "Some Old-fashioned Doubts about New-fashioned Education," *Atlantic Mo.*, LXXXVI, 463; Williams, *supra*, 228, 229; Gayley, *Idols of Education;* Barrett Wendell, *The Mystery of Education;* see Brunetière, *op. cit.*, 399–400. Mr. Wells, however, seems to think that "to create a new liberal education" and to "cut the umbilicus of the classical languages for good and all" are synonymous expressions.

[3] Already Lowell, *op. cit.*, VI, 161; cf. Shorey, "Discipline in Education," *Bookman*, March, 1906. See the entire recent literature of dissatisfaction with the colleges.

[4] Huxley, *op. cit.*, 414; cf. already the admirable words of De Morgan in Youmans, *The Culture Demanded by Modern Life*, 442.

not agree with us that no good substitutes for Greek and Latin and the exact sciences can be found, they are not quite so certain as they were that sociology, household administration, modern English fiction, short stories as a mode of thinking, and modern French and German comedies are "equally as good." Thirty or fifty years ago they could contrast with our ideal the actual results of that classical training for which we claimed so much.[1] It is now our turn to challenge the results of the new system.[2]

Addressing myself to a generation thus chastened in spirit and exercised in the dialectics of educational controversy, I need not do more than enumerate some of the hoary fallacies and irrelevancies which it was once necessary to refute in detail. I may take it for granted that we must compare either ideals with ideals or actualities with actualities; that from the standpoint of the ideal all subjects are badly taught, imperfectly learned, and quickly forgotten;[3] that the classics are, on the whole, among the better-taught subjects,[4] and that middle-aged business men who complain that they cannot read Greek and Latin for pleasure would not distinguish themselves if examined on mediaeval history, conic sections, old

[1] See *Contemp. Rev.*, XXXV, 833.

[2] Paulsen in *Educ. Rev.*, XXXIII, 39, says (of classics) that we must consider what the average graduate gets, not ideals. Well, what has the average graduate been getting from the "bargain-counter, sample room, *à la carte*" system of the past two decades?

[3] Cf. Barrett Wendell, *The Mystery of Education*, 143. On the attempt to limit education to what all "educated" men remember cf. Zielinski, p. 27.

[4] Cf. *Andover Rev.*, V, No. 2 (1884), 83; Huxley, *op. cit.*, 153; Professor Alexander Smith, in *Science*, XXX, 457–66: "Every conclusion is tested and every element in problem-solving by the scientific method is covered. . . . . The method is simple, yet of unquestionable efficiency. A method so simple and certain has not yet been devised for history, literature, political economy, or chemistry."

French, organic chemistry, or whatever else they happened to elect in college. As George Eliot says, "the depth of middle-aged gentlemen's ignorance will never be known for want of public examinations in this branch." It is known in the case of the classics only because they regret that they have lost them and so betray themselves.

Similarly we may assume a general recognition of the distinction between the higher and the lower sense of "practical,"[1] of the fact that the most practical of studies are useful only to those who are to use them,[2] and of the repeated testimony of business and technical men that the actual knowledge gained in preparatory college courses in their subjects is of little value.[3]

Again, everybody except President Stanley Hall is now aware that the phrase "dead language" is not an argument but a question-begging epithet or a foolish, outworn metaphor.[4]

[1] Cf. *Cambridge Essays* (1855), 291; W. F. Allen, *Memorial Volume*, 129, "Practical Education"; Forman, *op. cit.*, 7–9; Clapp, *Overland*, XXVIII, 94.

[2] Huxley, *Science and Ed.*, 316–21, rejects histology, comparative anatomy, and materia medica as of no practical use to the physician. Cf. Brunetière, *op. cit.*, 401; Jacob Bigelow, "Remarks on Classical and Utilitarian Studies," 1867, with the answer in *No. Am. Rev.*, CIV, 610.

[3] Loeb, *supra*, 216, "But thirteen years' experience in very active affairs taught me that the time spent at Harvard studying history of finance . . . . might as well have been devoted to the classics for all the *practical* value I got." "Où sont aujourd'hui la physique, la chimie, la physiologie d'il y a trente ans seulement, et qu'en connaissons-nous pour les avoir étudiées au collège, et depuis oubliées?"—Brunetière, *op. cit.*, 94.

[4] Cf. Fouillée, 125, on Raoul Frary's "Culture of Dead Wood." "A dead language is the dead sea of thought."—*Pop. Sci. Mo.*, XVII, 148. Cf. in Butler's *Erewhon*, the satire on "Colleges of Unreason given over to the study of the Hypothetical Language"; the elaboration of the same old jest in another form by Professor Scott, *Ed.*, XVI, 360, and Spencer's constant recourse to the argument.

For the retort crushing on the "dead languages" argument, cf. the

Lastly, the right use and limits of translations are no longer likely to be misunderstood. Few will now be misled either by Labouchère's statement that Bohn's translation had shown up the classics, or Emerson's saying that he would as soon swim when there was a bridge as resort to the original in place of a translation; or Professor Moulton's argument that translations are as good as the originals for the teacher of "general" literature. And though we sometimes meet the fallacy that posed Gibbon's aunt, the argument that the student's own version is inferior to the printed translations of great scholars which he might use instead, it is merely as Gibbon says "a silly sophism which could not easily be confuted by a person ignorant of any language but her own." There is no opposition between the use of translations and the study of the original. On the contrary, even a little acquaintance with the original adds immensely to their usefulness. They are tools which are best employed by those who have some insight into the method of their construction.[1] For some purposes they may be almost as good as the originals. But among the purposes for which they are not so good are classroom discipline, the development of the critical intelligence and the habit of exactness, and the maintenance of high

eloquent words of D'Arcy W. Thompson in *Day Dreams of a Schoolmaster;* Lowell, *op. cit.*, VI, 165; "If their language is dead, yet the literature it enshrines is rammed with life as perhaps no other . . . . ever was or will be."—Bryce, *supra*, 210; Postgate's Liverpool Inaugural Lecture on "Dead Language and Dead Languages," 1–10; *ibid.*, 12; 85 per cent of "Ido" is intelligible to an Englishman who knows—Latin. For the superior educational value of a synthetic, classic, or a "dead" language, cf. Jebb, *op. cit.*, 621; Gildersleeve, *op. cit.*, 27–28; Mill, *op. cit.*, 352–53; Zielinski, *op. cit.*, 33 ff.; Laurie, 10; *infra*, 320–21.

[1] Cf. President Mackenzie, *supra*, 166, 165, 162; Zielinski, *op. cit.*, 112.

standards of national taste and culture in the educated classes.[1]

In addition to all this controversial and negative work, we may take for granted the conventional positive and constructive arguments for classical studies elaborated by a long line of able apologists, except so far as we have occasion to summarize or refer to them in the course of this review.[2]

These arguments are not exclusive but cumulative. The case of the classics does not rest on any one of them and is not impaired by the exaggerated importance that mistaken zeal may attribute to any one. Those who still harp on the superiority of the classics as discipline[3] do

[1] Cf. Gildersleeve, *op. cit.*, 20, *A.J.P.*, XXX, 353; Mill, *op. cit.*, 350; Clapp, *op. cit.*, 100; Zielinski, *op. cit.*, 85, 87; T. Herbert Warren, *Essays on Poets and Poetry*, III; Wilamowitz, *Introduction to "Hippolytus": Was ist Uebersetzen?;* Paul Cauer, *Kunst des Uebersetzens*, 4th ed., 1909; Diels, *Herakleitos:* "Uebersetzen ist Spiel oder, wenn man will, Spielerei." Professor Moulton feels that I have exaggerated his former statements. See now his "World Literature," p. 5.

[2] See *supra*, 303, n. 4; *infra*, 339–43. For some earlier apologies and discussions see Sandys, *History of Classical Scholarship*, II, 18, 51, 71, 125, 130, 151, 171, 181, 209, 256; also the writers quoted in Taylor, *Classical Study: Its Value Illustrated* (Andover, 1870). Cf. further W. G. C. in *Cambridge Essays* (1855), 282; *Essays on a Liberal Education* (1867); Arnold in *Higher Schools in Germany*, and *A French Eton;* Field, Lyttleton, and Rendall in *Essays on Education* by members of the XIII (London, 1891); *Educ. Rev.*, IX, 335: Postgate, "Are the Classies to Go?" *Fortnightly*, LXXVIII, 866 ff.; West, "Must the Classies Go?" *No. Am. Rev.*, CXXXVIII, 151; Kelsey, "Position of Latin and Greek in Ameriean Education," *Educ. Rev.*, XXXIII, 162 (reprinted in this volume); Clapp, *Overland*, XXVIII, 93 ff.; T. Riee Holmes, "The Crusade against the Classies," *National Rev.*, XLII, 97 ff.; Freeman in *Macmillan*, LXIII, 321 ff.; Andrew Lang in *Living Age*, CCXLV, 765 ff.; J. C. Collins, *Fortnightly*, LXXXIII, 260 ff.; T. E. Page, *Educ. Rev.*, XXXIV, 144; Manatt, *N.Y. Evening Post*, August 18, 1906; Anatole France, "Pour le Latin," *Vie littéraire*, I, 281; Brunetière, "La question du Latin," *Revue des deux mondes*, Deeember 15, 1885.

[3] E.g., Professor Sidney G. Ashmore, *The Classics and Modern Training*, chap. i. See *supra*, 306, nn. 2, 3.

not therefore "tacitly acknowledge themselves beaten on the point of their intrinsic value"[1] and those who prefer to emphasize the "necessity of the ancient classics" for the understanding of modern life and letters[2] may still believe that high-school Latin is the best instrument of discipline available in secondary education.[3]

The March number of the *Classical Journal* tabulates the aims of classical study as stated by teachers in response to a *questionnaire*. Thirty teachers aim at mental training, 29 at literary appreciation, 26 at power of expression, 26 at the relation of the ancients to us, 26 at ability to read, 15 at general linguistic training, 8 at grammar, 6 at acquaintance with Greek and Latin literature. Obviously there is nothing incompatible in these aims. It is a question of emphasis, the needs of the class, the ability, training, and tastes of the teacher. A faddist may ride his hobby to death, whether it be optatives, or lantern slides, or parallel passages from the poets. But, in return, the good teacher will almost in the same breath translate a great poetic sentence, bring out its relations to the whole of which it is a part, make its musical rhythm felt by appropriate declamation, explain a historical or an antiquarian allusion, call attention to a dialectic form, put a question about a peculiar use of the optative, compare the imagery with similar figures of speech in ancient and modern poetry, and use the whole as a text for a little discourse on the difference between the classical and the modern or romantic spirit; so that you shall not know whether he is teaching science or art, language or litera-

[1] Gildersleeve, *op. cit.*, 15.

[2] Gildersleeve, *South. Quart.*, XXVI, 145.

[3] Cf. Bennett and Bristol, *The Teaching of Latin and Greek*, chap. 1, and Bristol in *Educ. Rev.*, XXXVII, 243–51.

ture, grammar, rhetoric, psychology, or sociology, because he is really teaching the elements and indispensable prerequisites of all.

Similarly of the diverse considerations urged by former apologists and the contributors to these symposia. The case of the classics rests on no one taken singly but on their conjoint force, and it is not really weakened by the disproportionate stress sometimes laid on the weaker arguments. The illumination of scientific terminology, for example, is a minor and secondary utility of a little knowledge of Greek and Latin on which the biologist or physician is especially apt, perhaps over much, to insist. That is his contribution. He does not mean to rest the case on that. He is not answered by the argument that "ten or twelve years" of study is too big a price to pay for this result and that terminology can be learned from glossaries. For a very slight knowledge of the languages makes an immense difference in the intelligence with which the dictionary or the glossary of scientific terms is consulted and the vividness with which its statements are realized. One or two years will yield a good deal of that particular utility, and the question for the teacher of science or medicine is whether any other *nonprofessional* college study is likely to be more "useful" to his students.[1] So in arguing that the classics give the engineer a power of expression which he requires for use as well as for ornament, Professor Sadler[2] is not committing himself or us to the proposition that none but classicists write well and all classicists do. He simply means what all experience proves, that the study of the classics is on the whole an

[1] See Dr. Vaughan, *supra*, 86–87, 90.

[2] *Supra*, 104–5, 115–16.

excellent training in expression,[1] perhaps a better one than the unpremeditated effusions of "daily themes,"[2] and that discipline in the power of exact and lucid expression is a utility for the engineer.[3] Again, Mr. Kelsey would be the last to rest the case for the classics on the fact that the wider secondary study of Greek would leave the door of choice for the profession of the ministry open to a large number of desirable candidates who now find too late that they lack the indispensable preparation.[4] But it is a real if minor consideration to be counted in the sum.

All of these contributions from the professions take for granted the general discipline and cultural values of the classics, and presuppose the fact pointed out by Mr. Loeb and others, that the direct business and technical utilitarian value of the so-called practical college courses is very slight. On this assumption, they supplement the ideal values of the classics by showing that, in the jargon of modern pedagogy, they also possess "adjustment values" for other professions than theology and literature.

One consideration, however, which constantly recurs in these discussions is fundamental. It is the training which the classics give in the art of interpretation. Classicists sometimes claim for and scientific men concede too much to the study of the classics as a means of develop-

[1] A writer in *Educ. Rev.*, XXXVIII, 88–90, argues that the difference of pronunciation makes Latin useless to the English of the high-school student.

[2] Cf. Mr. Barrett Wendell's sad surmise (*The Mystery of Education*, 175) that perhaps the reason why the up-to-date Harvard student doesn't write like Addison is that Addison "had never studied English composition as a thing apart." But Addison had studied Latin composition and had a very pretty knack of turning Latin verses.

[3] Cf. *Outlook*, XCIII (1907), 87.

[4] *Supra*, 186 ff.

ing the powers of expression.[1] They underestimate its value as a discipline of the intelligence.[2] They appreciate its stimulus to emotion. They fail to apprehend its subtle effect in blending and harmonizing the two—suffusing thought with feeling, informing feeling with thought.

[1] Huxley, *op. cit.*, 130.

[2] Bentley's *Dissertation on Phalaris*, the type and model of philological method, has been aptly styled "a relentless syllogism." No one can compare the discourses of Renan and Pasteur at the French Academy or the Romanes lectures of Jebb (1899) and Professor Lankester (1904) without feeling that the superiority of the trained classical philologian is not solely or mainly "in the graces." It is in the intellectual qualities of subtlety, wit, sanity, breadth, coherence, and closeness of cogent dialectic that his advantage is most conspicuous. As we are speaking of "disciplinary values" it would be beside the mark to allege what Renan and Jebb would be the first to admit, that Pasteur's work was of greater service to mankind than theirs. A similar moral may be drawn from the pamphlet of Dr. Wilhelm Ostwald, *Wider das Schuleland ein Nothruf*, Leipzig, 1909. From inferior men, whether classicists or students of science, we expect inferior dialectic. But Dr. Ostwald is, I understand, in his own field a firstrate man. And both his logic and his rhetoric are of a quality impossible to a firstrate classicist. I do not know how far he exaggerates the evils of over-strenuous discipline, too much religious instruction, excessive language-study, and severe final examinations in Germany. But as our dangers all lie in the opposite direction, his diatribes have no lessons for us. As a whole, it is rhetoric rather than argument. He neglects the special considerations and ignores all the distinctions by which reasoning is divided from declamation. Experiment is with him a catchword and a shibboleth, but his definite suggestions are limited to the proposal that all teachers should do as they please, which is anarchy, and that all teaching should be personal and individual in its dealing with the student, which would require an army of teachers that no community could pay for. He does not distinguish different grades of society, or different aims in education. He talks of basing education upon the ideals of the ancients, a thing which nobody proposes, and does not distinguish in so doing between the standards of ordinary life and those of the supreme writers used in classical study. He might as well talk of basing education on the modern ideal as revealed in the newspaper and in Chicago politics. His remark that the average professor or secondary teacher of classics is not the highest product of modern civilization would be relevant only if he were prepared to maintain that the average secondary teacher of chemistry is. His fallacy about translations has been answered a hundred times. His statement that the study of language is not a

In controversy Huxley and Tyndall were fond of pointing out that the leaders of science expressed themselves with rather more vigor, point, and precision than the ordinary classicist. And their own vivid and fluent eloquence drove the argument home. In general, however, men of science are only too ready to concede with the irony which apes humility that their training has not supplied the graces and literary refinements that are supposed to qualify a man to shine after dinner or to make a good appearance on the platform. But the gifts of eloquence and fluency are sparks of natural endowment which science perhaps quite as often as philology fans into flame.[1] Scientific men may make haste to forget their Latin as Latin. But the mere classicist observes with admiring despair their mastery of the polysyllabic Latinized vocabulary of English. Where he says "if so" they say "in the contemplated eventuality." We must abate our claim that only the classics make men eloquent and emphatic in the expression of their own thoughts.

But it is impossible to claim too much for them as a discipline in the all-important art of interpreting the expressed thought of others. There is no other exercise available for educational purposes that can compare in

discipline of the mind would put him out of court as a psychologist, were it not that his ideal of language-study appears to be the fluency of a polyglot waiter. His statement that no serious reason can be given for the study of Latin merely shows that he is totally lacking in the historic sense. In general, most of his arguments against the classics apply equally to any literary, linguistic, or historic culture whose roots are more than twenty or thirty years deep, and so prove too much for most civilized men. His peroration is mere bunacombe. Reål eloquence must be based on serious thought, and nobody can take seriously his comparison of the war of liberation against Napoleon with the war which he proposes to wage against the humanistic gymnasium.

[1] On the bad style of classicists cf. *Pop. Sci. Mo.*, I, 707; Gildersleeve, *op. cit.*, 49; Spencer, *Study of Sociology*, 267.

this respect with the daily graduated critical classroom translation and interpretation of classical texts.[1] The instinctively sane judgment of intended meanings, the analytic power of rational interpretation—these, natural gifts being equal, are the distinctive marks of the student of classics, in varying degrees, from the secondary-school Latinist, who at least has some inkling of the general implicit logic and structure of language, to the collegian who has been exercised in the equivocations of idiom and synonym, and the finished master who can weigh all the nice considerations that determine the precise shade of meaning or tone of feeling in a speech in Thucydides, a lyric of Aeschylus, a half-jesting, half-serious argument in Plato. Information, knowledge, culture, originality, eloquence, genius may exist without a classical training; the critical sense and a sound feeling for the relativity of meaning rarely if ever. I have never met in private life or encountered in literature a thinker wholly disdainful of the discipline of the classics who did not betray his deficiency in this respect. I say in all seriousness that what chiefly surprises a well-trained classicist in the controversial and popular writings of scientific men, especially in the case of the pseudo- or demi-sciences,[2] is not any awkwardness of style or defect in "culture," but the quality of the dialectic and logic, the irrelevancies, the

[1] The argument of Webster (*Forum*, XXVIII, 459 ff.) that the study of a language makes almost no demands upon the reasoning powers refutes itself; cf. Jebb, *op. cit.*, 558; Laurie, *Lectures on Languages and Linguistic Method*, 9–10; Fouillée, 102–3.

[2] Illustrations of this point are too numerous to quote here, but the repeated misapprehensions of Plato's plainest meanings in *Education as Adjustment*, 19, 62, 63, 90, by Mr. M. V. O'Shea, professor of the "science" and art of education in the University of Wisconsin, are typical. If such are the standards of accuracy and criticism of the professor of the science, what will be those of the novices?

elaborations of metaphors from illustrations into arguments,[1] the disproportionate emphasis upon trifles and truisms,[2] the ignoring of the issue,[3] the naïve dependence on authority,[4] the outbursts of quaint unction and ornate

[1] Huxley, *Science and Education*, 81 ff.; Spencer, *passim;* Dr. George E. Dawson, "Parasitic Culture," *Pop. Sci. Mo.*, September, 1910.

[2] Cf. in *Culture Demanded by Modern Life* Paget's page on the "certainty that continual or irregular feeding is contrary to the economy of the human stomach."

[3] E.g., Huxley's extension of "nature" to include "men and their ways," and "the fashioning of the affections and of the will," *Science and Education*, 83.

[4] Typical examples are the use that they make as ultimate authorities of Grote's *Plato*, Lewis' *Biographical History of Philosophy*, Lange's *History of Materialism*, and Draper's *Intellectual Development of Europe*. Cf. Tyndall, *Belfast Address*, "And I have entire confidence in Dr. Draper." Huxley on the study of zoölogy: "What books shall I read? None; write your notes out; come to me for the explanation of anything that you cannot understand." Neither Youmans nor Herbert Spencer could ever be brought to admit the gross error into which Spencer was led (*Data of Ethics*, § 19), by misinterpreting Bohn's mistranslation of Plato's *Republic*, 339D. For another example, cf. Jhering *ap.* Zielinski, 111. Huxley's contrast between history and laboratory science (p. 126) is fallacious. He fails to see that the student of science innocently transfers to literature, history, and language his habit of accepting on faith all experimental results outside of his particular specialty, while the student of classical philology acquires the habit of testing by the original evidence every statement that he hears from his teacher or reads in his textbooks. Cf. Smith, *supra*, 307, n. 4; Fouillée *op. cit.*, 62–63, 109.

Those who repeat (e.g., Webster, *Forum*, XXVII, 453) after Spencer (*Education*, 79) that classical training establishes the habit of blind submission to the authority of grammar, lexicon, or teacher simply do not know what goes on in a good classroom. See Zielinski, *op. cit.*, 90–92. Cf. the noble passage in Mill, *op. cit.*, IV, 355, on the spirit of inquiry in Plato and Aristotle which Huxley (*op. cit.*, 211), transfers *verbatim* to science, ignoring the all-important qualification, "on those subjects which remain matters of controversy from the difficulty or impossibility of bringing them to an experimental test." Cf. Jebb, appendix to *Sophocles O.T.*, 219. "It is among the advantages and the pleasures of classical study that it gives scope for such discussions as this passage (*O.T.*, 44–45) has evoked."

rhetoric,[1] the constant liability to stumble like a child, or quibble like a sophist,[2] with regard to the fair presumptive meaning of alien, divergent, or hostile utterances.[3] There is for them no intermediate between the rigid, unequivocal scientific formula and mere rhetoric or sophistry, because they have never been trained to the apprehension of all recorded speech as a text whose full meaning can be ascertained only by a critical, historical, and philological interpretation of the context. The way in which the classics provide us with this training can be fully appreciated only through experience.[4] I have attempted a description elsewhere in the *School Review*,[5] and it has often been set forth by others, and most admirably by the representatives of the law in these symposia.[6] The law itself is the only discipline comparable to the classics in this regard.[7] But while more severe, perhaps,

[1] "The suction pump is but an imitation of the first act of every new-born infant, nor do I think it calculated to lessen that infant's reverence . . . . when his riper experience shows him that the atmosphere was his helper in extracting the first draught from his mother's bosom" (Tyndall, on the *Study of Physics*).

[2] Paget, *op. cit.*, p. 183: "The student of nature's purposes should surely be averse from leading a purposeless existence."

[3] Spencer, *passim;* Huxley, *op. cit.*, 144: "If their common outfit draws nothing from the stores of physical science." Both Mill and Arnold insist on acquaintance with the *results* of science. Cf. too Huxley's substitution of Middle Ages for Renaissance (*ibid.*, 149–50) and his consequent contradiction of his own admission on p. 209, "that the study of classical literature familiarized men with ideas of the order of nature."

[4] Zielinski, *op. cit.*, 31 ff. [5] V, 225–29.

[6] Cf. Starr on the discipline of the judgment and training in the interpretation of texts, *supra*, 127, 128, 124; Evans, *supra*, 132; Foster, *supra*, 219 ff.

[7] Whewell adds that it is like mathematics, essentially deductive. Without committing ourselves to the "inductive method of learning languages" we may say that the interpretation of a classic text is often an excellent exercise in "inductive-observant" thinking.

and strictly intellectual it is narrower in its range[1] and does not include the union of feeling and intelligence which makes the study of the classics an incomparable method of general education. For this reason, though the law would be the best available substitute for the discipline of the classics, thoughtful lawyers would be the last to advocate the substitution.

But it is time to turn from these special considerations to a broader view of the whole subject. Classical education is not an academic superstition, an irrational survival of the Renaissance.[2] It is a universal phenomenon of civilization. Higher non-vocational education has always been largely literary and linguistic, and it has always been based on a literature distinguished from the ephemeral productivity of the hour as classic. It was so at Rome, in China, in Hindustan, and among the Arabs. The Greeks, whose supreme originality makes them an exception to every rule, are only an apparent exception to this—they studied Homer[3] and their own older classics to form, not inform, their minds.[4] This universal tendency is only in part explained by the religious or superstitious reverence for sacred texts. It is in the main due to an instinctive perception of the principles on which the case for the classics still rests. The education of those who can afford time for non-vocational study is not in the narrower or more immediate sense of the words a

[1] Hutchins, *supra*, 138, 142–43.

[2] For this commonplace see *infra*, 323, n. 4.

[3] Cf. Bréal, 553: "On oublie qu'ils avaient leur antiquité dans l'épopée."

[4] Cf. Bain, *Contemp. Rev.*, XXXV, 837: "The fact that the Greeks were not acquainted with any language but their own . . . . I have never known any attempt to parry this thrust."

"preparation for life"[1] but, from the point of view of the individual, a development of the faculties; from the point of view of society, the transmission of a cultural, social, moral tradition.[2] It must be a broad discipline of the intellectual powers that shall at the same time attune the aesthetic and the moral feelings to a certain key.[3] No study but that of language and literature can do this, and it is best done through an older and more synthetic form of language and a literature that is, in relation to the

[1] For such tautologous formulas as definitions of education cf. my "Discipline in Modern Education," *The Bookman* (March, 1906), 94; to the list there given add "Adjustment," which obviously includes everything and therefore anything. The "end of education," says Professor M. V. O'Shea (*Education as Adjustment*, 286), is "to give the individual mastery of the world"—an ambitious ideal. What he neglects to prove is that the teacher will more surely confer that mastery by asking the class "how many buttons there are on a waistcoat" (*ibid.*, 253) than by asking them to construe Cicero. Nothing can be more plausible to the popular mind than the rhetorical contrast of the largeness and complexity of "life" with the narrow pedantry of the school. The articles now [1910–11] appearing in the *World's Work* represent a perpetually recurrent type, and the clever Mr. Wells is sure of his effect when he writes in *The New Machiavelli* (p. 67): "Here all about me was London . . . . a vortex of gigantic forces . . . . and my school not only offered no key to it, but had practically no comment to make upon it at all." But you cannot take the world into the classroom except as a distraction from the business in hand, and though Mr. Wells may hold the key to London, he would hardly claim as much for the teachers who are and must remain the human instrumentalities of education. They cannot deal with the world but only with some aspect or interpretation of it put into definite teachable form: Professor O'Shea's books about education, for example, or Mr. Wells's sociological romances, or Mr. Bernard Shaw's views of marriage, or the *Chicago American*. And this at once brings us down from the heights of generalization to the concrete question whether these things are better than the obsolete classics. Even Mr. Wells is not quite sure, for he adds (69) "yet in a dim, confused way I think he [the old Latin professor] was making out a case."

[2] See Brunetière, *op. cit.*, 406, and the admirable work of Fouillée, *Education from a National Standpoint*, in Appleton's "International Education Series," p. 54, and *passim*.

[3] Arnold's "relating what we have learnt . . . . to the sense for conduct and the sense for beauty."

student and his environment, classic.[1] This is the meaning of the late W. T. Harris' somewhat cryptic Hegelism that self-alienation is necessary to self-knowledge.[2] Or, to put it more concretely, the critical interpretation or translation of such a language supplies the simplest and most effective all-round discipline of the greatest number of faculties. The ideal form and content of such a literature elevated above the trivialities, disengaged from the complexities, disinterested in the conflicts of contemporary life[3] awakens the aesthetic and literary sense,[4] ennobles and refines feeling.[5] And the very definition of classic implies that it is the source and chief depository of the national tradition either of religion or culture or both.

For modern Europe these conditions were fulfilled by the study of the classics of Greece and Rome which the Renaissance established in the face of a scholasticism that called itself science,[6] and which, adapted to altered conditions, we have still to defend against the exclusive pretensions of sciences that, uninformed by the temper of humanism, threaten to renew the spiritual aridity if not the intellectual futility of scholasticism.

[1] "There are five times as many mental processes to undertake in translating from Latin and Greek into English as there are in translating a modern language."—Lord Goschen; cf. *supra*, 308, n. 4; *infra*, 333, n. 4.

[2] "Self-alienation which consists in projecting one's self into the idioms of a dead language," etc.—P. R. Shipman, *Pop. Sci. Mo.*, XVII, 145.

[3] Gladstone *ap.* Jebb, 570.

[4] Jebb, 526. Cf. the definition of education as the aesthetic revelation of the world.

[5] "Much lost I, something stayed behind,
A snatch maybe of ancient song;
Some breathing of a deathless mind,
Some love of truth, some hate of wrong."—*Ionica.*

[6] Cf. *Univ. of Ill. Studies*, III, No. VII, p. 29.

The debate which began in the reaction from the Renaissance and found its first notable expression in the famous "quarrel of the ancients and moderns" is now more than two hundred years old.[1] New arguments are hardly

[1] Not to speak of the polemic of the more illiberal Christian fathers against "pagan" studies, the controversy could be traced back to the opposition of scholasticism and the arts in the mediaeval universities; cf. *Univ. of Ill. Studies*, III, No. VII, pp. 19, 27 ff. Or we could begin in full Renaissance with the humanist Vives, advocate of the study of the vernacular; with Bacon, who, though himself widely read in the classics and writing in Latin, is the chief source of the rhetoric of the eighteenth and nineteenth-century polemic of scientific men against the classics; or, better yet, with Descartes, who anticipates by two hundred years the type of Spencer and Youmans and President Stanley Hall. Cf. in Cousin, X, 375, his funny letter to Madame Elizabeth deploring Queen Christina's enthusiasm for Greek. So Spencer more in sorrow than in anger comments (*Autobiog.*, II, 183) on Mill's Inaugural which Youmans quotes not quite ingenuously (Gildersleeve, *op. cit.*, 11). It is easy to cite sporadic denunciations of the exclusive study of the classics and satire of bad teaching from the writers of the seventeenth and eighteenth centuries. Sir Thomas Browne, himself steeped in the classics, incidentally writes, anticipating Spencer, in the style of Macaulay: "'Tis an unjust way of compute, to magnify a weak head for some Latin abilities and to undervalue a solid judgment, because he knows not the genealogy of Hector." Cf. Rigault's well-known book; Macaulay's "Essay on Sir William Temple"; Jebb's *Bentley*; Brunetière, *Époques*, 220; René Doumic, "La manie de la modernité, *Études de litt. française*, III, 1–23; Sandys, *History of Classical Scholarship*, II, 403 ff. For the eighteenth century in France with its strange transition from dying pseudo-classicism to the second classical renaissance, see the excellent work of Bertrand, *Fin du classicisme*, and for Germany, see Paulsen, *Geschichte des Gelehrten Unterrichts*, II. In nineteenth-century controversy the chief epochs are marked by (1) Sydney Smith's "Too Much Latin and Greek," *Edinburgh Univ. Rev.* (1809)—mainly an attack on Latin verse, etc. Anticlassicists quote from it at second hand "the safe and elegant imbecility of classical learning." They should also quote, "up to a certain point we would educate every young man in Latin and Greek." (2) Macaulay, "The London University," *Edinburg Univ. Rev.* (1826), a political tract against the Tory opposition in Macaulay's most extreme rhetorical style. With the "Essay on Bacon" it has served as a repertory of fallacies, and it is probably a chief source of Spencer. (3) Spencer's *Essay on Education* (1858–60), mainly an elaboration of the fallacy (anticipated by Plato, *Rep.*, 438E) that knowledge of "useful things" is for educational purposes necessarily and always the most useful knowledge. To this we may relate the controversies of the fifties and sixties and

discoverable at this date. At the most we may endeavor to weigh the old ones with more discretion, adapt them to the present conditions, and throughout to insist on a vital distinction which defines the issue today. I refer to the distinction between past adjustments or reductions of exclusive or excessive claims of classical studies and present efforts and tendencies to abolish them altogether. Here, as often, a quantitative distinction becomes qualitative, a difference of degree passes into a difference of kind.[1] The truism that Greece and Rome mean less for us than they did for the men of the Renaissance is not even a presumption that they count for little or nothing.[2] Apart from all technical considerations of curricula, degrees, and educational machinery, it is broadly desirable that classical studies should continue to hold a place in higher education fairly proportionate to their significance for our total culture. They will not hold that place if the representatives of the scientific and "modern" subjects

their prolongation to our own time. See the various papers dating from 1854 on in Huxley's *Science and Education*. The year 1867 marks a date with Mill's Inaugural and Youmans' *Culture Demanded by Modern Life;* and *Essays on a Liberal Education*. Before the discussion of these had died away in America the conflict was rekindled by Charles Francis Adams' *College Fetich*, since which it has been continuous and can very easily be followed in the indices of the *Nation*, the *Atlantic Monthly*, the *Popular Science Monthly*, the various journals of education, the *Independent*, etc. For Germany see Paulsen, *Geschichte des gelehrten Unterrichts*, II, 441 ff., 595; "Intervention of the Emperor," 620 ff. For France cf. Fouillée, 94, and Translator's Preface, xiii; Weiss, "L'Education classique," *Revue des deux mondes*, 1873, V, 392; Brunetière, "La question du latin" (review of Raoul Frary), *ibid.*, 1885, VI, 862; Bréal, "La tradition du latin," *ibid.*, CV, 551.

[1] So already Gildersleeve in 1868 (p. 10): "Sydney Smith's complaint of 'Too much Latin and Greek' has become the war-cry, 'Little Latin and no Greek at all.'"

[2] For this common *non sequitur* cf. Zielinski, *op. cit.*, 15; Huxley, *op. cit.*, 149; Macaulay, *passim*. The argument is used already by Descartes.

enter into an unholy alliance with the legions of Philistia to swell the unthinking clamor against dead languages and useless studies. Whatever the talking delegates of science may say in their haste, thoughtful scientific men[1] require no professor of Greek to tell them that the languages and literatures of the 1300 years of continuous civilization from Homer to Julian subtend a far larger arc of the great circle of knowledge than Sanskrit or Zend or the other specialties to which they are so often compared. Whether they hold this place by their intrinsic beauty and sublimity,[2] by "the grand simplicity of their statement of the everlasting problems of human life,"[3] by their disciplinary value, by their enormous contribution of facts to the mental and moral and historical

[1] I cite a few names at random: Berthelot, *Science et morale*, 125, favors two types of education, "l'un fondé essentiellement sur les lettres anciennes," etc. Lord Kelvin, in his *Life* by Thompson, p. 1115: "I think for the sake of mathematicians and science students Cambridge and Oxford should keep Greek, of which even a very moderate extent is of very great value." Cf. the admirable definition (*ibid.*, 1168): "A university is a place that fits some men for earning a livelihood, and makes life better worth living for all men." Humboldt's and Emil du Bois Reymond's views are well known (Fouillée, *op. cit.*, 177). See also President A. C. Humphreys in *Proceed. Forty-eighth Ann. Commence. Penn. State Coll.*, 44. Josiah Cook, *Pop. Sci. Mo.*, XXIV, 1 ff. Frederick B. Loomis, *Independent*, LIX (1905), 486. Cf. Whitman, Barnes, Pierce, Dabney, Dana, *supra*, 249, 246–248. The hostile testimony (e.g., of Nef) refers largely to required or excessive classics. Cf. the fine words of Huxley, *Science and Education*, 98 and 182. Tyndall, *Fragments of Science* ("Home Library"), 415. Thayer in *St. Louis Congress*, VI, 218: "When in the period of so-called secondary education it is proposed to substitute the study of the natural sciences for a good training in the humanities, there is danger of drying up some of the sources from which this very scientific expansion has sprung." For German scientific men see Holmes, *Nat. Rev.*, XLII, 103 ff.

[2] Jebb, 529; Mill, *op. cit.*, IV, 352: "Compositions which from the altered conditions of human life are likely to be seldom paralleled in their sustained excellence by the times to come."

[3] Huxley, *Science and Education*, 98.

sciences[1] and the "wisdom of life,"[2] by their renewal of the intellectual life of Europe at the Renaissance and yet again at the German revival and reorganization of science at the close of the eighteenth century, or as the sources and inspiration of modern literature[3] and by their still dominant influence in the greatest English poets of the nineteenth century or by all these things together, matters not. They hold the place, and they cannot be relegated to the position of erudite specialties without an emasculation of our discipline and an impoverishment of our culture.[4]

But controversy like all literary forms tends to stereotype itself. Educational conventions still echo to denunciation of abuses as obsolete as the Inquisition. Language that would be an exaggeration if used of the most hidebound, old-style, Latin-verse-writing English public school, the narrowest French *lycée*, is applied to "the tyranny of the classics" in high schools where the teacher is forbidden to use the Bible and is applauded for taking

[1] For the propaedeutic, implieit, or indireet edueational values of classical study ef. Shorey in *School Rev.*, V, 226–27; the illustrations drawn from his own teaching by Zielinski, *op. cit.*, 99 ff. ("Ein Philolog kann alles brauchen"); Shorey, "Philology and Classical Philology," *Class. Rev.*, I, 182–83 ff.; Matthew Arnold's charming "Speeeh at Eton," *Irish Essays*, V; Wenley, "The Nature of Culture Studies," *supra*, 59–81.

[2] Mill, *op. cit.*, IV, 354 ff.; Gildersleeve, *op. cit.*, 21; Jebb, *op. cit.*, 540.

[3] Jebb, *op. cit.*, 54; *infra*, p. 65.

[4] Cf. among countless quotable utteranees to this effect from the chief writers of the nineteenth century, Riehter eited by Zielinski, *op. cit.*, 109, and Laurie, *op. cit.*, 186: "Mankind would sink into a bottomless abyss if our youth on their journey to the fair of life did not pass through the tranquil and noble shrine of antiquity." Froude, *Words about Oxford:* "This would be to exelude ourselves from an acquaintance with all past time except in monkish fiction," ete. Goethe, *Sprüche in Prosa*, 510: "Möge das Studium der griechischen und römischen Literatur immerfort die Basis der höheren Bildung bleiben."

the daily newspaper as a textbook. The protests of French liberals against the former official requirement of a classical education for access to all professions and public offices are transferred to American conditions to which they are wholly inapplicable.[1] The arguments of Sydney Smith denouncing compulsory Latin verse writing and of Macaulay holding a brief for the University of London against the obstructionist prejudices of Oxford or elaborating a false antithesis between the Baconian and the Platonic philosophy are taken from the context[2] and used in support of policies which Sydney Smith and Macaulay would have been the first to deplore.

It is time to recognize that the work of Huxley, Tyndall, Spencer, Youmans, and President Eliot has been done once for all. "The mere man of letters who affects to ignore and despise science" may have existed in Huxley's England. Today he is as extinct as the dodo. The "enemies of science," of whom Professor Lankester complains, are speech automatisms surviving in the rhetoric of science.

The victory of our scientific colleagues is overwhelming, and the Cinderella[3] pose is an anachronism.[4] Huxley was fighting to reform schools in which all boys, whatever their tastes, were compelled to compose Latin verses, and in which, as he said, with gross but then pardonable exaggeration, twelve years' hard study of Greek left the victim unable to construe a page of easy prose. And so

[1] See Shorey in *Proc. 5th Conf. Assoc. Am. Univ.*, 70.

[2] E.g., by Woodward, *Proc. Am. Assoc. for Adv. of Sci.*, 1907; cf. *Indep.*, LXII, 107; and by H. W., "The Battle of the Books," *Westminster*, CLX, 425 ff.

[3] Spencer, *op. cit.*, 87, copied by all his successors.

[4] "It seems clear that science nowadays is proud and not literature."—Fouillée, *op. cit.*, 59.

today professors of science who are not quite Huxleys step out of their palatial laboratories and splendidly equipped offices to thunder against the obstruction of modern progress by classics in schools where not 2 per cent of the students learn the Greek alphabet, where no one is required to study Latin, and few do study it more than two or three years. They forget that if Huxley were with us today he would probably be pleading for a revival of classical studies.[1] Whatever the grievances of the past, present attacks on the classics are inspired by the revolt against discipline and hard work, the impatience of all serious pre-vocational study, the demand for quick utilitarian results, and absorption in the up-to-date.[2] Our scientific colleagues who invoke these sentiments against us will find that they are playing with fire and enlisting allies whom they cannot control. The public will see no logical halting-place between their position and that of Mr. Crane of Chicago. The boy whom they have encouraged to shirk the discipline of Latin will find mathematics and physics still more irksome. The professional constituency of engineers and chemical experts they will retain. But the majority will go snap hunting in the happy fields of English literature and the social sciences. Let not our scientific colleagues deceive themselves. They are more allied to us by the severity and definiteness of their discipline than divided by differences of matter and method. In the fundamental classification of studies into those which exercise and those which titillate the mind they belong with us. You cannot really teach anything by lectures, experience meetings,

[1] Cf. the enormous concession in *Science and Education*, 153.

[2] Cf. the brilliant and caustic paper by Mrs. Emily James Putnam in *Putnam's*, III, 418; Zielinski, *op. cit.*, 206.

heart-to-heart talks, the pseudo-Socratic method, and expansion of the student's personality. But you cannot even pretend to teach classics and the exact sciences in this way. In these days that is a bond. As serious workers and teachers you belong with us. The allies whom you encourage to sap our discipline with the "soft moisture of irrelevant sentimentality" will not stop there. They are past masters in what Mrs. Wharton calls the art of converting second-hand ideas into first-hand emotions. They will humanize your cold abstract sciences in a way that will surprise you. I quote from the report of a recent educational conference:

> At 3 P.M. Miss N. Andrews, principal of the Happy Grove Girls' School, conducted a regular junior class meeting. A very helpful feature of this meeting was an illustration by the use of iodine and hyposulphite of soda, showing how sin defiles the heart, and how the blood of Jesus can cleanse it.

When this generation of kindergarten Christian Scientists arrives in your laboratories you will wish too late that they had been set to gnaw the file of Latin grammar for a year or two.[1] You will find a new meaning in Professor Karl Pearson's statement[2] that the most valuable acquisitions of his early education were the notions of method which he derived from Greek grammar.[3] You will admit that, after all, there may be something in Anatole France's warning that since the methods of science exceed the limitations of children the teacher will confine himself to the terminology. You will be able to interpret Brunetière's remark that neither infancy nor youth can support

[1] Cf. Sadler, *supra*, 103; "What . . . . can be done in a subject such as physiology when," etc.

[2] *Grammar of Science.*

[3] Cf. also Fouillée, *op. cit.*, 66, top.

the intoxication with which science at first dazes its neophytes, and you will sadly verify the accomplishment of George Eliot's prophecy of a generation "dizzy with indigestion of recent science and philosophy."

Such terms as "culture," "discipline," "utility," a "liberal" education have been much bandied about in idle controversy.[1] They are all, perhaps, equivocal or question-begging, and hardly admit of authoritative definition. Yet you all understand them well enough to know what I mean by saying that the study of the exact sciences yields utility, discipline, and a kind of culture; that classics give culture, discipline, and a kind of utility; and that today they are conjointly opposed to a vast array of miscellaneous "free electives" which are more popular largely because as at present taught they demand and impart neither discipline nor culture nor utility, but only information, entertainment, and intellectual dissipation. These studies fall into two chief groups, the demi-sciences, that is, the so-called moral and social sciences, and modern linguistic and literary studies. I intend no disparagement by the term demi-sciences. There is no higher university work than pioneer exploration of subjects not yet definitely constituted as sciences. But the personal magnetism in the classroom of a Giddings, a Small, a Vincent, a Ross, a Cooley should not blind us to the fact that these studies demand, as Plato said,[2] the severest,

[1] Cf. Huxley, *op. cit.*, 141, on "Real Culture"; Flexner in *Science*, XXIX, 370; Frederick Harrison's satire on Arnold's "Culture and Anarchy," with Arnold's reply; Youmans' "The Culture Demanded by Modern Life," *Essays on a Liberal Education*, Macmillan, 1867; Newcomb, "What Is a Liberal Education?" in *Science*, III, 435; Woodward in *Science*, XIV, 476; Huxley, *op. cit.*, 86; Mrs. Emily James Putnam, *Putnam's*, III, 421.

[2] Cf. my paper on "Some Ideals of Education in Plato's Republic," *Educational Bi-Monthly*, February, 1908.

not the loosest, preparatory training, and that, "freely elected," without such preparation, they will merely muddle the mind of the average American undergraduate.

The outspoken expression of this opinion, which the majority of classicists share, threatens to convert the old warfare of science and classics into a conflict between classics and the social sciences.[1] For the history of this merry war we cannot delay. One point only concerns us here. Sociology and the new psychology have staked out the entire coast of the unknown continent of knowledge and claim all the hinterland. Abstractly and a priori this is plausible enough. An infinite psychologist could pronounce on the credibility of a witness, advise infallibly on the choice of a vocation, and prescribe the proper intellectual diet for every idiosyncrasy. In a finite psychologist it is—well, this is an age of advertising.

Like claims could be made for an abstract or ideal sociology. Education is preparation for life, and human life and mind exist and develop only in and through society.[2] After the psychologist has annexed everything else, the sociologist may logically swallow him, while the physiologist lies in wait for both. They may be left to fight that out—a hundred or a thousand years hence. But today there is no science of psychology,[3] sociology, or pedagogy that can pronounce with any authority on either

[1] Many representatives of the mental and moral sciences, of course, recognize that classics are still the best available propaedeutic for them; notably Fouillée, and with some reserves Giddings.

[2] To readers of Plato's *Protagoras* and *Republic*, there is something supremely funny in the statement that "the most important general advance [in psychology from 1881 to 1906] seems to be the recognition that the mind of the human adult is a social product."—E. Ray Lankester, *The Kingdom of Man*, 122.

[3] Cf. Jowett's *Plato*, IV, 175, "On the Nature and Limits of Psychology."

the aims or the methods of education.[1] The confident affirmations of our colleagues in these departments are not, then, to be received as the pronouncements of experts, but as the opinions of observers who like ourselves may be partisans.[2]

Throughout this discussion I have taken for granted the general belief of educators, statesmen, and the man in the street, from Plato and Aristotle to John Stuart Mill, Faraday,[3] Lincoln,[4] President Taft,[5] and Anatole France, that there is such a thing as intellectual discipline, and that some studies are a better mental gymnastic than others. This, like other notions of "common-sense," is subject to all due qualifications and limitations. But it is now denied altogether, and the authority of Plato, Mill, Faraday, or Lincoln is met by the names of O'Shea, Bagley, Horn, Thorndike, Bolton, and DeGarmo. Tastes in authorities differ. But these gentlemen are cited, not as authorities, but as experts who have proved by scientific experiment and ratiocination that mental discipline is a myth. There is no such proof, and no prospect of it. There are, in general, no laboratory experiments that teach us anything about the higher mental processes which we cannot observe and infer by better and more

[1] Cf. Zielinski, *op. cit.*, 23; James, *Talks to Teachers*, 130–37; Anatole France, *Le jardin d'épicure*, 218: "Quand la biologie sera constitutée, c'est à dire dans quelques millions d'années, on pourra peut-être construire une sociologie"; Shorey, *Class. Jour.*, I, 187; *St. Louis Congress*, III, 370, 375–76; Angell, Pillsbury, and Judd in Symposium VII.

[2] Observe the disinterested scientific temper in which Superintendent Harris discusses the psychology of formal discipline: "But Greek is already a vanishing element in our secondary schools, and it needs but a few more strokes to put it entirely *hors de combat*."—*Education*, XXV, 425.

[3] *Culture Demanded by Modern Life*, 200.

[4] See Croly, *Promise of American Life*, 91–92.

[5] *Bryn Mawr Alumnae Quarterly*, IV, No. 2, 79.

natural methods.[1] Still less are there any that can even approximate to the solution of the complicated problem of the total value and effect of a course of study. There is no authentic deliverance of science here to oppose to the vast presumption of common-sense and the belief of the majority of educated and practical men.[2] And we are therefore still entitled to ask, If you reject the classics and the elective system is a failure, what are you prepared to substitute?[3] Theoretically there are alternatives

[1] Inserting needles into holes, estimating areas, drawing with the hand hidden behind a screen, etc., etc., are all falsifying simplifications of the infinitely complex problem to the solution of which they may or may not lead in the years to come. Nor despite Dr. Dawson's warning against "neurones and connecting fibers fashioned through and through for the study of the Latin language," do we know enough about "localization of function" to argue the question intelligently on this basis. The leading opponents of the idea of mental discipline, whenever they forget themselves, all take it for granted, or make self-stultifying concessions to it.

[2] Cf. Zielinski, *op. cit.*, 12, 22; Plato, *Republic*, 526B, 527D. There is no space to continue the discussion here. But I doubt whether many competent psychologists will be willing seriously to maintain that serious results have as yet been achieved. Cf. the sensible summing up of the controversy by Professor Colvin in *University of Illinois Bulletin*, VII, No. 7, October 7, 1909. The whole recent "unsettlement of the doctrine of formal discipline" took its start as a polemical move and not as a disinterested scientific investigation. And it still bears the impress of its origin. It was perhaps suggested by Youmans' essay on "Mental Discipline in Education," introductory to *The Culture Demanded by Modern Life*. Cf. O'Shea, *Education as Adjustment*, ix: "My chief motive . . . . is to try to show that the doctrine of formal training, etc., etc."; Heek, *Mental Discipline and Educational Values*, I, strangely says, after Monroe, that the doctrine of formal discipline was first clearly formulated in the seventeenth century in defense of classical studies. Professor Bagley, *The Educative Process*, 211, gravely alleges against the doctrine his experience that a year of habituation to hard work at his desk did not discipline him out of a disinclination to regular work on the farm in his summer vacation. This may pair off with the "experiments" which show that students who are compelled to prepare neat papers in one subject will not spontaneously take the same extra pains in other classrooms (*ibid.*, 208).

[3] Cf. Lowell, *Prose Works*, VI, 166: "We know not whither other studies will lead us. . . . . We do know to what summits . . . . this has led and what the many-sided outlook thence."

which, not being a fanatic, I would gladly see organized into a rational group system.[1] But the practical alternative which anticlassical fanaticism at present offers is formulated by one of your own faculty with the unconscious irony of italics as "*Anything and everything connected with modern life*"—a large order.[2] Professor King would of course know how to apply this formula with discretion. But he would perhaps be somewhat dismayed to see how it is applied in the short course of the Cokato High School by an enthusiastic convertite who declares that "we are doing some intensive work in spots out in this state regardless of college requirements in English or any other requirements this side of the moon."

The modern literary and linguistic group of studies presents no problem in theory. There may be some question how much Latin those students whose education ends with the high school can afford to take. But the more advanced collegiate and university study of English, modern languages, history, and philosophy without any preparation in classics is a sorry jest.[3] The teachers themselves are aware of this when not misled by departmental rivalries or cowed by fatalistic acquiescence in the low standards which the spoiled American boy and the indulgent American parent are forcing upon our schools.[4] They too must be brought to realize that the

[1] Cf. Fouillée, *op. cit.*, 151–52, and Shorey, in *Proceedings of the Fifth Conference of the Associations of American Universities* (February, 1904, 66–67), and in the *Proceedings of the International Congress of Education* (Chicago, 1893, 138).

[2] *Educ. Rev.*, XXXIII, 469. For a good criticism of this ideal, cf. T. E. Page, in *Edinburgh Review*, XXXIV, 144; Fouillée, *op. cit.*, 136 ff.

[3] See Churton Collins, "Greek at the Universities," *Fortnightly* (1905), 260–71.

[4] Cf. Grandgent, "French as a Substitute for Latin," *School Review*, XII, 462–67; Warren, *Methods of Teaching Modern Languages*, 114:

cause of the higher culture is one and their lot is bound up with ours.[1] Our colleagues in modern languages have had their warning from President Schurman. They cannot join the hue and cry against dead classics and retain their seminars in Dante and Old French and their culture courses in Racine and Goethe. For the practical man Corneille and Lessing are as dead as Homer and Aristotle. His only use for French is "to fight the battle of life—with waiters in French restaurants." Cornell University, possessing the finest Dante library in the country, had not a single student of Dante in 1904.[2] After Greek, Latin, and after Latin, all literary, historical, and philological study of French and German. Convert your departments into Berlitz schools of languages. It is that which you are educating the public to demand, and that is all your students will be capable of. They already complain that anything older or harder than Labiche is difficult and useless.[3]

"The first duty of modern language instructors is to preserve as far as possible the advantages derived from the study of the displaced languages, Greek and Latin." As Fouillée says (p. 156), the alternative is either the hotel waiter's cheap polyglotism or the study of living languages by the critical methods applied to the languages called dead. Cf. Jebb, *op. cit.*, 558. Lowell, *op. cit.*, 156: "In a way that demands toil and thought . . . . as Greek and Latin, and they only, used to be taught."

[1] Lowell, *op. cit.*, 157.

[2] Forman, *op. cit.*, 15. I am informed that there are good classes in Dante now at Cornell, and am reminded from all sides that there are many teachers of modern languages who have never bowed the knee to Baal and who both in principle and in practice recognize the unity and interdependence of culture studies.

[3] Whatever may be said of the difficulty of Latin syntax or Greek irregular verbs, it is no paradox to maintain that the ancient classics are more simple, sane, direct, and lucid, and therefore not only a better educational instrument but easier than the masterpieces of modern literature would be if seriously taught. Cf. Gildersleeve, *op. cit.*, 73; Fouillée, *op. cit.*, 124: "not universally intelligible"; *ibid.*, 158 ff.

The teachers of English may lay the same warning to heart. Shakespeare is the belated bard of feudalism. Milton's diction is as obsolete to the readers of Mr. George Ade as his theology. Tennyson is a superannuated representative of the Mid-Victorian compromise. Literature dates from Robert Louis Stevenson; and Mr. Bernard Shaw, Mr. Wells, and Mr. Chesterton are not only clever fellows and shrewd advertisers, but profound thinkers. The Bible, too, is an obsolete and forgotten classic. There is nothing that the unhappy teachers of English can presuppose today. They have sowed the wind and are reaping the whirlwind. Here is a letter recently addressed to the dramatic critic of a great newspaper:

> I would like to undertake a course of reading on the literature of the stage. . . . . I don't want to be directed to Shakespeare, or the Greek dramatists, or to Bell's *British Theatre* or to any other compendium of chestnuts that a man with any healthy interest in life would rather saw wood than read.[1] I love the theatre and would like to extend my knowledge if any of the live stuff is in print.

There you have the answer to Huxley's oft-repeated argument: "If an Englishman cannot get literary culture out of his Bible, his Shakespeare, and his Milton, neither in my belief will the profoundest study of Homer and Soph-

Shelley's "Prometheus" is harder and more confused than that of Aeschylus. Brunetière, "Question du latin," 872: "Dante est trop subtil, Shakspeare est trop profond, souvent aussi trop obscur; Goethe est trop savant," etc. So Goldwin Smith *ap.* Taylor, 355. Illuminating in this connection is Professor Canby's experience that the despised eighteenth-century Latinized English classics are better for teaching than the Elizabethans or the Romantics. See *Nation* (August 4, 1910), 99.

[1] Clearly a disciple of Spencer, who after reading six books of the *Iliad* to "study superstitions" "felt that I would rather give a large sum than read to the end."

ocles, Virgil and Horace, give it to him." The question is not whether an Englishman can, but whether the American student will, if the universities encourage the spirit of philistinism to create an atmosphere in which the study of Homer and Sophocles cannot live.[1] You may perhaps reduce classical studies to the position of Sanskrit and Zend and Hebrew. If you do, we shall faithfully hand on the torch of true scholarship to the audience fit and few that remains, and watch with amusement your attempts to teach the history, philology, and higher criticism of English literature in the environment that you have helped to create.[2] In short, as we said to our scientific colleagues that the case of the classics is the case of serious discipline in education, so we warn the representatives of the modern humanities that the cause of all humane culture and historic criticism is bound up with the studies that were the first and remain the highest humanities.

There is something to be said for the view that Tennyson, Milton, Goethe, Dante, and Racine are as obsolete as Virgil and Sophocles, and that the modern man's sole requirements are technical experts cheaply hired, indexes to "hold the eel of science by the tail," the command of a "nervous," colloquial English style, a "typewriter girl" to correct his spelling, and a vaudeville to relax his mind. But there is very little to be said for the endeavor to rear a vast fabric of historic and literary scholarship in our universities without laying the indispensable foundations. Our culture might conceivably forego the

[1] Cf. *Pop. Sci. Mo.*, XVII, 150: "If I had my way in the halls of education, I would not only dismiss Latin and Greek, but send off packing with them the historical and comparative study of English itself."

[2] Cf. the wail of Gayley, "The Collapse of Culture," in *Idols of Education;* Barrett Wendell's rueful confessions in *The Mystery of Education;* Emile Faguet in *Revue des deux mondes* (1911).

first-hand knowledge of the supreme literary masterpieces of the world. We might sit down in stolid ignorance of the thousand years of uninterrupted civilization from Aeschylus to Claudian. We might renounce the historical study of the Middle Ages. But that would only be the beginning of our losses. The languages, the literatures, the philosophy, the whole higher spiritual tradition of the past four hundred years are unintelligible without this key.[1] It is impossible to explain this to those who have not already in some measure, however slight, verified it in their own experience. The detail is too enormous. The books and essays to which I could refer you only skim the surface of the subject.[2] Anything that we could add here would be superfluous for those who know, and of those who will not believe or who cannot divine what we are hinting at we can only say with Doctor Johnson, "Sir, their ignorance is so great that I am afraid to show them the bottom of it." They are not initiated. They do not understand the *lingua franca* of European culture. Its vocabulary, its terms of art and criticism, its terminology of science and philosophy, charged with the cumulative associations of three thousand years, are for them the arbitrary counters of a mechanically memorized

[1] Cf. Brunetière, "La question du latin," *Revue des deux mondes* (1885), VI, 862 ff.; Clapp. *op. cit.*, 97–98; Shorey, "Relations of Classical Literature to Other Branches of Learning," *St. Louis Congress* (1904), III, 337–85.

[2] Cf. the bibliography in Shorey, *supra;* Zielinski, *Our Debt to Antiquity;* Mahaffy, "What Have the Greeks Done for Civilization?"; Jebb, *Essays and Addresses*, 541–42, 560; Gildersleeve, *op. cit.*, 23, 44, 60; Matthew Arnold, *Essays in Criticism* (3d series), "On the Modern Element in Literature"; Churton Collins, *The Study of English Literature* (Macmillan, 1891). Lowell, VI, 166: "Greek literature is also the most fruitful comment on our own"; 174: "the bees from all climes still fetch honey from the tiny garden-plot of Theocritus" (cf. Kerlin's Yale dissertation, "Theocritus in English Literature").

Volapük. The inspirations, the standards of taste, the canons of criticism, the dialectic of ideas, of the leaders of European civilization for the past four centuries are non-existent for them. They cannot estimate the thought of their own or any other generation, because they do not know how to distinguish its peculiar quality from the common inheritance. Literature and history are to their apprehension all surface. The latent meanings, the second intentions, the allusions, and the presuppositions escape their sense. They do not divine the existence of the deeper currents.

So much for the ideal. But will the average graduate get all this? No, but he will get something, and the total culture of our country will get more. What will the average school-boy get, or the average business man retain, of science?

Once more, let us compare either ideals with ideals or actualities with actualities. We are not saying that it is a great thing for our undergraduates to know a little classics. We are saying that it is a monstrous thing that they should not know any.[1] It is deplorable to have been taught Latin badly, to have forgotten how to read Virgil and Cicero with pleasure, and to vent your pique in denunciation of the only studies whose loss you seem to regret.[2] But to have had no Latin at all practically means that you do not know the logic or understand the cate-

[1] Cf. Harris, "A Brief for Latin," *Educ. Rev.*, XVII, 313.

[2] Mr. Arthur C. Benson may stand as the type of those renegade classicists who take this tone not for themselves, but in pessimistic retrospection, and vicarious propitiation of the victims of their own former teaching. It brings him bad luck. In the *Nineteenth Century and After*, November, 1910, 875, he writes: "One cannot predicate [*sic*] a complete success from such a reform." This gives us a foretaste of the kind of English that we may "predicate" from a reform "predicated upon" the abandonment of classical studies.

gories of general grammar and those forms of language which are at the same time forms of thought; that you do not know and cannot safely learn from a lexicon the essential and root meanings of English vocables, and can therefore neither use them with a consciousness of their prime sensuous force[1] nor guard yourself against mixed metaphor,[2] that you are mystified by the variations of meanings in like Latin derivations in Shakespeare, the Romance languages, and modern English; that you have no historic feeling for the structure of the period which modern prose inherited from Isocrates through Cicero; that the difficulty of learning French or Italian is tripled for you,[3] and the possibility of really understanding them forever precluded;[4] that you have no key to the terminology of science and philosophy, to law and international law Latin, and Latin maxims,[5] druggists' Latin, botanists' Latin, physicians' Latin; that you cannot even guess the meaning of the countless technical phrases, familiar quotations, proverbs, maxims, and compendious Latin formulae that are so essential a part of the dialect of educated men that the fiercest adversaries of the classics besprinkle their pages with misprints of them;[6]

[1] Cf. Pater, "On Style," *Appreciations*, 13, 17. It is hardly necessary to answer President Hall's cavil that an obtrusive consciousness and a pedantic use of etymology may sometimes be harmful.

[2] Gildersleeve, *op. cit.*, 25.

[3] It is an exaggeration rather than a misrepresentation when Mill speaks (*op. cit.*, IV, 345) of "that ancient language . . . . the possession of which makes it easier to learn four or five of the continental languages than it is to learn one of them without it." On the greater ease with which classicists acquire the languages of India cf. Postgate, in *Fortnightly*, LXXII, 857.

[4] Le latin c'est la raison du français."—Vinet; cf. Gildersleeve, *op. cit.*, 34.

[5] Foster, *supra*, 221–22; Scott, *supra*, 259.

[6] See the works of President Stanley Hall and President Jordan, *passim;* Fouillée, *op. cit.*, 126; Gildersleeve, on Bigelow, *op. cit.*, 9.

that you cannot study the early history of modern science and philosophy, or read their masterpieces in the original texts;[1] that Rome is as remote for you as China; that Virgil, Horace, and Cicero are mere names; that French literature is a panorama without perspective, a series of unintelligible allusions;[2] that travel in Italy loses half its charm; that you cannot decipher an inscription on the Appian way, in the Catacombs, in Westminster Abbey, on Boston Common, or on the terrace of Quebec, or verify a quotation from St. Augustine, the Vulgate, the Mass, Bacon, Descartes, Grotius' *On War and Peace*, or Spinoza's *Ethics*, to say nothing of consulting the older documents of English law and institutions, the sources of the civil law, on which the laws of Europe and Louisiana are based, the *Monumenta Rerum Germanicarum*, or Migne's patrologia, or reading a bull of the Pope or a telegram of the German emperor; that, not to go back to Milton and the Elizabethans, who are unintelligible without Latin, you cannot make out the texts from which Addison's Spectator discourses, you do not know half the time what Johnson and Boswell are talking about; that Pope and all of the characteristic writers of the so-called Golden Age are sealed books to you; that you are ill at ease and feel yourself an outsider in reading the correspondence of Tennyson and Fitzgerald, or that of almost any educated

[1] "I should like my aspirant to be able to read a scientific treatise in Latin, French, or German, because an enormous amount of anatomical knowledge is locked up in those languages."—Huxley, *Technical Education*, 409; cf. 187. Huxley himself was not happy until he got Greek. Half of Whewell's plea for the study of the history of science in *The Culture Demanded by Modern Life* is concerned with antiquity, and many of the authors mentioned in the other half wrote in Latin.

[2] Cf. René Doumic, "L'enseignement du latin et la littérature française," in *Études sur la litt. franç.* I; Bréal, "La tradition du latin," *Revue des deux mondes*, CV, 551 ff.

Englishman of the nineteenth century, and even in reading Thackeray's novels; that half of Charles Lamb's puns lose their point; and that when Punch alludes to the pathetic scene in which Colonel Newcome cries "absit omen!" for the last time, you don't see the joke.

If our scientific colleagues, forgetting outworn polemics and on sober second thought, assure us that the jealous requirements of their stern mistress demand this sacrifice, we can make no reply. Let them deal with purely scientific education and with its symbol, the B.S. degree, in their discretion. But let us hear no more of the farce of a literary, a philosophical, or a historical education that omits even the elements of the languages and literatures on which all literary and historical studies depend for men of European descent. Our acquiescence in such a "collapse of culture" is due to our supine and fatalistic acceptance of the disgracefully low standards which the abuse of the elective system and the premature distraction of the socially precocious and intellectually retarded American boy by the dissipations of modern life and society have imposed upon us. Mill may have overestimated the powers of acquisition of the human mind, but he was far nearer right than we are, who bestow degrees on students who have merely deigned to listen to a few chatty lectures on "anything and everything connected with modern life."

The talk of ten or twelve years' ineffectual study of Latin and Greek is nonsense or misrepresentation. It is an indictment of human nature and bad teaching, not specially of classical studies. Undisciplined students will doubtless dawdle over anything, from French to mathematics, so long as teachers and parents permit it. But in a serious school one-fourth of the student's time

for four or five years is enough for the acquisition, together with the power to read Cicero and Virgil with pleasure, of more English than classmates who omit Latin will probably learn. It is not a formidable undertaking, except for students whose attention is too dissipated and whose minds are too flabby to master anything that must be remembered beyond the close of the current term. There is and always will be ample room for a reasonable amount of Latin in any rational scheme of studies that extends four or more years beyond the graded schools.

Latin is a necessity in anything but an elementary or purely technical education. Greek is not in this sense a necessity.[1] Neither is it a scholastic specialty. It is the first of luxuries, a luxury which no one proposes to prescribe for all collegians, but which ought to be enjoyed by an increasing proportion of those who are now frightened away from it by exaggeration of its difficulty or by utilitarian objections that apply with equal force to the inferior substitutes which partisan advisers recommend in its place. The value and the charm of even a little knowledge of Greek has often been explained,[2] and has been repeatedly demonstrated in the courses in beginning Greek offered by American colleges in the past decade. Students of good but not extraordinary ability have, while keeping up their other work, read six books of the

[1] I cannot pause to discuss the misconception of those representatives of science who argue, not quite seriously perhaps, that if only one ancient language is to be studied it should be Greek. This might be true for Mars or China. It is plainly not true for that Europe which was evolved from the Roman empire, and which until the second or German Renaissance received the inspiration of Greece mainly through Latin literature.

[2] See Jebb, *op. cit.*, 575–80; "A Popular Study of Greek." President Mackenzie, *supra*, 166, adds the weighty suggestion that those "who do not possess these weapons of a full Christian culture" will tend to read only what is easy and avoid scholarly works that contain even a few Greek words or Latin quotations.

Anabasis in the first year of study; have completed in three years the A.B. requirements of the University of Chicago, including eight books of the *Odyssey*, two Greek tragedies, and Plato's *Apology* and *Crito*, and have in the fourth year of study read the entire *Republic* of Plato with intelligence and delight. These facts and similar results obtained in other universities are verifiable by any unprejudiced inquirer, and they make it difficult to characterize in parliamentary language the persistent misrepresentation that eight or ten or twelve years' exclusive study of the classics yields no results comparable to those achieved by the normal student in other studies. In the light of this experience no fair-minded dean or judicious adviser of students already biased by unthinking popular prejudice can refuse in Lowell's words to "give the horse a chance at the ancient springs" before concluding that he will not drink.[1]

[1] *Latest Lit. Essays*, I, 53.

SYMPOSIUM VII

THE DOCTRINE OF FORMAL DISCIPLINE IN THE LIGHT OF CONTEMPORARY PSYCHOLOGY

I. THE DOCTRINE OF FORMAL DISCIPLINE IN THE LIGHT OF THE PRINCIPLES OF GENERAL PSYCHOLOGY

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It was not so very long ago that the recalcitrant small boy who objected to the study of the classics or of mathematics was urged to accept his fate gracefully on the ground that, however unpleasant the process, he was acquiring mental discipline which would stand him in good stead whenever later in life he had some especially hard intellectual task to face. The skepticism with which this doctrine was always greeted by the victim has in recent years found an echo in the heretical creed of certain pedagogical radicals, who have dared to proclaim in high places that the formal discipline cult was founded on a myth, and that the educational value of a study is measured directly by its intrinsic worth and not by its indirect gymnastic qualities. It is our business today to determine, if possible, how far this iconoclastic reaction is justified.

The problem raised by the doctrine of formal discipline or, as it might more justly be called, "*general* discipline," falls into two main divisions, one subordinate to the other: (1) Does the serious pursuit of any study whatsoever leave the mind better able than it was before to cope with every other study? Stated otherwise, is every

intellectual undertaking rendered materially easier or more efficient by virtue of previous intellectual training, regardless of the material employed for such training? (2) Assuming an affirmative answer to the first question, are there specific studies (e.g., the classics) which are peculiarly valuable in this regard; or is any study (e.g., literary criticism) honestly pursued as valuable as any other (e.g., physics)? In short, does the merit consist in the mere drill given by the very fact of persistent concentration, or is there some residual value in the character of the subject-matter studied?

There are questions which—theoretically, at least—are capable of something approaching an empirical and experimental solution, and whenever such a solution is feasible, mere theorizing is impertinent. I regard the appeal to the general principles of psychology with which our program begins as justified, chiefly if not wholly, by the possibility of gaining from this source a certain orientation for the entire subject. Sundry details, already in part experientially determined, will be discussed by my colleagues on the program. Let us consider the psychological question raised by the first problem mentioned: i.e., does the conscientious pursuit of any intellectual occupation result in rendering the mind more efficient in all other lines of work? The limitations of time forbid any attempt to discuss adequately the second question.

We may at the outset clear the deck of certain possible grounds of misapprehension. That the higher branches of a study like algebra are both logically and psychologically dependent upon the previous mastery of their elementary features is a truism which requires no debate and ought to introduce no confusion into our delibera-

tions. Similarly, the fact that certain studies like physics make use of material borrowed from other disciplines like mathematics is notorious, and again requires no discussion and should occasion no ambiguity. Evidently our essential problem does not have to do with the transfer from one region to another of specific information useful in two or more fields. The crucial question is whether studies or occupations which have few or no demonstrable points of contact are reciprocally beneficial in the sense that the mastery of one will facilitate the mastery of any of the others. The issue concerns the transfer of an alleged capacity for achievement in general from a special field in which it was gained to all other fields, however different from the first. With this distinction in mind we may remark certain of the psychological considerations which are to be urged pro and con in the matter.[1]

Whatever disadvantages may ensue from such a procedure, we shall at least insure getting fairly into the middle of our subject if we take it up from the side of habit.

[1] The old-fashioned view of the formal disciplines rested in fact, if not in theory, on the foundation of the so-called faculty psychology. This involves a conception of the mind as made up of a number of distinct organs, so to speak, which can be exercised separately or conjointly. A training of memory would consequently train that faculty for any use. Similarly a training of reasoning would leave that faculty in improved form for any use to which one might put it. Contemporary psychology has little patience with this conception, and, so far from recognizing such a thing as memory in general, it urges with seemingly conclusive force that we have many different sorts of memory, one for visual objects, one for sounds, etc. Moreover, nothing seems more certain than that one or more of these forms in which we employ memory may in a given individual be highly developed and extremely accurate, while the other forms are no better than the average, or even considerably below this average. It should not be assumed, however, that because the faculty psychology is exploded, therefore the inferences based upon it are all essentially erroneous. They may have other foundations than those on which they were supposed to rest.

The term habit is used loosely in psychology to designate the fact that muscular movements tend to be made in the same way again and again in response to the same stimulations. The neural energy liberated by the stimulus is discharged over a relatively fixed nervous pathway into a group of muscles by whose contraction some appropriate consequence follows. Skating, swimming, and bicycle riding may serve to demonstrate the sort of thing we have in mind. To begin with, the connecting of stimulation and response requires conscious guidance; it has to be learned and is, as we say, intelligent. After the act has been repeated a number of times, conscious control tends to fall away and leaves in its place a condition closely comparable to a reflex act, in which an appropriate movement is made in response to a stimulus without the interposition of consciousness.

Now working on the foundation of this idea of habit, it has sometimes been maintained that all habits are specific, that we acquire dexterity in this or that special activity, and that no habit can be generalized so as to fit a miscellaneous set of conditions. Ergo, it is argued, no formal discipline can have the value claimed for it, because what we gain from such training is specific habits of performing certain limited groups of acts in certain definite ways. Only on the improbable assumption that the same groups of acts can be taken up bodily and transplanted substantially unmodified, can the formal discipline doctrine be justified. Before we undertake to pass judgment on this assertion let us examine some of the forms in which habit is actually manifested.

We may roughly divide our habitual reactions into three groups, groups which are frankly arbitrary, but which will reasonably serve the practical purposes of our

present business. There is (1) the sort of things to which the term is most often applied and to which the characterizations of a few moments ago are most germane: i.e., motor activities, in which the significant feature is some change brought about by the movement in the physical world. Walking, running, talking, and writing may illustrate this group. Here the important thing is the overt external result of the act; the distance traversed, the word spoken or written, and so on. Next (2) may be mentioned habitual acts in which the purport of the act is to be found not in the mere external result, but in some sensation which the act facilitates, emphasizes, or renders possible. Here belong the habitual accommodatory movements by which we focalize our sense organs on stimuli to which we wish to attend. I turn my head to see an interesting object. I turn it in quite a different manner to hear the indistinct speaker. I give it still another shift, accompanied by certain accessory inspiratory movements, if I wish to get the full fragrance of a bunch of violets, etc. All these sensory activities involve motor accommodations of the habit variety: i.e., efficient muscular acts involving at present little or no conscious guidance. (3) Lastly, there are certain ideational processes to which psychologists are sometimes hesitant to apply the term habit, because of the apparent absence of motor elements in some of them, but which certainly deserve it. The boy learning to use the multiplication table illustrates the point. As he becomes more and more expert, his mind executes arithmetical operations more and more automatically, until finally, perhaps, here as elsewhere, the activity becomes essentially reflex.

The term "habit of thought" is applied to other

forms of intellectual procedure with the intent sometimes to designate certain sentiments and prejudices, or again, to indicate that which is more nearly relevant to the present discussion: i.e., one's general methods of attacking a subject, the technique of one's thinking. The intellectual method which one acquires after a certain period of discipline in any field of thought—e.g., history, literature, economics, or commerce—will illustrate the case. One gets into a manner of dealing with such problems and bringing certain considerations to bear upon them which esssentially merits the term habit, although the operation may be considerably less mechanical and inflexible than is the case in the ordinary overt motor types of habits. Individual A always hunts for the details of his problem. Individual B has no interest in details, but always seeks at once the general bearings of the case. Individual C invariably lays out a systematic plan of campaign and follows it to the bitter end. Individual D dips in anywhere and continues to dip without reference to any scheme of action. These illustrations may serve to make clear the point. Now on the basis of this cursory examination of certain typical manifestations of habit, let us consider the probabilities as regards the effects of general training, or the carrying over of facility from one sort of habit to another.

One kind of process which certainly goes on all the time, and which may have a remote bearing on the general point at issue, is the incorporation of smaller habits in larger habit groups. The child in learning to write has at first to give all his energy to the mere grasping and guiding of the pen. As dexterity is gained, the movement gradually comes to take care of itself and gets incorporated in another and larger co-ordination: i.e.,

the spelling-and-writing co-ordination. This in turn gets taken up into a "paragraph-construction habit," which in its own turn may be swallowed up by the chapter, article, or section habit. Not that this account necessarily follows any unchanging chronological sequence or is true of all persons, but that it illustrates what is generally true all along the line: i.e., that specific habits are constantly merged with other specific habits to furnish forth larger and more complex co-ordinations. This is true of each of the three forms of habit which we have distinguished, and illustrations will readily suggest themselves. Evidently it might well often occur that a habit acquired in some special study should find a place in a larger group of habits apparently quite disconnected from the study. This is peculiarly true, it may be added, of all the common studies of the elementary school.

It seems clear, too, that habits closely akin to one another may readily reinforce each other in a practical way, even though the literal fact should prove to be that one or other is slightly modified in this case, rather than merely reinforced. For instance, a boy who has learned to play baseball and to judge accurately the position of a ball in the air, has a large part of the difficulty of certain strokes in tennis already conquered, despite the fact that the position which he must assume to meet the ball in the two cases is somewhat different. Here again we should on examination find that all our classes of habit would furnish illustrations of the principle.

On the other hand, certain habits are apparently inimical to certain others. In a general way we recognize this when we lay stress on the avoidance of contracting "bad habits" at the outset of any new under-

taking. Such habits may be bad in the conventional moral sense, or merely in the technical sense that they limit efficiency. But in either case we feel such habits to be not only inherently undesirable, but also a menace to the opposed good habits and an added difficulty in the securing of the latter. Apart, however, entirely from the question of bad habits, so-called, there seems to be no doubt that certain habits, if they become thoroughly ingrained, may go far to incapacitate their possessor from contracting in an effective way certain other kinds of habits. One who has learned to drive spikes with a sledge hammer will probably find it more difficult to learn to execute fine embroidery than would have been the case had he not received the sledge practice and contracted the sledge habit. Similarly, one who has learned to concentrate altogether on the *meaning* of the printed page, and especially one who has learned to combine this capacity with great rapidity of reading, finds it extremely difficult, if not impossible, to read proof accurately. And conversely, it may be doubted if any first-class proof-reader ever succeeds in reading very rapidly and at the same time with understanding. Attention has to be differently directed to achieve the two ends.

That our tastes and capacities rapidly become limited to those which we choose to cultivate is of course a fact familiar in literature as well as in common life; but as this fact has a possible explanation somewhat irrelevant to our topic, we may pass it by without further comment.

In academic life what is so common as to observe that men who have confined themselves assiduously to some one field of intellectual endeavor become largely incapable of entering into other fields of interest? It is not simply that their tastes rebel at the attempt. The

machinery of their minds has lost a certain flexibility which possibly was once possessed. All of which seems to show that expertness in specific directions instead of carrying with it unmitigated blessings may be purchased at a very great price, the price of efficiency in other important directions. It must be frankly confessed, however, that such instances are always ambiguous in the form in which we meet them in ordinary experience, because we have no reliable means of determining how far the outcome is due to native limitation of talent, or to the accidents of environment, and how much is justly attributable to the sheer undiluted effects of the special form of intellectual discipline pursued.

This brings us fairly to the question whether there are any generalized habits? Or, are all habits essentially specific? In the habits by which we accommodate our sense organs to things to which we wish to attend, the process is apparently highly specific, and any gain in the efficiency with which we use one sense organ, say the eye, resulting from the use of another, say the ear, must spring from some central factor common to the use of the two, of which no mention has as yet been made. To this hypothetical factor we shall refer again in a moment. Similarly, the habits which consist in effective manipulations of external objects have for the most part a highly specific character. One who has learned to hammer skilfully can drive nails or tacks with equal deftness, perhaps, but sawing requires a quite different set of co-ordinations, and planing still another. Whether such habits will, on the whole, reinforce or inhibit one another can only be determined by actual test. In the intellectual range of habits we meet the most complicated case, and this brings us to the part played by

attention and ideal control in all these cases. Personally I am disposed to believe that the most important elements in the whole situation before us are capable of statement in terms of attention.

Leaving aside for the present purposes all more subtle meanings, I shall intend by the word "attention" the fact of mental concentration. We may accept for our present practical interests a common psychological distinction between sensory and ideational attention. In the one case, the mind is concentrated on some sense process; in the other, on some idea or train of ideas. Evidently there will be at least as many subordinate forms of sensory attention as there are sense organs. As we remarked a few lines above, when we attend to a sound, our attitude is quite different from that which we assume when attending to a light, and both differ from the attitude of attention to an odor. There is mental concentration in each case, and yet the acts are in the main quite distinct from one another. Similarly, in instances of ideational attention, despite the common characteristic of concentration, there will be some difference in the process as a whole, depending on whether we are calling into mind memory images of sound, or of things seen, or are reasoning out some algebraic abstruseness which may chance to be teasing the mind.

Now, so far as these several forms of attention have divergent elements in them, and certainly there are many such divergences both of sensory content and of motor attitude, we shall hardly be entitled to look for beneficial effects in the use of one form of attention as a result of discipline in another form of it. So far as the two activities are different, it is difficult to see why a training in tone discrimination should produce a beneficial effect

upon the discrimination of shades of color.[1] But if we look more closely at the facts we shall see that there are certain factors common to all these cases which have not been mentioned.

The persistent and voluntarily directed use of attention, especially when the subject attended to is lacking in interest, speedily becomes acutely distasteful. Voluntary attention involves some strain and this strain, if long continued, is certain to become unpleasant. We first become bored, then restless, and finally find the thing intolerable and abandon it. Now, no small part of the discipline which comes from the effortful use of attention in any direction and on any topic is to be found in the habituation which is afforded in neglecting or otherwise suppressing unpleasant or distracting sensations. We learn to "stand it," in short. This fact has been pointed out at times by writers on these topics, but it is rarely given the importance which it properly deserves. Anyone can attend to things which interest or please him so long as his physical strength holds out. But to attend in the face of difficulties which are not entertaining is distinctly an acquired taste, one to which children and primitive peoples always strenuously object. From this point of view it may well be that such studies as the classics and certain forms of mathematics have a peculiar value in affording the maximum of unpleasantness diluted with a minimum of native interest, so that a student who learns to tolerate prolonged attending to their intricacies may find almost any other undertaking by contrast easy and grateful. The actual mental mechanism by which this intellectual and moral accli-

[1] That such a transfer of training may occur, see the interesting paper by Coover and F. Angell, "General Practice Effect of Special Exercise," *Amer. Jour. of Psychology* (1907), p. 328.

matization is secured, is extremely interesting, but we cannot pause to discuss it. Certain it is that something of the sort occurs and that it is an acquirement which may presumably be carried over from one type of occupation to another. If each form of effortful occupation had a wholly unique type of discomfort attached to it, this inference might be challenged. But such does not seem to be the case.

Again it is held by certain psychologists that, although each form of sensory and ideational attention involves a special and peculiar motor attitude not found in any other form in which attention may be exercised, it is nevertheless true that there is a general attitude on which each of these special forms is grafted which remains as a constant background for all. Of course if this contention be true, and I am disposed both on theoretical and on experimental grounds to think that it is, there would be some matrix common to all acts of attention, and any development whatever would affect this central core in some degree.

Although we are here on distinctly speculative ground, there is at least some reason to think that the frontal lobes of the cerebral cortex are employed in all voluntary attention in a way which may afford a considerable amount of common cerebral action in many forms of attentive process, even though the community of elements is by no means rigidly fixed and absolute.

Allied to this physiological consideration and, according to certain psychologists, belonging in the realm of pure postulate, is the doctrine that the mind is a unit and that all its processes must affect one another either positively or negatively. On the whole, it appears that the general theory of attention would lead us to look for

some effect, whether advantageous or disadvantageous, on every intellectual undertaking as a result of every other previous mental activity.

The approach to our problem from the side of attention enables us to attain an interesting and somewhat instructive sidelight on certain familiar educational tenets. Much is said about the necessity of teaching accuracy in observation. Clearly this leads us back at once to the various forms of sensory attention previously noticed. A boy taught to remark carefully what he sees, whether in the open field or under the microscope, may or may not learn to distinguish the relations of musical tones more readily than if he had not had the training for his optical attention. On the basis of the consideration just canvassed, we should look even in this case for some gain, however slight, and there is some experimental evidence to justify this expectation, as has already been mentioned. Moreover, we have to remember that the gain on the score of discipline to attention may be more than offset by the mutually inhibitory character of the habits involved in the two activities, so that loss and not gain would appear as the net result of certain combinations of this kind. But, in any event, nothing is more certain than that the boy's auditory attention must itself receive separate training if it is ever to be of much value. Training in observation, then, can never become widely effective unless it embraces all the important forms of sense activity.

Memory also shares with "accuracy of observation" the solicitude so often expressed as to modern educational methods and results. Few mental properties have been so widely supposed to profit by general training as memory. Nevertheless, certain distinguished psy-

chologists have not hesitated to announce that the devices commonly employed to secure this discipline were worthless. Other psychologists, hardly less distinguished, have urged that the evidence advanced by the defenders of this doctrine was inconclusive; and my colleagues upon the program will no doubt call to your attention some interesting experiments directed to solving this puzzle. We may notice, however, that memory is a function of concentrated attention to the extent at least that, other things equal, the person who possesses the most concentration of attention will be found most tenacious of material learned and most prompt and effective in commanding this material when wanted. This consideration would lead us to expect that almost any training of memory would show some detectable effect in any subsequent use of the memory processes. Recent experiments indicate the correctness of this anticipation.

Again it is said that education ought to train one's ability to execute analyses, to make accurate inferences, and to detect essential relations, as though analyses and inferences and relations were names for perfectly homogeneous, uniform processes. The futility of this conception in the form in which it is often advocated requires no psychology more recondite than that afforded by common observation and a very modest type of common sense. If the world were built in a neat snug-fitting box, with all parts interchangeable, the scheme ought to work admirably. Unhappily the type of analysis and inference which is valid in mathematics, for instance, is practically very different from that which is valid in linguistics and history. A similar discontinuity of inferential procedure marks off from one another sundry other fields of knowledge. Surely from this side the

most that educational doctrine can ask or urge is that the mind shall be brought into intimate contact with all the great characteristic divisions of human thought and that the processes in each of these domains shall be made familiar. If one has thus mastered the several modes of procedure needful in these main divisions of the world of mind, one is at least armed against the inevitable errors of complete ignorance and one is fairly started on the path to specialized proficiency. Psychologically, of course, the various forms of reasoning process reduce to one or two simple types with their variants. But practically, the content of the ideas with which thought has to deal is often so diverse as to render discipline gained on this score in one direction of only the most remote consequence in another.

It should not be forgotten that a very real intellectual advantage is gained from any well-organized study, in that one is given a vivid illustration, which may prove contagious if the teaching be well done, of the possibilities of method and technique in thinking. The leverage given by system and organization is thus made clear. The precise system appropriate to a given problem may, however, be quite inadequate to some other problem, so that the profit on this score is not without its limitation.

This last point leads to another which is in essence, perhaps, but a restatement. It has been maintained that, after all, the great advantage in any serious study —the formal disciplines as well as others—is in the creation therefrom of certain *ideals* which are as such applicable to almost any situation. Such ideals are thoroughness, accuracy, system, and the like. I believe this contention may be granted without argument, but it leaves us, as in the two preceding cases, quite uncertain

as to the exact manner in which such an ideal as "system," say, could be transplanted from chemistry to politics and literature. Even if the ideal really migrated, it would in many cases be necessary to discover from new experience just how it applied in the novel surroundings.

SUMMARY

In reply to our first question—i.e., whether the serious pursuit of any study whatever may be expected to result in benefits for the subsequent pursuit of any other study—our general psychological principles lead us to the following conclusions, which specific experiment must confirm or disprove: (1) Certain habits gained in the mastery of one study may be appropriated directly in another: (2) They may be slightly modified before such application and still show for their possessor a great gain as compared with the individual who has to start from the beginning. (3) These habits may be incorporated in larger habit groups, either with or without slight modification. (4) They may tend to impede certain antagonistic habits and in turn be impeded by other previously extant and inhibitory habits. (5) But in all these cases, the instances of inhibition as well as those of reinforcement and incorporation, it seems probable that a certain gain in the power to use and sustain attention will accrue from any purposeful and persistent intellectual application. This result may be expected to come in part from the suppressing or disregarding of disagreeable and distracting sensations, and in part from the discipline afforded to the common element in all acts of attention, whether this common element be found in some conditions of the cerebral cortex, or in some motor conditions which are essential con-

comitants of all attentive attitudes. This principle probably holds true in memory, in reasoning, in observation, and in all forms of mental activity which common thought and language distinguish. (6) What subjects best reinforce one another; what ones most inevitably conflict with one another; whether these relations are dependent upon the mode of presentation, rather than upon the subject-matter itself; these and other similar questions, too numerous to point out, must one and all be answered by experiment and experience. Dogmatism is wholly impossible in advance of such drastic and exhaustive investigation.

Time and space do not permit any attempt to discuss the second question which we formulated: i.e., whether any particular studies possess a special value for general disciplinary purposes? It should, however, be remarked that, strictly speaking, there is probably no such thing as a purely disciplinary study. Any study is likely to be robbed of its good name and labeled a formal discipline, if somebody chances to allege that it is good for something beside that for which it obviously exists. The implication of our deliberations would be that every study has latent in it the possibilities of becoming to some extent a formal or general discipline. Its pursuit may effect intellectual changes not confined to the topic with which it is ostensibly engaged. Meantime, it seems to be a safe and conservative corollary of this doctrine that no study should have a place in the curriculum for which this general disciplinary characteristic is the chief recommendation. Such advantage can probably be gotten in some degree from every study, and the intrinsic values of each study afford at present a far safer criterion

of educational worth than any which we can derive from the theory of formal discipline.

II. THE EFFECTS OF TRAINING ON MEMORY

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This topic is perhaps that one of all the special problems connected with formal discipline that has been most frequently discussed and most thoroughly investigated. It may, therefore, stand as a type of the results and methods of experimental psychology as applied to the more complicated problems of mind, although it is perhaps not the one in which most agreement has been attained. The oscillation of opinion on the topic is also characteristic of the attitude toward the problem in general. In my discussion I shall endeavor to reflect the results of theory and experiment, and shall make an effort to distort them as little as possible by the surface from which they are reflected to you.

Three important stages may be distinguished in the development of the theory. The first is probably most familiar to the popular mind, in fact, was the universal assumption before the recent developments in our knowledge. It is that there is a single function or faculty of memory, and that any training of that faculty must have its influence, no matter to what memory may be applied. On this theory, training anywhere would be effective everywhere. Our problem would be analogous to the problem of the physical culturist, for whom it makes no difference what work is done provided only the muscles are exercised. The arms gain strength just as certainly if exercised on the pulley in the gymnasium

as if employed in wielding the blacksmith's hammer. Were the same analogy to hold, one could acquire a good memory by learning names from the directory with the same certainty as by taking a college course.

As in most matters of theory, violent statement gave place to violent reaction. If for generations there was no question that memory might be trained as an arm might be, and the whole curriculum was based upon that assumption, when the reaction came it was equally extreme. The beginnings of the reaction appeared with the refutation of the faculty theory by Herbart. More specifically the dogma received a blow when mental pathology, aided by normal psychology, discovered that man had not one memory, but many. It was found that there was a memory for each sense, not of course all represented in the same individual, but usually several in one individual. Then, too, there seemed to be special memories for closely related kinds of material. It was found that memory might be lost for one part of speech, not for another; for one object and not for a closely related one. If memories are thus so distinct that one may disappear and leave the others unaffected, it would seem that training one memory could have no effect at all upon another. In this respect the analogy with physical training would assert that you can no more train your memory for historical dates by learning poetry than you can train for a race by finger exercises on the piano. The two memories would be as distinct as the two members of the body.

This negative conclusion was reinforced by two other considerations: one, theoretical; the other, factual. In the first place, there is little analogy between training the man as a physical whole and training memory, for

the same kind of process is involved in muscular training in general as is involved in each piece of learning. When a muscle contracts there is left behind as a result of the contraction an increased liability and capacity for contraction, that serves to strengthen the muscle. Memory of any kind, on the generally accepted theory, is the result of an entirely analogous change in a nerve cell upon any excitation. One remembers a face because certain cells in the back of the brain take on a habit of acting as a result of seeing the face, and this leaves a disposition to be re-excited whenever appropriate occasion arises. And the change in the cells as a result of some sensory impression is assumed to be entirely analogous to the change in the muscle as the result of action. You are training a memory whenever you receive a sensation in exactly the same sense that you train an arm by contracting it. The problem, then, is not "Can you train memory through use?" but "Can you train one group of nerve cells in the brain by exercising other sets of cells that may or may not be situated anywhere near them, or that may or may not be functionally related to them?"

The factual considerations that tended to confirm the conclusion were some actual experiments by Professor William James.[1] He first tested his memory by learning some lines of Victor Hugo's *Satyr*. He learned 158 lines during eight days. This required 131 5-6 minutes. He then worked twenty minutes daily until he had learned the first book of *Paradise Lost*. After this training he went back to Victor Hugo's poem and found that 158 additional lines divided as before required 151½ minutes for learning. There was, then, after training a loss of twenty minutes' time rather than a gain. Professor James admits, however, that there was some question

[1] James, *Principles of Psychology*, I, 666.

of the validity of the second test, because he had been considerably fatigued by other work. The test was repeated by four of his students in approximately the same way. Of these, two showed some considerable gain as the result of practice and two showed no gain. The results are not so striking as the conclusion they were adduced to prove. In fact, it is a question whether any conclusion at all could be drawn from them by a conservative observer. But whatever value we may assign to the results themselves, the name and fame of the author and the cogency of his arguments from generally accepted physiological theories carried great weight. In fact, it may be said that in American psychology, at least, his conclusion that the primary memory cannot be trained, but that man is born with a certain retentiveness that cannot be added to or subtracted from by taking thought, has been held to practically without exception. The only point at which Professor James would admit any effect of training is in acquiring better methods of learning, gaining capacity for picking out the essentials of the matter to be learned, and in discarding the unessentials.

Down, then, to a comparatively recent time we have had two diametrically opposed schools. Memory is either a single thing that can be trained as a whole as you train a muscle, or it is a capacity of a vast number of separate organs sufficiently independent to have no increase in capacity of one affect the usefulness of any other. Both of these theories are logical deductions from the assumed premises, but they are *a priori* in character, and have not been confirmed by carefully controlled experiment or observation. Where two sets of premises may give rise to such opposed conclusions, we must have re-

course either to more accurate examination of the premises, or to concrete facts, before it will be possible to harmonize the conclusions or to accept either. Fortunately, more recent investigation seems to furnish both, and of a character to form what may be regarded as a compromise between the two extremes.

In beginning our discussion of the more constructive work, it will be necessary to distinguish two forms of learning that follow laws that are diverse, or at least two forms that have little to do with each other. These are rote learning and learning of substance, or logical learning. The two methods seem to be in part mutually exclusive, or at least independent one of the other. One may have a well-developed rote memory and little or no logical memory. At some stages of development a child seems compelled to learn word for word or not at all, while relatively few adults have an accurate memory for anything more than the meaning of what is read or heard. Quite frequently, too, as one increases the other decreases. This is not a necessary relation, but from common observation seems quite as frequent as to have both increase together. It will be necessary, then, to discuss each sort of memory separately.

On rote memory there has been a large amount of work done in the last two decades, work that for the most part has not been directed to our particular problem for training the memory, but which has, nevertheless, developed a technique and established standards of accuracy that were entirely lacking at the time the experiments of Professor James were made. In the experiments great care is taken to control all possible sources of error. The material employed is usually lists of nonsense syllables that have never been used and so

probably have never been learned, even in part, before. Then again, the syllables are exposed at perfectly regular intervals by an instrument that permits but one to be seen at a time and insures that each shall be shown for the same length of time as any other. A vast number of other apparently insignificant details, that experience has shown to be important in their effect upon learning, are carefully looked to that no single extraneous factor may come in to obscure the results. It has been noted in nearly all experiments that have extended over a considerable time that the amount of effort required for learning became less with practice. Whatever the measure used, it has been found that fewer repetitions or less time is needed to perfect the learning process after practice than before. It was explained ordinarily that this was due to acquiring familiarity with unusual conditions of learning and with the new material, or at least that the practice would hold only for material of practically the same kind. In 1905, Ebert and Meumann[1] published from the laboratory of the University of Zurich the results of a long investigation that had for its chief end the determination of the effects of training in learning material of one kind upon the capacity to learn material of the same and different kinds. The investigation was extended over a long period of time, and the effects of the practice were tested upon a sufficient variety of material to leave but slight room for doubt that the main outlines of the investigation will stand the test of time. Eight subjects took part. Their memories were first tested for ease of learning different sorts of material, such as series of letters, numbers, nonsense syllables, words, Italian words, strophes of poetry, and selections of prose.

[1] *Arch. f. d. gesam. Psych.*, IV, 1.

They were tested for retentiveness on some of the same kind of material, and in addition on visual signs that had no conventional meaning. After these tests had been made, the subjects turned to an investigation of a problem in the economical methods of learning that does not concern us here. In this investigation they learned thirty-two series of nonsense syllables; ordinarily they learned two series of syllables on one day and tested the retention of two more. In most cases this meant learning four series of twelve syllables each on each of sixteen days. At the end of this time the first test material was relearned and the facility of learning was compared with the original. After the second cross-section through the memory capacity, there was still another period of training. Four of the subjects were trained on sixteen series of the same material as before, and four who could give more time were subjected to the complete set of thirty-two series. When these had been finished, a final test of capacity was made that could be compared with the original condition and with the result obtained after the first period of practice.

The results fell out entirely in favor of the view that special training gives a general effect. For every subject there was a progressive increase throughout the series both in quickness of original learning and in the amount of retention. Not only this, but the effect of training from learning nonsense syllables extended to the other materials that were used, and that in proportion to the similarity of the material to the nonsense syllables. The table will show the results in general outline. It gives the average for the subjects on the eleven different forms of work. We may divide the results into two groups: one shows the effect of train-

ing on original learning; the other, the effect of the training on retention, on the retentiveness of the memory as measured by the number of repetitions required for relearning after the lapse of twenty-four hours.

TABLE I

	First Cross-Section	Second Cross-Section	Third Cross-Section	Percentage of Gain 3 over 2	Percentage of Gain 3 over 1
Numbers	7	8.8	11.2	26	59
Letters	7.2	9.5	11.3	19.3	58.2
Nonsense syllables	5.2	6.2	7.3	19	42
Words		7.3	8.8	20.5	
Italian words	5	5.5	6.5	18	30
Poetic words	15	17	19	12	27
Prose words	17	19	22	16	29

In this table the figures all indicate the number of units that could be retained on one repetition.

TABLE II*

AVERAGE NUMBER SECONDS PER SYLLABLE

	First Cross-Section	Second Cross-Section	Third Cross-Section	Percentage of Gain 3 over 2	Percentage of Gain 3 over 1	
Learning	2.11	0.83	0.48	43	77	Nonsense syllables
Relearning	0.49	0.27	0.20	35	59	
Learning	3.83	2.23	0.90	59.6	76.5	Optical symbols
Relearning	0.68	0.35	0.30	14.3	55.9	
Learning	.273	.175	.108	32.8	60	Italian words
Relearning	.056	.040	.036	10	36	
Learning	.75	0.6	0.47	21.6	37.3	Lines of poetry
Relearning	0.14	.08	.07	12.5	50	
		READINGS REQUIRED				
Learning	175	99	50	49	71.4	20 lines of prose
Relearning	36	12	9	25	75	

* In this table the figures indicate the average time in seconds required to learn each syllable, except in the last instance, where the results are given in number of readings.

It can be seen from the tables that in every case there was a gain in the average performance of the eight observers for each kind of material used. It will also be seen that there is a tendency for the gain to be greater in material that is most closely related to that on which practice was obtained. The difference is not, however, sufficiently great to make it at all probable that rote memory for any sort of material would not be increased as a result of practice in learning anything else. It is also a striking result that the retentiveness of the memory should be increased as well as its quickness. It is suggestive of the extent to which training may go that the second period of training should still show a very marked effect. Indeed it was the original intention of the investigators to continue practice until a limit was reached, but this did not seem practicable. The limit conjectured by the authors was a degree of training that would permit complete learning of the series used at a single repetition. There was some difference in the amount of training between different individuals. This could be traced in large part to the amount of earlier training. The smallest amount of training was shown by Professor Meumann, who has devoted a large proportion of his time in recent years to learning nonsense syllables and in conducting investigations in memory. Still he did not fail to show some evidence of training in most of the tests that were made.

Surprising, too, are the results of tests of the persistence of the effects of training. Tests made after the lapse of from seventy-five to one hundred and fifty-six days of vacation showed that there had been no loss of the training; in fact, in several instances there had been an actual increase in memory capacity. If we are to

take these results at anything like their face value, it would seem that memory is capable of being trained to an indefinite degree, and that training in one field carries with it training in other related fields, but they need not be so closely related as to render it at all likely that training in remembering any one sort of material would be entirely without effect in any other field. This effect of training, is not transient apparently, but persists, or its effect may even be increased after the lapse of considerable time.

One criticism of the method has been made recently to the effect that the real gain was not due to the practice series on different sorts of material, but to the training in the same sort of material in the relatively long test series used. To test the amount of this training Professor Dearborn of the University of Chicago had several people learn the test series, wait during the same period that Meumann's experimenters devoted to training, and then take the first and second cross-sections. His results are not yet published,[1] but they show in general that the larger part of the effect that Meumann ascribed to practice on another sort of material was really due to the training acquired in the earlier tests with the same material. There is still from 2 to 47 per cent that may be ascribed to transfer of training from one sort of material to another as compared with the 35 to 75 per cent that Meumann obtained. This is sufficient to justify the

[1] Through the kindness of Professor Dearborn I am enabled to give in advance of publication a table of comparative results. The experiments reported in the table are made by the same methods used by Ebert and Meumann except that the subjects rested while Ebert's and Meumann's practiced. The column headed "E. and M." gives the values for the percentage of improvement at the third test as compared with first as in Tables I and II above; the next column (D.) the improvement of Dearborn's subjects without other training than was afforded by the tests themselves, while the third column (E. and

doctrine of transfer of training in memory, although it makes such transfer very much less important than Meumann assumed from his results.

It might be objected that training of this kind is impracticable and that the methods of training, the materials used, and the methods of testing are so different in character from those that would be used in practice that it is possible to draw no conclusions from them to apply to the fields where we are really interested in producing results. This may in part be met by citing the results of some experiments of Winch[1] on school children in Great Britain. The tests were made by learning selections from a historical reader, the training consisted in committing poetry or selections from a geographical reader. More than one hundred children, from three neighborhoods of different social standing, were chosen

M.>D.) gives the difference between the other values—the amount that may be aseribed to transfer of training, proper.

PERCENTAGE OF IMPROVEMENT IN THREE SERIES

	Percentage of Gain in Third Test over First		
	E. and M. Percentage	D Percentage	E. and M. >D. Percentage
A. *Immediate Memory—(Auditory)*			
1. Numbers	59	4 or 12*	+47
2. Letters	58	29	+29
3. Nonsense (D. German words)	42	17	+25
4. Words	30	28	+ 2
B. *Committing to Memory—*			
1. Nonsense	77	41	+36
2. Italian vocabulary	60	52	+ 8
3. Poetry (Schiller)	37	14	+23
4. Phil prose (Locke)	71	58	+13
Average			20 per cent

The (*) indicates low record due to poor physical condition of one subject. The optional reading gives results of the other subjects without including this individual.

E. and M. with practice in intervals between tests

D. with no practice in intervals between tests (four subjects).

[1] *British Journal of Psychology*, II, 284.

to be subjected to the tests. Each class was divided into two groups of approximately equal mental attainments. One group, after a test had been made, spent four periods in committing to memory about one hundred words of poetry, while the others were engaged in doing sums. The other classwork was the same for the two groups. On the fifth morning after, each group committed a second test passage. It was found that the children who had had the special practice averaged nearly 10 per cent better than those without training. And when the two first divisions were again grouped with reference to comparative merit, every group with training did better than the corresponding group without; a very striking result, considering the small amount of training. While these experiments are very much less complete and less carefully controlled than those of Ebert and Meumann mentioned above, they have the advantage of confirming the others on children of school age, on a larger number of individuals, and on material that is used in actual school practice.

The two investigations, taken together, seem to leave little doubt that rote memory can be improved by practice. Our original theoretical question must then be faced: Are we to interpret the results as a proof of the existence of a faculty of memory that acts in all the forms of learning that have been considered, or can we retain something of the more modern theory that the memory functions are in some measure distinct? It must be asserted that the former alternative of a memory faculty is not sufficiently in harmony with known physiological and pathological facts to be accepted, except as a last resort. The one alternative is to assume that, while there are different memories, they either overlap in part,

and in sufficient measure to account for our results, or that there are other common elements of sufficient importance to account for the effect. The observations of the subjects in the experiments of Ebert and Meumann tend to favor the latter interpretation. Their progress seemed to be marked by greater capacity for attending to the nonsense material or to attending mechanically in general. Then, too, they acquired better methods of learning. Instead of attempting to help themselves by extrinsic devices, they became willing to give themselves over to the purely mechanical repetition of the material without much thought of the consequences. Each tends to adopt the method of learning that is most economical for himself. This varies from individual to individual, but it could be observed in each that the method of learning changed qualitatively as the exercises progressed. The persons tested took a devious course toward the end in the early experiments and as time went on gradually eliminated the by-paths that proved less profitable. It would seem, then, that a large part of the training, as it appears in the memory process, can be explained in terms of the acquirement of better methods of working and of a familiarity with the material and processes that makes relatively interesting what at first is as uninteresting a task as can easily be imagined. Ebert and Meumann were of the opinion that in addition there was a training of some common capacity that might be made to correspond fairly closely to memory as used in the popular sense. This does not seem to me to be a necessary conclusion, for no one knows how the gain due to these secondary factors stands to the total amount of improvement. One cannot be sure, therefore, that all of the gain is or is not to be explained in terms of the change in

these capacities that are generally assumed to be susceptible of training.

What explanation is to be offered for the fact is of less importance than is the fact itself. It seems pretty certain, if we are to place any confidence at all in these results, that memory as a rough whole can be trained by comparatively simple methods to a degree that is great enough to offer practical advantages. It also seems that the fact of training can be explained in a way that will not be out of harmony with generally accepted principles of pathology, physiology, and psychology. It matters little, then, whether we still assert or deny that the training is or is not of memory, or is or is not of other functions related to memory. What we in everyday life call rote memory does improve with use.

Slightly different is the problem of the logical memory or memory of ideas as opposed to words or symbols. On this problem there are few, if any, technical experiments. Conclusions must be drawn from observation and from general considerations. Some conclusions on learning of this character seem, however, to be pretty thoroughly established. It is certainly true, so far as common observation extends, that one's memory for any domain of work grows as one's acquaintance with the field increases. Mathematical symbols or demonstrations are remembered by the mathematician which would be forgotten quickly and entirely by one less versed in that lore. The same principle is evident in every field. What one already knows something of one remembers and, so far as one can say from observation, the ease of remembering is pretty closely proportional to the amount of knowledge in the particular domain. In this sense, learning in one field seems to exert an influence upon

other learning in the same field, and it is also probable that it makes easier learning in a related field. Training in mathematics or in chemistry evidently aids in some degree in remembering facts in physics; training in one language facilitates learning another, particularly if the language be a related one.

This fact, if it be accepted as such on the basis of what I believe to be general opinion, probably requires a slightly different explanation from any that has been given for rote learning. Here apparently the increased facility for learning is due to the circumstance that retention and recall depend upon the connections that are made with material already known. When much is known already, there are many points of attachment for new knowledge, and many of the attachments have probably been already partially formed before the particular moment in question. The new, then, is not altogether new, but is in part a new application of old knowledge. And even if in itself altogether new, it can be closely related to familiar matter. As a consequence, it seems that learning anything carries with it automatically increased capacity for learning everything that is related to it in any way. Where the two fields are closely related the gain from earlier knowledge is great; where the relation is less close, the gain is smaller. In the light of the close relation of facts of all kinds, he would be a bold man who would attempt to assert that learning of any kind would be entirely without influence upon later learning of any other kind. He would also be equally bold who ventured to assert, on the basis of present knowledge, just what fields of knowledge were most closely related and how much influence training in one of the fields would have on any other.

Besides this improvement in the capacity for remembering that is due to the acquirement of associative bonds, there are undoubtedly habits of learning that can be transferred from one sort of material to another that improve factual or logical learning in very much the same way that similar habits improve rote memory. Habits of attention both in general and particular kinds of material are undoubtedly acquired through study of any kind. Even the habit of using books intelligently needs to be acquired in the early stages, and once acquired, can be transferred to other fields. Even more important is the capacity for selecting the important points and in properly knitting them to the related facts, to the facts and occasions that render their recall desirable. For most adult learning it is essential to remember the fact apart from the language in which it is expressed and apart from the particular connections in which it is first learned. All these habits of easy and effective learning can be acquired by learning any sort of material that it is important to remember, and once acquired, may be transferred to almost any other field.

If we return by way of summary to our original theories as to the nature of memory and of the factors that affect its training, we may say that we neither have one memory nor many that are absolutely distinct. Rather do we have many memories, more or less distinct, but closely associated—with common elements. We cannot train one memory without training others. In terms of our comparison with the facts of physical training, we must find the analogy for memory neither in one muscle nor in many absolutely distinct muscles. But as training one muscle never leaves other muscles unaffected, so training one memory is not without influence on others.

It is found that practice with one hand increases the strength of the other hand. This is in part no doubt due to the fact that the two sides of the body are so connected nervously that it is not possible to move one without moving the other slightly. There is thus actual exercise for both hands when one is exercised. In addition, training in any exercise that requires skill undoubtedly increases more general habits of accurate perception and methods of eliminating useless movements that are transferable to other movements and movements with other parts of the body. So, too, with memory, in the usual logical learning the factors involved are in large measure common to memories of all related subjects. You cannot be sure that any fact is absolutely unrelated to any other, and so far as they are related, learning the one makes easier learning the other. In both rote and logical learning there are definite habits and capacities of attending to be acquired, and these may apparently be acquired in one field and used in another. We have to do in memory, then, with a large number of fairly distinct physiological capacities, but their use has become so dependent upon habits common to the different capacities that they are functionally parts of a common whole. Training one part thus trains related parts, and the whole in some degree. There is at present no means of saying how much training one memory receives through training another, nor is it possible to say very positively what memories are more closely, what more remotely, related. Suffice it to say that memory for any range of facts will be trained more completely by practice in that field rather than in some other, just as training in rowing is more effective in that sport than in football. Nevertheless, the crew-man is better material

for the eleven than a pianist or a golf-player or the man without training in any athletic sport. So the man with well-rounded training is probably on the average better trained for learning in any field than the untrained man, or even than the man with a narrow education in any other field.

III. THE RELATION OF SPECIAL TRAINING TO GENERAL INTELLIGENCE

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There have recently been urged upon the attention of American teachers a number of experiments and statistical inquiries which are held by their authors to show that training of mental functions is always specific. Thus, it is asserted on the basis of these investigations that there is no general function of observation; there are, rather, as many kinds of observation as there are kinds of facts to be observed. There are no general functions of discrimination or comparison; no general virtues of neatness or good manners. All is specific. To be precise in arithmetic means that and no more; it does not mean to be precise in baseball or even in reading and writing.

My experience in experimenting with this problem leads me to believe that those who have advocated this doctrine of specific functions have had a very limited view of the facts involved, and have consequently reached a formula of mental organization which is wholly inadequate. I shall report in some detail experiments which bear directly on the problem, and shall then pass to the theoretical and practical conclusions which follow from these experimental results.

The first experiment which I have to report is a very simple one. A person who was to be tested was seated in such a position that his right hand and arm were entirely hidden from view by a large screen. Whatever he did with this right hand would, therefore, be unseen by him. On the left side of the screen and in full view, nine different lines were shown in succession, and he was required to place a pencil held in the unseen right hand in the direction indicated by the several lines seen before him. The errors made in placing the pencil were accurately measured and recorded. A standard of comparison was thus gained by which all later results could be evaluated. The next step in the experiment was to train the person being tested to more accurate localization of one special line, which for purposes of our description we may call No. 5. With this one line, No. 5, the reactor was given fuller visual experience and the error which he at first made with this line gradually disappeared. After this clear improvement with No. 5 the original conditions were restored, and the reactor was again tested as at first with all nine lines. Every line in the series was affected. This means that there had been a transfer of effects under the conditions of the training described.

This, however, was not all. Some of the lines had shown in the first series of tests an error in the same direction as line No. 5; others showed an error in the opposite direction. The transfer of practice differed in the two kinds of cases in that those lines which had a like error with No. 5 improved with No. 5, while the lines which had errors in the opposite direction to No. 5 grew worse as a result of practice with No. 5. The transfer of practice was no less real in the case of the lines which increased in error than in the case of the lines

which improved. Both kinds of cases show that the functions involved are interdependent, and that transfer of practice is a complex process which must be studied from a variety of points of view if its different modes of operation are to be fully understood. Joint improvement is only one of the possible forms of transfer; reciprocal interference is just as significant a type of relation and just as certainly a type of transfer as is joint improvement.

The experiment was carried a step further. After practice with No. 5, a new practice series was instituted with another line, which we may designate as No. 2. It was found that the person being tested was now very much less affected by practice with line No. 2 than he had been during the first practice series with No. 5. The amount of practice given with No. 2 was much greater in quantity and more radical in type, but the reactor remained relatively unaffected. This means, of course, that when the reactor first came to the experiment he was open to all kinds of suggestions. He was in the habit-forming attitude; he easily took on the effects of practice. But after the training which he received with line No. 5, he was less capable of acquiring new adjustments; he was no longer in the habit-forming attitude.

This is a third phase of transfer of practice. It is no less significant than joint improvement or reciprocal interference, for surely any influence which renders an observer immune to the effects of new practice is not to be overlooked in discussing the relations of various forms of experience to each other. The closing up of the possibilities of future practice is much more important a consequence of any practice series than the direct transfer of effects to other functions.

We can gain more light on this third type of relation between functions by bringing out the fact that all through the experiment under consideration the person being tested was kept in total ignorance of the purpose and results of the tests. He did not know that he improved with line No. 5, or that he transferred the effects attained with line No. 5 to all the others. When he began working with line No. 2, he did not know that he was resisting improvement, and consequently was not disturbed by the absence of new practice effects.

A second experiment, which exhibits more fully the effect of ignorance of results, is as follows. Two observers were given a series of tests in the comparison of two geometrical figures. The figures compared were complex and were incorrectly perceived because of their complexity, giving rise to what is known as a geometrical illusion. One of the two figures was overestimated; the other was underestimated. As a result of a long series of comparisons, the two observers ultimately overcame the tendencies toward overestimation and underestimation: that is, they learned to apprehend the lines correctly. They both learned this lesson in about the same number of comparisons, showing that they were both at the outset equally capable of taking on the effects of practice. During the course of the experiment one observer was kept in total ignorance of the results of practice, while the other was fully informed. Thus when they entered upon the second stage of the experiment, one had practice, but did not know its effects upon him. The other had practice and did know its effects. The figures which they were using for comparison were reversed and a second series of tests began. When they began working with the reversed figures, both observers

showed confusion under the new conditions. Very soon, however, the observer who knew about the effects of practice adjusted himself to the new demands and rapidly overcame the illusion. There was in his case a speedy and advantageous transfer of practice. The other observer who did not know the effects of his earlier experience showed a greater error than at any time in the first series and, what is still more important, he showed no disposition to improve. In spite of the difference in the final outcome it should be noted that the practice gained in the first series was transferred in both cases. In one case, it worked improvement; in the other, it not only worked against improvement by increasing the illusion, but it also rendered the observer incapable of rapid readjustment.

The facts which I have thus far cited are experimental results obtained under rigid and accurately measured conditions. They are paralleled by facts which appear in ordinary experience, and it will be well to refer to these commonplace experiences before we turn to any final formulation of principles.

First, let us take a few cases of interference of training. The mathematical prodigy is a person who has become so absorbed in number that he has little or no attention for anything which cannot be counted. His ability to use number is cultivated at the expense of all his other possible modes of thought.

Again, the bookworm may become so absorbed in reading that he will withdraw from the observation of nature and train his bookish capacities at the expense of all others.

The scientist who is devoted to bugs or plants is proverbially negligent of the other facts which are offered

to his eyes. Even the Greeks made sport of the philosopher who, while looking at the stars, fell into a well which he had not noticed.

These facts do not show that there is one faculty for the observation of stars and another for the observation of wells; they show, rather, that the faculty of observing cannot be turned at the same time in all possible directions. If the mind is full of thoughts about stars, this will interfere with thoughts about wells. It is just because mental life is a unity that it cannot turn to everything in equal degree. I cannot read books and at the same time look at the sky. No one would argue from this that I have one eye for the reading of books and one for looking at the sky. The simple fact is that I have one pair of eyes and I can use them as I will, but if I use them in one direction I must be content to turn them away from many other directions.

Indeed, the process of mental training is in many cases one of educating the pupil to turn away from things. I teach my child to look at one part of a picture by withdrawing his attention from all else on the page. The principle of selection, or concentration of attention, or of disregarding distractions, is the principle illustrated in all these cases. So far does this principle go in sensory training that when I am intently looking at the page before me I do not hear the sounds that appeal to my ears. Does this argue that my hearing and seeing functions are unrelated, or does it show their intimate interdependence? I submit that interference of functions is the strongest possible evidence of their interdependence.

Turning to the type of transfer which we found in our experiments when we observed that sometimes a person is less open to improvement after training than before.

we can again find parallel facts in commonplace experience. Children who have not acquired fixed habits of articulation imitate very readily the pronunciations which they hear about them. We who are adult and have fixed habits, do not change easily. This is amply illustrated in the case with which children learn a foreign language, and the difficulty which adults experience in trying to articulate unfamiliar sounds.

Another illustration appears in the fact that the man who, through much experience in walking, has learned certain methods of keeping his body balanced and erect, does not learn to ride a bicycle as readily as the boy whose habits of bodily balance are much less fully adapted to the walking position.

Again, how often have we heard music teachers and writing teachers say that the worst pupils are those who have bad methods. To break up a bad method is more than double the task of teaching a wholly untrained child.

We might go on multiplying cases to show that, when training has fixed a habit, all related activities are less open to education than before. It is in general the absence of all fixed habits of thought and action which makes the child such a good subject for education. It is not because our functions are separate and distinct that we grow less and less subject to education as we grow older. It is because we are dominated in all our functions by those activities, either of body or of mind, which get the first and most intense training in early life.

All the facts thus argue, I firmly believe, not for a discreteness of mental functions, but rather for a unity and compactness of mental life, such that if you influence one phase of a man's conscious being, you contribute,

sometimes negatively to be sure, but none the less surely, to all the different elements of his nature.

Let us turn from the negative cases to some commonplace facts of positive influence of one function upon another.

I shall take at first a very broad illustration. Our whole generation is greatly influenced in its thinking by the doctrine of evolution. That doctrine was first formulated in biology, but who would attempt to define the limits of its applications now? The preacher, the historian, the political economist, the educator, have all been dominated by this generalization and have carried it over into their several spheres of thought and action.

A second type of illustration is to be found in the fact that we all know what is meant by the phrase, the scientist's attitude. The man who, through long training in the analysis of situations, has acquired certain general modes of intellectual procedure will show himself a scientist in the presence of any emergency, however novel. Every new situation is attacked in the fashion for which his training has prepared him.

It is sometimes said that this general type of mental reaction is inherited rather than acquired. For my part I do not see how that changes the conclusion regarding the interrelation of mental functions. If one can inherit a general function, why should we argue further for discreteness of functions? The general characteristic certainly pervades all mental activity, and this is exactly what we mean by the positive co-operation and interrelation of functions.

Other illustrations of the same type are easy to find. It is no idle fancy of popular observation that the clergyman always adopts habits of behavior and thought appro-

priate to his walk in life. Indeed, it has been charged that there are certain mental habits and ways of acting which go with the educational profession. We can have a theory to the effect that our training as teachers is not carried over into our other hours of life, and we may possibly derive some comfort from this theory, but it will hardly change the common view which is, after all, a very respectable generalization.

I shall be satisfied with this recital of facts. If we chose other illustrations of transfer and generalization of practice, we might fall into some of the doubtful cases covered by the nebulous phrase used by those who defend the doctrine of specialized functions when they say that certain specialized functions contain identical factors and are related through these identical elements. I confess I do not understand fully what they mean by their references to identical factors. I feel certain, however, that in the cases above cited there can be no single factor. There is no single factor in all of the scientific man's methods of thought, unless indeed the man himself be the identical element.

I shall venture to stand through the rest of our discussion on the facts which have been adduced. These facts certainly justify the statement that mental functions are interrelated and interdependent in the most manifold ways. Sometimes the training of an attitude aids the positive development of certain other attitudes. Sometimes one function interferes with other functions. Above all stands the fact that every experience changes the individual's capacity for new experiences.

With these conclusions in mind I believe we are in a position to restate the problem. We can no longer ask the simple question whether training in arithmetic helps

the student in geography. To ask that question and be satisfied with some kind of a count of cases where it does and others where it does not, is to touch the real problem very superficially. Certainly it is true that an excessive interest in arithmetic, as in the case of the mathematical prodigy, may close up the avenues of interest in geographical lines. Certainly it is true that an excessive interest in maps and descriptions of countries might very conceivably make the solution of abstract problems of number very distasteful to a boy who wanted to travel rather than count. If geography and arithmetic interfere with each other at times, they must be related at least negatively, and our inquiry must extend to the consideration of such negative possibilities. Furthermore, the moment we admit negative possibilities we reach one of the radical objections to settling this question of transfer of training by averages. If out of one hundred boys there are twenty-five who enjoy counting and are so much absorbed in that form of thought that they seriously neglect geography, and twenty-five others who are indifferent to arithmetic because they enjoy reading about travel, and fifty who are much aided in the precision of all their work by their arithmetic, what will an average of the one hundred boys show about the relation between geography and arithmetic? The first fifty with their negative results will counterbalance the second fifty with their positive tendencies, and our average will seem to show what is not true: namely, that there is no relation between training in arithmetic and training in geography. I cannot refrain from the general remark that the statistician who would venture to assert a universal negative on the basis of an average seems to me to take himself very

seriously. I think we are justified in saying to him and to ourselves, that the real question here is not one which can be answered by yes or no. Our question is not, Are functions interrelated and capable of influencing each other? The vital question is, What is the type, and what the degree of interrelation? Our problem is one of analysis and not one of classification. To find out *why* two functions conflict or co-operate is better than to assert or deny their relation in vague general terms.

There are many productive educational problems of the analytical type thus proposed. Let me take up in detail one of them. What is the relation between education in the theory of a certain situation and education through practical contact with the situation? It is not difficult to find enthusiasts in favor of practical training as opposed to theoretical. There is the horrible example of the college graduate who knows the theory of bridge-building, but makes very foolish blunders in the shop. There is the theoretically trained pedagogue who makes a poor disciplinarian and an inefficient instructor. On the other hand, the consensus of human experience is that theoretical training is worth while. If the college man at first makes more blunders than the man who has grown up in the shops, the college man is not unlikely in a year or so to find himself, and to be able to use his theory very effectively in surpassing his practically trained neighbor. The notion that pedagogical theory is a hindrance in teaching gives way also in face of the facts. Our problem is clear. Why do theory and practice seem in some cases to conflict? Why do they seem at other times to co-operate in producing the highest degree of efficiency? And, when they conflict or co-operate, what are the details of the relation between them?

With the value of a simple experiment in mind, I shall try to reduce this problem of theory and practice to a very definite experimental basis. I am sorry that I have not been able to work the problem out more fully. Some ten or eleven years ago Mr. Scholckow, now principal of a New York school, undertook at my suggestion the experimental investigation of this problem. He did not complete the investigation and has never published his result or his method. I later carried the experiment a little farther, and shall report on the basis of my results. I wish to acknowledge very fully Mr. Scholckow's contribution, and I secured his consent some time ago to the publication of anything relating to the topic.

Two groups of pupils in the fifth and sixth grades were required to hit with a small dart a target which was placed under water. The difficulty of hitting the target arises, of course, from the deflection which the light suffers through refraction. The target is not where is seems to be, and the boy must fit his aim with the dart to conditions which differ from those which he knows in ordinary life. The amount of refraction and the consequent displacement of the target are capable of definite theoretical explanation before one throws the dart. In this experiment one group of boys was given a full theoretical explanation of refraction. The other group of boys was left to work out experience without theoretical training. These two groups began practice with the target under twelve inches of water. It is a very striking fact that in the first series of trials the boys who knew the theory of refraction and those who did not, gave about the same results. That is, theory seemed to be of no value in the first tests. All the boys had to learn how to use the dart, and theory proved to

be no substitute for practice. At this point the conditions were changed. The twelve inches of water were reduced to four. The difference between the two groups of boys now came out very strikingly. The boys without theory were very much confused. The practice gained with twelve inches of water did not help them with four inches. Their errors were large and persistent. On the other hand, the boys who had the theory fitted themselves to four inches very rapidly. Their theory evidently helped them to see the reason why they must not apply the twelve-inch habit to four inches of water. Note that theory was not of value until it was backed by practice, but when practice and theory were both present the best adjustment was rapidly worked out.

I regret to say that the experiment was not carried far enough to determine how long the boys who were without theoretical training would have had to work at the problem of hitting the target, in order to overcome their confusion with every change in the depth of the water. They did master four inches, but were again confused with eight inches. We may safely appeal to general human experience, however, to supplement our results at this point. Theory has always been built on the basis of series of particular results. When men first observed the results of refraction they were much confused by them. Lucretius, for example, is an illustration of a thinker who has no generalized theory of refraction. He is typical of all ancient observers when he reports the apparent crookedness of a stick in water and declares that it is a deception of the mind. Men could not, however, be satisfied with this vague conclusion. They were stimulated by repeated experiences to attack the facts more vigorously until finally a general principle

was formulated. This generalized experience we call the theory of refraction. When one group of boys was instructed in the theory of refraction, they were merely given by a short-cut method the best experience of the race regarding the way to reach objects seen under water. When the boys absorbed this theory they had the epitome of many experiences. The experiment showed that this theoretical knowledge was relatively useless in the first series of tests: that is, until each boy had realized in his own actual contact with water what experiences were discussed in the theory. The theory is not a substitute for direct experience; it is rather a frame in which experiences may be properly held apart and at the same time held together. The boys who did not have the theory had experiences, but one experience got in the way of another, and there was disconcerting confusion. There was, to be sure, in this confusion a certain relation, but it was of a type opposite in character to that which appeared in the cases of the boys who had the right cue in their theoretical principle and so put the two groups of experiences into the right setting.

Such an example as this makes it clear that every experience has in it the possibilities of generalization. Whether the generalization will be worked out by any individual is a question of that individual's ability and persistence. It is clear, however, that there is nothing in such an experience which would lead us to speak of training as specific and incapable of generalization.

Let us turn from this example to others of a more common type. A boy is taught to look for birds. Does he become more alert in looking for flowers and rocks? That depends entirely upon what looking for birds means in the case under consideration. If a boy is taught in a

narrow way to name birds and to look for their nests, with no intimation that there is anything else in the world of nature for which to look, then it is not probable that he will tend to generalize his attitude toward the world sufficiently to include other observable facts. If, on the other hand, a boy is taught to open his eyes to all the facts of the world; if, for example, he is taught that swimming birds have certain characteristics, running birds others, and that certain birds will be found in one kind of an environment, other types in other surroundings, then the tendency to generalize observation will be strong. It is safe to say that looking for birds may be a narrow training in some cases, and a very broad training in others. The most important educational principle here involved is not a principle of special mental functions, but the principle that good teaching aims at generalizations.

Again, if we ask whether arithmetic is helpful as an introduction to algebra, the answer depends on what we mean by arithmetic. One of the most vivid educational lessons I ever learned came to me when I once undertook to help some candidates for teachers' certificates review arithmetic. I gave them examples, and the question they always asked me was which rule in the book the example belonged under. Those girls had a kind of arithmetic which would not carry the weight of any algebraical superstructure. On the other hand, I have seen arithmetic taught as a method of comparing quantities in such a way that the transition to algebra could not be felt as anything but a legitimate fruition.

There is another way in which I shall venture to put this matter of the desirability of generalizing training. A teacher who has a broad outlook on any field of knowl-

edge will make a single piece of information carry to the student not only a bare kernel of truth, but a whole network of suggestions by which the central truth connects with the rest of the world. Suppose I say to a boy, Caesar was a great general. That is doubtless true, but it is a kind of nugget washed up in its separate purity and carried away by a boy with very little suggestion of other possibilities of rich findings. Now let me say instead that Caesar was a great man who, living in a military age, achieved his greatest success as a military leader. I think we have an idea which leads into a whole mine of truth.

It will be noted that in this simple illustration I have tried to make it clear that the teacher is not called upon to say to the pupil, this idea has implications. The idea ought to be given with its implications present and actively reaching out into the world of new experiences. To check the legitimate flow of association in order to contemplate the process of association is a mistake. The skilful teacher keeps ideas moving without calling attention to the machinery.

The qualification which more than any other fits a teacher to present ideas with their implications, is the qualification which prepares a teacher to look all around a fact. The teacher ought to see what a fact is going to be used for later. The child has no perspective; the teacher should have. The teacher whose ideas are broad can do much to prepare the student to see and cultivate universals. The teacher who is narrow through little training can do much to close the mind of a pupil to the possibility of transferring his culture to anything else. The teacher who knows nothing beyond what he teaches can only by the rarest good chance make a remark

which will open the mind of his pupil to new connections. The teacher who is full of the legitimate developments of the ideas which he is teaching will never limit his students to a narrow formal view of facts.

There are a few very specific suggestions which seem to me to grow out of the position which I have attempted to defend before you. Most of our textbooks are written with a division and subdivision of the subject and a finished nicety of definition which destroys all possible links with anything else. Knowledge must, I am clear, be divided into fine particles in order to pass the narrow gateway into the young mind, but I never take up one of these highly dogmatic and completely subdivided textbooks on grammar or arithmetic without a shudder. The formal divisions dominate us in our teaching to such an extent that I have sometimes thought that the statistics of the non-correlationists are the artifacts of our educational system. Our textbooks make boys and girls learn in such a way that there shall be a wall of division between arithmetic and everything else. Not only so, we even make the intelligent child, who would naturally find common characteristics in the various processes which are described within the covers of a single book, afraid to look from one section into the next. I suppose you are asking what can be done about it. This much can be done, if nothing more. We can have reviews in our schools designed for the specific purpose of correlating and generalizing knowledge. If we need to divide knowledge into fine parts the first time it is presented, let us recognize with all clearness that in reviews we should not devote ourselves to going over the fine subdivisions, but we should rather develop the general phases of experience. There is a general phase

in every experience. To get at it is worth much time and effort. If you bring it out, the particular facts all fall into their proper relations and the compact whole is a substantial structure, not a mass of raw, detached materials. When teachers come to realize the value of reviews, I believe our textbooks will also take on a different form. There will still be divisions, but they will not be so formidable or so disintegrating.

The second observation which I wish to make is this. It has been my experience that school work drifts to the precise and exactly markable answer and corresponding question. It is so easy to ask a good question in rhetoric and so hard to ask a good question in literature. It is relatively easy to have a show recitation in Latin made up of definite questions and answers which can be evaluated with mathematical precision. It is relatively hard to make children describe some of the commonplace facts of the world of nature. As a result we drift into the exact forms of teaching. We say Latin is invaluable because it is so precise. I think we ought to ask whether it is capable of cultivating powers of generalization. We say that scientific studies have not been formulated for teaching. For my part, I find this one of the richest fields for educational genius because it has not been trampled into lifeless atoms by the weary tread of generations. One living, palpitating truth, grasped even vaguely, seems to me better than many isolated gems of formalism. If our supervisors and teachers could be freed from the bane of precise evaluation and could apprehend the significance of truths which have broad implications, our education would, I firmly believe, make inestimably greater progress.

Finally, I wish to make in this connection a plea for

less dogmatism in educational theory. The one thing I have tried to make clear in this paper is that a dogmatic answer to the question of transfer of training is totally impossible. Does nature-study train in observation? Does washing of slates train in neatness? Does saying good-morning to the principal conduce to good manners on the playground? If there is any dogmatic answer given you when you ask these questions, put it aside. There is no single answer to any one of these questions. Teachers have become so fixed in their habits of using precise textbooks and asking precise questions and accepting precise answers that they want precise pedagogical formulas. This is itself a very good illustration of generalization of a bad habit of mind. There is another and juster attitude toward educational problems. Every educational situation is a new situation and is full of possibilities. Will one experience affect others favorably or unfavorably? The answer is, the effect of one experience on later life depends on the character of that experience and the way it is managed. We may make of our pupils eager seekers after truth, or we may make of them bigoted little dogmatists. What we do will depend very much upon what we and our interests are. If we believe in specialized functions we shall probably do very little to generalize knowledge in our students. If, on the other hand, we have broad views of the subject we are teaching and of our task in teaching it, we shall find very little in practical experience to bind us to the narrow view that mental life is made up of water-tight compartments.

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