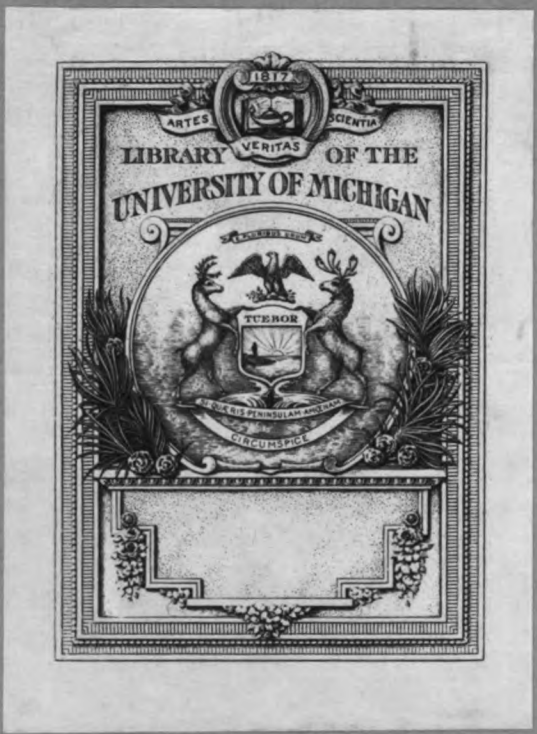

PUBLICATIONS OF THE GENERAL EDUCATION BOARD

OCCASIONAL PAPERS, No. 1

THE COUNTRY SCHOOL OF TO-MORROW

BY
FREDERICK T. GATES

GENERAL EDUCATION BOARD
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THE COUNTRY SCHOOL OF TO-MORROW

IN WHICH YOUNG AND OLD WILL BE TAUGHT IN PRACTICABLE WAYS HOW TO MAKE RURAL LIFE BEAUTIFUL, INTELLIGENT, FRUITFUL, RECREATIVE, HEALTHFUL, AND JOYOUS

BY

FREDERICK T. GATES
(CHAIRMAN OF THE GENERAL EDUCATION BOARD)

THROWN on a screen at a recent conference on rural life was a series of photographs of country school houses in various states, taken by superintendents of rural schools. A few were neatly constructed and about them were pleasant grounds. The larger number were small, one-roomed structures set on pegs, weather-blackened, window-smashed, often with wrecked entrance steps and lockless door; for chimney, a length of stove-pipe thrust through side or back; for furniture, a perpendicular combination of bench and desk, well-fitted to be an engine of torture. Improvement of the grounds had rarely been conceived. On the contrary, the original picturesqueness of wild nature had been defaced and belittered. From November onward, for three to seven months, somewhat less than one half of the school population of the district may be found there, usually taught by a young girl, often a last year's older pupil of this or a neighboring school. Enter, and you shall see her painfully teaching her class to read sentences of English, quite likely as one would pronounce the successive words in the perpendicular columns of a spelling book. Such in the main, we were told, are very many of the rural district schools of the South, and similar are many in the Northern States.

Continuing the series of pictures, the inspectors and physicians

of the Rockefeller Sanitary Commission came forward. They had caught the schools in session, and photographed teacher and pupils, grouped in front of the school house. In some instances all, teacher and pupils alike, were suffering from hookworm disease. Their emaciated, misshapen, or bloated bodies, their sad, pale listless, hopeless faces, marked with habitual suffering, faces which no art could charm into a smile that would not be ghastly, told the story of disease and neglect. There are well nigh or quite two million of these children in the South, between six and sixteen years of age, weighed down, arrested, and stunted physically and mentally by this disease, many thousands each year finding relief from it in death. This number must be multiplied by the indirect toll of increased fatality in other diseases, traceable solely to this complication. Sixty thousand people, most of them children, have already been treated in North Carolina alone, and the work has been conducted systematically in a few counties only. Here is a word picture drawn by one of the State Superintendents of the Rockefeller Sanitary Commission, of the crowds, often numbering several hundreds, which throng his improvised dispensaries:

"The people come from far and near, from all stations in life. They come on trains, by boat, in wagons, carts, and buggies. Many come on foot from ten to twenty miles. Some, too weak to make the journey and falling by the wayside, are picked up by passing vehicles and brought in. Some, unable to stand or sit, are brought in on stretchers. The results following the treatment are indeed marvelous. A gain in weight of a pound a day is common. To see the crowds, to witness their transformation from invalidism, wasted ambition, and poverty, to health, happiness, activity, and prosperity, brings to one's mind the miracles of the New Testament, and the healing of the multitudes."

The inspectors not confining their work to hookworm disease, have given all the children in many schools a general physical examination. They report 40 to 60 per cent. of the children defective and more or less disabled from other preventable and curable ailments.

The Farm Demonstrators of the General Education Board, of which there are several hundreds in the South, complete the series of pictures of rural life in the more neglected sections — of worn out soil, inefficient cultivation, scanty crop, abandoned field overgrown with bushes, deeply washed and gullied hillside, rotten orchard, sprawling fence, tumble-down houses, with unkempt and littered surroundings. The picture is emphasized by contrast. Growing side by side were shown in the same picture on one hand the thin, scant, meagre crop of the one-mule farmer, and the rich, luxuriant, bountiful harvest of the farm demonstrator, in the same field.

Such are the pictures too often found among our everywhere neglected rural folk — among people of our own land, of our own blood, of Anglo-Saxon lineage and intelligence. To me they tell a story unmatched in pathos, resistless in appeal. No one can look on scenes like these and turn lightly away. One is bound to pause and to muse while the fire burns. For this condition of things exists to-day and now, in spite of the fact that, for decade after decade, these people have enjoyed the advantages of a common school system, of county and state superintendents of public instruction, of normal schools, of high schools in all the centres, of Christian colleges founded by denominational zeal, of state universities supported by taxation, the whole supplemented by agricultural and mechanical colleges founded by the United States Government. Also, from the viewpoint of rigidly orthodox Puritan Christianity, these communities have been made Christian statistically in larger percentage than any other equal portion of mankind.

Here, then, is a vast, various, costly educational system of a Christian people, unrelated directly or in any effective way even indirectly to the earthly life and needs of those for whom it exists and by whose sacrifices it is, in the main, supported — a putting asunder of what God hath joined together, *disastrous alike to both.* Here are shepherds and there are sheep, suffering from hunger, devoured and torn by wolves, and neither knows the other. Can shepherds and sheep be brought together in mutual love and service?

A VISION OF THE REMEDY

Is there aught of remedy for this neglect of rural life? Let us, at least, yield ourselves to the gratifications of a beautiful dream that there is. In our dream, we have limitless resources, and the people yield themselves with perfect docility to our molding hand. The present educational conventions fade from our minds; and, unhampered by tradition, we work our own good will upon a grateful and responsive rural folk. We shall not try to make these people or any of their children into philosophers or men of learning or of science. We are not to raise up from among them authors, orators, poets, or men of letters. We shall not search for embryo great artists, painters, musicians. Nor will we cherish even the humbler ambition to raise up from among them lawyers, doctors, preachers, politicians, statesmen, of whom we now have ample supply. We are to follow the admonitions of the good apostle, who said, "Mind not high things, but condescend to men of low degree." And generally, with respect to these high things, all that we shall try to do is just to create presently about these country homes an atmosphere and conditions such, that, if by chance a child of genius should spring up from the soil, that genius will surely bud and not be blighted. Putting, therefore, all high things quite behind us, we turn with a sense of freedom and delight to the simple, lowly, needful things that promise well for rural life. For the task that we set before ourselves is a very simple as well as a very beautiful one: to train these people as we find them for a perfectly ideal life just where they are — yes, ideal, for we shall allow ourselves to be extravagant since we are only dreaming; call it idyllic, if you like — an idyllic life under the skies and within the horizon, however narrow, where they first open their eyes. We are to try to make that life, just where it is, healthful, intelligent, efficient, to fill it with thought and purpose, and with a gracious social culture not without its joys.

EVERY INDUSTRY IN A CURRICULUM

Let us take, for illustration, as the rural school unit, a territory or township perhaps six miles square, thirty-six square miles, containing some twenty-five thousand acres and at present one

hundred and fifty families or more. We shall need a group of school buildings, and these we will place as near the centre as possible and for the more distant pupils arrange daily conveyance in groups. We shall need very ample grounds, many acres. We will return to this, for just now we prefer to conceive our school grounds in the ultimate purpose of our work as embracing the entire township, since our school in its aim includes everybody, old as well as young; it is to be in session all the year round, and everyone shall have something yet to learn always before him. Every industry in the district finds place in our curriculum. Every kitchen, barn, dairy, shop, is a laboratory for our school. The growing crops, the orchards, the vineyards, the gardens, the forests, the streams, the domestic animals, nay, even the tools of every farm, are part of our scientific equipment. The horizon forms the walls of our museum of natural history and the sky its roof, and all the life within is material and specimen for our study.

HEALTH THE FIRST LESSON

Our first plans shall be for health, as the basis of all well being and well doing. We shall ferret out the local causes of ill health in the family and in the community, also in plant and animal life. We shall call to our aid, of course, the experts, from the chemical and agricultural colleges and universities, our schools of forestry and of veterinary medicine. They shall examine and report. They shall lecture and demonstrate before us and be in constant correspondence with us. We shall submit to them our too difficult problems and they shall solve them for us.

Closely associated with health is the daily supply of food. "I was an hungered, and ye gave Me meat." It should be sufficiently varied, regularly provided, suitably and appetizingly cooked. Every girl and every boy shall be taught what to eat, how to eat, and how to cook. At least three times a day throughout his life, every one of us must eat, and the question of healthful and nutritious diet is perhaps the most important single question in life. Nor lives the man to whom this very thing is not by Providence designed to be no inconsiderable part of his daily satisfactions. The dear old lady came much nearer the heart of things than many a divinity professor when, being about to pass to her reward and

her pastor asking her which of the divine mercies she felt, at such a time, to have been most precious, she replied, "Well, I have always enjoyed my victuals."

Then comes the question of shelter. "I was a stranger and ye took Me in." We shall teach all that it is necessary to know about the sanitation of a home, from cellar to garret, the need of spotless cleanliness within it, of neatness, taste, and beauty about it. We shall show the value of ventilation, light, warmth and the best methods of securing them. We shall study the question of drainage, sewerage, the disposal of waste, the water supply, infection, its source and prevention. We shall plan model kitchens and model sanitary arrangements, model rural homes. We shall render the home and all its surroundings tasteful, comfortable, and healthful.

The matter of clothing shall not be neglected. "Naked, and ye clothed Me." We shall study cloth, its methods of manufacture, tests of its quality. Every person shall be able to distinguish between the spurious and the genuine and to calculate economy in clothing to a nicety. Every girl shall be taught to cut, fit, and make with her own hands the ordinary clothing of the family. The matter of sanitary clothing is not unimportant. We call to mind that, for a century past, one *Titanic*, at the least, full of children, with some adults, has gone down every month in the South, for lack of knowledge of a few simple facts about the hygiene of rural homes and their surroundings, and for lack of proper clothing for the feet of the children. Our work on hygiene shall be very thorough, penetrative and persistent, North as well as South. We shall have periodic examinations of all the members of our school by qualified experts. We shall teach the hygiene of the various members of the body, the hygiene of the eye, the teeth, the digestive system, the hygiene of sex, of marriage, of infancy, of age. "I was sick, and ye visited Me."

LESSONS IN FARMING

So much for health, for food, for clothing, and for shelter. But rich delights still remain to us. We have only as yet laid the foundations. We are now prepared to teach these children to conquer and to harness nature within their horizon to their service

and to the service of the world. The farm demonstrators of the General Education Board in the South are securing on demonstration farms in each state about double the average yield of cotton per acre. Their knowledge of seed selection and cotton culture, if universally applied, would double the cotton crop and bring to the cotton raiser at the very least $240,000,000 added profits annually. One remarks in passing that this possible increase of $240,000,000 net profit on cotton alone in one year is perhaps four times the entire money value of all the property which all the institutions of higher learning in the cotton belt have amassed in two generations, so complete is their isolation from the life and interests of the people.

The corn clubs of the General Education Board are demonstrating throughout the South that from two to five times the present annual yield per acre may be won from the soil. The same is possible of potatoes. The canning clubs of the same Board are showing profits of from $100 to $250 per acre for the girls of the family. It is very certain that scientific farming, conducted as a business, will multiply the annual net profits of the Southern farmer by at least four. It was a Southern state — North Carolina — that won at the Paris Exposition the first prize for the best apples in the world. In our dream, every horizon, from Virginia to Texas and from Maine to California, shall be studied with regard to its possibilities, both in abundance and variety of products; and similar climates and soils the world over, including the Orient, shall be explored and ransacked for adapted fruits, vegetables, grasses, cereals of value.

We are perhaps ready now to go back to our central school, with its very ample grounds. Ample they will need to be, for the school itself is to be, within the limits of child life, a microcosm of the life of the whole community. Not, indeed, of the life of the community as it is, for the adult population for a time will lag far behind the children. Our school shall be a picture in little of the community as it is to be, in what we called its ideal, its idyllic life. The children themselves shall form a community, with allotments and employments, a common social and perhaps a common manufacturing and commercial life of their own, on these ample grounds. They shall perform for themselves, under the guidance of skilled instructors, those agricultural operations as arts which the best

science of agriculture shall prescribe. They shall all be demonstrators of the highest achievable results in field, garden, kitchen, sewing room, orchard, vineyard, pasture, dairy, lawn, and meadow, not forgetful of the flowers and of the beauty of the landscape.

TEACHING WHAT CHILDREN WANT TO KNOW

As for the school house, we cannot now even plan the building, or rather, group of buildings. Quite likely we would not recognize the future group if the plan were put before us to-day, so different will it be from the traditional school house. For of one thing we may be sure : Our schools will no longer resemble, in their methods and their discipline, institutions of penal servitude. They will not be, as now, places of forced confinement, accompanied by physical and mental torture during six hours of the day. Strait-jackets, now called educational, will no longer thwart and stifle the physical and mental activities of the child. We shall, on the contrary, take the child from the hand of God, the crown and glory of His creative work, by Him pronounced good, and by Jesus blessed. We shall seize the restless activities of his body and mind and, instead of repressing them, we shall stimulate those activities, as the natural forces of growth in action. We shall seek to learn the instincts of the child and reverently to follow and obey them as guides in his development; for those instincts are the Voice of God within him, teaching us the direction of his unfolding. We will harness the natural activities of the child to his natural aspirations, and guide and help him in their realization. The child naturally wishes to do the things that adults do, and therefore the operations of adult life form the imitative plays of the child. The child lives in a dreamland, full of glowing hopes of the future, and seeks anticipatively to live to-day the life of his manhood.

So we will organize our children into a little community and teach them to do in a perfect way the things their fathers and mothers are doing in an imperfect way, in the home, in the shop, on the farm. We shall train the child for the life before him by methods which reach the perfection of their adaptation only when the child shall not be able to distinguish between the pleasures of his school work and the pleasures of his play.

II

NO MORE BRANDING WITH THREE R'S

But how about the three R's? The moment we cease to pursue the three R's as abstract ends, disassociated with anything which the child has experienced, and bring them forward only when and as the child needs to use them in his business, he will pick them up as readily as ball and bat. We are under no extreme necessity of penning children in a room and chaining them to a bench and there branding the three R's upon them. The difficulties of school life, disciplinary and otherwise, are of the teacher's making. They belong to a false method that has become traditional. How do we teach children to use carpenter's tools, for illustration? By studying pictures of these tools in books or by putting the tools themselves into the hands of the children, with material to work upon, and things to make? Precisely so with the three R's. They are nothing in the world but tools. Give them to the children as tools that they now need in something definitely put before them, and they will learn to use them easily and naturally.

THE SCHOOL A COÖPERATIVE DEMOCRACY

But the life is more than meat, as the body is more than raiment. It is in the souls of the children that our purpose rests. Nature studies shall acquaint every child with all that he can take in of that portion of nature which lies about him, in the waters below him, in the clouds and skies above him. The children shall learn the names of all the trees, their leaves, the peculiarities of their branching, their methods of growth, their value and use; the names also of all the wild birds, their songs and their habits. Curiosity shall be aroused about the mysteries in the waters, in the fields, and in the forests. Insect life not less than plant life shall disclose wondrous secrets to their eager eyes, so that the minds of the children shall be filled with interesting themes of thought, and their glance, wherever it falls, shall beam with intelligence and inquiry. So the children shall be kept from torpor and vacancy of mind. The breath of life shall be breathed into their clay, and they shall at last become living souls.

Ruskin has somewhere said that education does not consist in teaching people to know what they do not know, but in teaching

them to behave as they do not behave mentally, morally, physically, socially. In our little microcosm of life, the children shall form an ideal society. Their life shall be developed and perfected individually through a close-knit social life. The child shall not be riveted to his separate spot; he shall not be forbidden to speak or to whisper; he shall not be warned not to afford help to any unfortunate near by; the instinct to render first aid to the injured, so to speak, shall not be repressed. Far from that, the first social principle of our school shall be to encourage the children to aid each other as freely as possible. Indeed, much of the teaching will be done under supervision by means of mutual assistance of the pupils. Doubtless the pupil groups will have their own pupil captains, as they have their baseball captains. This free social life of the children during all the hours of the school, conducted mainly out of doors, will form an ideal laboratory of manners and of character, affording opportunity for the sweetest social culture, courtesy, helpfulness, gentleness, deference, truth, reverence, honor, chivalry. These virtues shall form the breath and atmosphere of our child community.

THE ART OF RECREATION

A new science or a new art, just now in process, perhaps not yet come to self-consciousness, shall be fully developed for our schools — the art of recreation for young and old, for all pursuits, for all seasons, for both sexes, indoors, out of doors. Some sweet, healthful, happy, adapted recreation shall enter into the programme, not occasionally, but every day, for young and old alike. Ultimately, there will be professors of popular recreation. They shall be sent to us from the colleges, to teach us all the ways of relief from strain and tedium, precisely adapted. And all together we shall have our weekly half holiday for community recreations.

Beauty, too, we shall cultivate no less than recreation. It is delightful to know that the sense of beauty in sight and sound is instinctive in mankind, ineradicable, fundamental as hunger. Deeper than intelligence it lies in our physical being, and runs down from mankind through many orders to the very insects. The sense of beauty in our rural children, as yet almost uncultivated and undeveloped, is a promising field of joy and blessedness.

Accordingly, there shall be music, vocal and instrumental. We shall have an orchestra, if possible a band, a chorus — and dancing shall be taught in utmost grace of movement, beginning with the littlest children, singly and in groups. The laws of beauty are indeed little known as yet, but scenes of beauty shall everywhere be pointed out and analyzed and dwelt upon to the full, and the art of drawing them shall be offered to all, as a means of close observation, of analysis, and of more perfect recognition and enjoyment of beauty.

So we have brought our little community at last to art and refinement. Such a people will demand literature and a library of their own. And when they begin to select and to read good books for themselves, our particular task will be done. We may leave them then, I think, to their natural local leaders. We have taught them how to live the life of the farm, of the fireside, of the rural community, to make it healthful, intelligent, efficient, productive, social, and no longer isolated. We have wakened sluggishness to interest and inquiry. We have given the mind, in the intelligent conduct of the daily vocation, in the study and enjoyment of nature, material for some of the joys of the intellectual life. We have trained the eye for beauty, the ear for harmony, the soul for gentleness and courtesy, and made possible to these least of Christ's brethren the life of love and joy and admiration. We have made country life more desirable than city life and raised up in the country the natural aristocracy of the nation.

Such is our dream. Must it be altogether a dream? Surely, it ought to be and, therefore, will be, realized, if not in its processes — and I have described processes at all mainly for pictorial effect — certainly in its results. If it be an achievement beyond our present civilization, then our more enlightened and capable children will certainly accomplish it. Come, in the end, it must and will.

But the cost? The cost in money will be limited; the gain in money will be limitless. The farm demonstrations of scientific agriculture in the South are showing average gains of $10 to $30 per acre on soil cultivated by demonstration methods. The farmers themselves, therefore, could well afford in the end to pay the expense. The railroads alone could do it, out of their increased traffic created thereby. A selected group of manufacturers,

another group of exporters and importers, another group of wholesale merchants, another of retail merchants, could each afford to pay the whole expense, as a commercial investment for profit. And so the state, by general taxation of land, industry, trade, and commerce (for all would be alike benefited) could well afford to foot the bill; or the group of states forming the nation could individually pay.

UTILIZING THE COLLEGE-BRED YOUTH

We shall have to look to our colleges and universities to furnish teachers. We have elaborate and effective apparatus, worked with fervid zeal, for the world-wide extension of our civilization. Also, for the extension downward of the blessings of civilization through the masses of our own people, we have powerful, costly, and effective apparatus, educational and religious, all being run with much acclaim. But the machine, as we have seen, seems to be running on the reverse gears. Instead of carrying the fruits of civilization downward to the homes of the people, the system as now run is accurately adjusted to take out of the homes of the people a few of the choicer youths, to civilize these and to carry them to the top, there to group and cohere as social cream. Thus, the common school is adapted to select pupils for the high school. The high school is adjusted to select and send up annually to the college a quota of students prepared in the fourteen units required for college entrance by the Carnegie pension system. The college, in turn, finds its ends in the sheepskin and the cap and gown.

The ancient scribes of Jerusalem likewise, not a religious order like the Pharisees, were a learned order. They were graduates of one or the other of the two ancient seats of learning at Jerusalem, founded in the days of Nehemiah. Their long robes were, in fact, the academic gown — then, as now, the badge of learning. Beware of the scribes, who desire to walk in academic gowns and receive salutations in the marketplaces and the chief places in the synagogue and the first places at social functions. Their learning, their doctors' degrees, their academic gowns, find their end in livelihood, in personal distinction, in social advancement, and not in the enrichment and uplift of the common life. Such was Christ's criticism of the formal learning of his day. The useful-

ness of the college too often ends quite precisely when and where it ought to begin. The shepherds are trained, but the sheep go shepherdless. When the spirit of education shall be changed, as it will be, then the direction in which the machine works will be reversed, and the colleges will studiously employ themselves in carrying civilization with all its blessings downward to the people on the soil. If schools of rural life spring up in numbers, the colleges will not be slow to adopt them and to nourish them with all that is best and most helpful from their ample store. Our leading educators are eager to escape from outworn traditions, in which they are enmeshed. The college campus will extend to the boundary line of the state, so as to include all its industries, its farms and its households. Some changes there will be, perhaps, in the curriculum, some additions, quite likely in the direction of applied science, some transfers of emphasis, no lowering, but rather full high advancing of standards of scholarship, culture, discipline, research, because all will be dedicated to high and rewarding ends.

In the state of Wisconsin, now perhaps the best governed of all our states, the University writes the laws that go on the statute books, University professors guide and control the main departments of state administration and inquiry; there is no limit to the financial resources which a grateful people are placing at the disposal of learning, thus consecrated to the service of the commonwealth. Our more ancient seats of learning pride themselves justly on their antiquity, on their dignity, on the reverence in which they are held, on the great names that have been and are associated with them. But it is yet theirs to reign over empires now undreamed; to inherit a kingdom that has awaited them from the foundation of the world; to write the laws of obedient states; to know the love of a reverent, grateful, and generous people; to

> "Scatter plenty o'er a smiling land
> And read their history in a nation's eyes."

PUBLICATIONS OF THE GENERAL EDUCATION BOARD

OCCASIONAL PAPERS, No. 2

CHANGES NEEDED IN AMERICAN SECONDARY EDUCATION

BY
CHARLES W. ELIOT

GENERAL EDUCATION BOARD
61 BROADWAY NEW YORK CITY
1916

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Report of the Secretary of the General Education Board, 1914-1915.

A Modern School, By ABRAHAM FLEXNER.

CHANGES NEEDED IN AMERICAN SECONDARY EDUCATION

BY

CHARLES W. ELIOT

THE prevailing programmes in American secondary schools contain many valuable features. It is the purpose of this essay to set forth certain much-needed amendments of these programmes.

The best part of all human knowledge has come by exact and studied observation made through the senses of sight, hearing, taste, smell, and touch. The most important part of education has always been the training of the senses through which that best part of knowledge comes. This training has two precious results in the individual besides the faculty of accurate observation—one the acquisition of some sort of skill, the other the habit of careful reflection and measured reasoning which results in precise statement and record.

A baby spends all its waking time in learning to use its senses, and to reason correctly from the evidence of its senses. At first, it reaches after objects near by and far off alike, but gradually learns to judge by the eye whether or not it can reach the object seen. It tries to put everything into its mouth, perhaps in an effort to estimate size and shape correctly—which at first it cannot accomplish by the eye alone as the adult does, nor satisfactorily to itself even by the hand—or else to renew some of the agreeable sensations as to flavor or texture which it has already experienced,

or possibly to rub its gums against something which feels cool and smooth. The baby's assiduity in observation and experimentation, and the rapidity of its progress in sense-training are probably never matched in after life. Its mind is also trained fast; because it is constantly practising the mental interpretation of the phenomena which its senses present to it.

The boy on a farm has admirable opportunities to train eye, ear, and hand; because he can always be looking at the sky and the soils, the woods, the crops, and the forests, having familiar intercourse with many domestic animals, using various tools, listening to the innumerable sweet sounds which wind, water, birds, and insects make on the countryside, and in his holidays hunting, fishing, and roaming.

Increasing skill in the use of the hands and fingers has undoubtedly had much to do with the development of the human mind ever since man first stood erect, and set free from foot work his fingers and their opposing thumb. One of the best methods of developing the minds of children is practice in the coördinated activities of the brain and the hand. If brain, eye, and hand are coöperating, the developing mental effect is increased; and the mental action and reaction is stronger still when eyes, ears, and hands, and the whole nervous system, the memory, and the discriminating judgment are at work together.

The fundamental trades—such as those of the carpenter, mason, blacksmith, wheelwright, painter, hand leather-worker, and shoemaker, have provided immensely valuable education for the human race, and have, indeed, been the chief means of raising barbarous peoples to a condition of approximate civilization. To-day the teaching of those trades, without much use of machinery, is the best mode of developing the natural powers of a backward people—like the North American Indians and the negroes. When a Hindu father transmits to his son not only his caste with all its privileges and its restrictions, but also his hand-trade—such, for example, as that of a goldsmith or a potter, he imparts to his son under a religious sanction some of the most important elements in a sound education. East Indian civilization has been in great part transmitted in this way. The European guilds with their elaborate rules about apprenticeship contributed strongly for centuries to the education of the people through trades, before public schools

and education for the masses through books and reading had been thought of.

There have of course been civilizations which had but slight foundations, apart from military force, except a strong development of linguistic, philosophical, or theological studies; but even these civilizations have generally developed also to a high degree some fine art, like architecture, sculpture, or ceramic art, which requires keen observation and no little skill. Moreover, none of these civilizations were so firmly founded as our own; for they had not attained to the scientific conception of truth, or to the inductive method of arriving at truth. It should be the great advantage of modern education that it has learnt to combine the training of the powers of observation with an accurate use of language and the best kind of memory work.

In noble and rich families some training of the senses was obtained all through feudal times; because the men were brought up to war and the chase, and the women not only shared in some degree the sports of the men, but acquired the manual skill which sewing, knitting, hand-weaving, and embroidering demand. Even before the invention of gunpowder, success in war demanded the skilful use of trained senses in accurate and quick observation. Hunting and fishing have from the earliest times provided all sorts and conditions of men with admirable training of alert senses.

In respect to the training of their senses the children of well-to-do parents nowadays are often worse off than the children of the poor; because they are not called upon to perform services in the household or on the farm which give practice in accurate observation and manual dexterity.

The advent of mechanical power and machinery has greatly impaired the educational value of many trades; and this impairment has become so common that it may almost be called universal. The accurate joints a carpenter used to make by the careful use of his own eyes and hands are now made by machines almost without human intervention. The horseshoes which a blacksmith used to turn by hand on his anvil, and temper in his own little fire with an accurate appreciation of the changing tints of the hot metal, are now turned out by machinery by the hundred thousand, almost without touch of human hand or glance of human eye. Tending machinery is, as a rule, less instructive for the workman than hand-

work of the old-fashioned sort, unless, indeed, the machine is complex, and the product liable to imperfections. In that case the working of the machine must be closely watched by trained human senses. The ordinary uniformity of a machine product is due to invariability in the action of the machine; and this invariability is a main object from the point of view of the inventor or the proprietor; but that same invariability makes the tending of the machine of little use in the education of the human being that tends it—child, woman, or man. In certain industries a young man may learn in two or three days to make the few almost automatic movements which the right tending of his machine demands; and then may go on for years tending that same machine. Any ambitious or even prudent young man will try to escape as soon as possible from that sort of work. There is in it no training of the senses, no progress, and no joy in work.

The difference between a good workman and a poor one in farming, mining, or manufacturing is the difference between the man who possesses well-trained senses and good judgment in using them, and the man who does not. The valuable farm-hand is the man that can drive a straight furrow with a plough and a pair of mules, or can follow accurately in parallel curves the contours of the land while ploughing. The good hand-fisherman is the man who can feel correctly what is going on at the fishhook out of sight, and can make his motor nerves react quickly to what he feels there. The successful hunter is the man who can not only organize a well-devised drive, but can shoot surely the instant the game comes in sight. It is the blacksmith who has the sure touch with his hammer and the quick sight of the right tint on the heated drills who can sharpen three sets of quarryman's drills, while another man sharpens one.

It follows from these considerations that the training of the senses should always have been a prime object in human education at every stage from primary to professional. That prime object it has never been, and is not to-day. The kind of education the modern world has inherited from ancient times was based chiefly on literature. Its principal materials, besides some elementary mathematics, were sacred and profane writings, both prose and poetry, including descriptive narration, history, philosophy, and

religion; but accompanying this tradition of language and literature was another highly useful transmission from ancient times—the study of the Fine Arts, with the many kinds of skill that are indispensable to artistic creation. Wherever in Europe the cultivation of the Fine Arts has survived in vigor, there the varied skill of the artist in music, painting, sculpture, and architecture has been a saving element in national education, although it affected strongly only a limited number of persons. The English nation was less influenced by artistic culture than the nations of the continent. American secondary and higher education copied English models, and were also injuriously affected by the Puritan, Genevan, Scotch-Presbyterian, and Quaker disdain for the Fine Arts. As a result the programmes of secondary schools in the United States allotted only an insignificant portion of school time to the cultivation of the perceptive power through music and drawing; and, until lately, boys and girls in secondary schools did not have their attention directed to the Fine Arts by any outside or voluntary organizations. As a rule, the young men admitted to American colleges can neither draw nor sing; and they possess no other skill of eye, ear, or hand. A high degree of skill in athletic sports is acquired only by exceptional persons; and the skill itself is of a coarser kind than that needed by the artist and the skilled workman.

Since the middle of the eighteenth century a new element in the education of the white race has been developing, slowly for a hundred years but rapidly during the past fifty. This new element is physical, chemical, and biological science. Through the study of these subjects the medical profession has been revolutionized and several new professions of high value have been created—such as that of the chemist, of the engineer—civil, mechanical, electrical, or metallurgical—and of the forester. Through the radical work of great inventors and discoverers and of these new professions, all the large industries and transportation methods of the world, and therefore the commerce of the world, have been so changed that the producers and traders of times preceding 1850 would find, if they should revisit the scenes of their labors, that the processes by which they made their livings or their fortunes had completely disappeared. This prodigious change should have instructed the makers of programmes for schools and colleges maintained by

nations which were undergoing this great revolution in regard to their means of livelihood; but for the most part professional educators have been, and still are, blind to the necessity of a corresponding reformation or revision of the processes of education.

There is one profession, however, in which the educational processes have been adequately changed, but only within recent years, namely—the profession of medicine. The reason for the comparatively early improvement of medical education is that the medical art has always depended for such measure of success as it attained on the physician's power of accurate observation, and his faculty of reasoning cautiously and soundly on the testimony which his senses gave him. From remotest times the successful physician has been by nature a naturalist. He saw and heard straight, and his touch gave him trustworthy information. He has still, and must always have, the naturalist's temperament, and he must possess the naturalist's trained senses. The reason that medicine and surgery have within twenty-five years made such astonishing progress is that the practitioner, possessing the senses and mental habits of the naturalist, has been supplied through the progress of biological, chemical, and physical science with wonderful new means of accurate diagnosis. The training the medical student now receives is largely individual training in the use of his senses; and this training is given by experts in the use of their own eyes, ears, and hands in diagnosis and treatment. The just reasoning follows on the trustworthy observation. What has already been done in medical education needs to be done in all other forms of education, whether for trades or for professions, whether for occupations chiefly manual or for those chiefly mental.

The great increase of urban population at the expense of rural which has taken place during the past sixty years, with the accompanying growth of factories and the crowding together of the working people and their families, has resulted, so far as schools and colleges are concerned, in placing more children and youths than formerly under the influence of systematic education and keeping them there for a longer period; but this improvement has been accompanied by a decline in the amount and quality of the sense-training which children and adolescents have received. An increasing proportion of children goes to the high schools, academies, and colleges; but the farm now teaches but a small proportion

of the children born to the nation, and the urban family cannot train the children's senses in so effective and wholesome ways as the rural family could. In cities and large towns the trade which a boy chooses, or is assigned to, no longer demands for admission a prolonged apprenticeship. Machinery turns out an ample product without the need of much skilled labor. The general result is an inadequate training of the senses of the rising generation for accurate and quick observation. Unfortunately, the schools, which might have come to the rescue of the children, have for the most part clung to the traditional programmes which rely chiefly on studies that train the memory and the powers of discrimination and analysis, but do not drill children in seeing and hearing correctly, in touching deftly and rapidly, and in drawing the right inferences from the testimony of their senses.

In recent years, on account of the complexities, urgencies, and numerous accidents of urban life, there has been a striking revelation of the untrustworthiness of human testimony, not because witnesses intended to deceive, but because they were unable to see, hear, or describe accurately what really happened in their presence. This is probably an old difficulty; but it has been freshly brought to public attention by the numerous cases of conflicting testimony developed in courts, and before commissions of inquiry, medical examiners, and police authorities. Indeed, in such investigations it is well-nigh the rule that the testimony of the different witnesses not only presents many variations of detail, but is often discordant and even contradictory. The investigators have to rely chiefly, not on what the witnesses testify occurred at the moment, but on what careful observers can subsequently learn from the actual state of the wreck, and the condition of the dead, the wounded, and the more or less injured survivors. This inability to see, hear, and describe correctly is not at all confined to uneducated people. On the contrary, it is often found in men and women whose education has been prolonged and thorough, but never contained any significant element of sense-training. Many highly educated American ministers, lawyers, and teachers have never received any scientific training, have never used any instrument of precision, possess no manual skill whatever, and cannot draw, sing, or play on a musical instrument. Their entire education has dwelt in the region of language, literature, philosophy, and history, with limited

excursions into the field of mathematics. Many an elderly professional man, looking back on his education and examining his own habits of thought and of expression, perceives that his senses were never trained to act with precision, that his habits of thought permit vagueness, obscurity, and inaccuracy, and that his spoken or written statement lacks that measured, cautious, candid, simple quality which the scientific spirit fosters and inculcates. Such a deplorable result ought not to have been possible; but it has been unavoidable by the individual, whether child or parent, because the programmes of secondary schools still cling almost exclusively to the memory subjects and the elements of mathematics, and college students are apt to adhere in college to the mental habits they acquired at school. The ordinary student does not venture into untried fields, because he feels more secure in the familiar.

If any one should ask—why has modern society got on as well as it has, if the great majority of its members have had an inadequate training in the use of their senses or no systematic training of that sort, the answer is that some voluntary agencies and some influences which take strong effect on sections of the community have been at work to mitigate the evil. Such are, for example, athletic sports, travel, the use by city people of public parks and gardens, the practice of that alert watchfulness which the risks of crowded thoroughfares and of the dangerous industries compel, and the training of the senses which any man who practises well a manual trade obtains on the way. Many of the household arts also give a good training in the careful seeing and handling which lead to accurate perception. The problem is now how to make systematic secondary education support and better these incidental influences, and how to coördinate sense-training with accurate reasoning and retentive memorizing.

In urging the training of the senses, the educator must never lose sight of the fact that mental vigor does not necessarily result from bodily work alone, whether handwork or work in directing machines. Many persons work all their lives with a moderate amount of manual skill, who never develop any considerable faculty of discrimination or of sound judgment. Whole tribes and nations have done fine handwork for generations, and yet never developed intellectual superiority. If one had to choose

between training the senses and training the memory and the language powers, one would choose the latter; but both are indispensable to the best results in education. Neither depends for its educational value on imparting information; each supplies an indispensable discipline for the human intelligence.

A survey of the programmes of the existing American secondary schools—public, private, and endowed—would show that as a rule they pay little attention to the training of the senses, and provide small opportunities for acquiring any skill of eye, ear, or hand, or any acquaintance with the accurate recording and cautious reasoning which modern science prescribes. To make, or read, a complete survey of these programmes would be a dull and heavy task; but the demonstration needed for the purpose of the present essay can be readily given by analyzing the programmes of a few typical schools and academies. Such an analysis of the programmes and regulations of twelve different schools and one group of kindred schools is given in the Appendix, the general result being that the secondary schools are giving not more than from one tenth to one sixth of their force to observational, sense-training subjects. Any school superintendent, teacher, or committeeman can verify the results of this analysis in any secondary schools with which he is acquainted.

The changes which ought to be made immediately in the programmes of American secondary schools, in order to correct the glaring deficiencies of the present programmes, are chiefly: the introduction of more hand, ear, and eye work—such as drawing, carpentry, turning, music, sewing, and cooking, and the giving of much more time to the sciences of observation—chemistry, physics, biology, and geography—not political, but geological and ethnographical geography. These sciences should be taught in the most concrete manner possible—that is in laboratories with ample experimenting done by the individual pupil with his own eyes and hands, and in the field through the pupil's own observation guided by expert leaders. In secondary schools situated in the country the elements of agriculture should have an important place in the programme, and the pupils should all work in the school gardens and experimental plots, both individually and in coöperation with

others. In city schools a manual training should be given which would prepare a boy for any one of many different trades, not by familiarizing him with the details of actual work in any trade, but by giving him an all-round bodily vigor, a nervous system capable of multiform coördinated efforts, a liking for doing his best in competition with mates, and a widely applicable skill of eye and hand. Again, music should be given a substantial place in the programme of every secondary school, in order that all the pupils may learn musical notation, and may get much practice in reading music and in singing. Drawing, both freehand and mechanical, should be given ample time in every secondary school programme; because it is an admirable mode of expression which supplements language and is often to be preferred to it, lies at the foundation of excellence in many arts and trades, affords simultaneously good training for both eye and hand, and gives much enjoyment throughout life to the possessor of even a moderate amount of skill.

Drawing and music, like other Fine Art studies, were regarded by the Puritan settlers of New England and by all their social and religious kindred as superfluities, which, if not positively evil, were still of wasteful or harmful tendency, and were, therefore, to be kept out of every course of education. By many teachers and educational administrators music and drawing are still regarded as fads or trivial accomplishments not worthy to rank as substantial educational material; whereas, they are important features in the outfit of every human being who means to be cultivated, efficient, and rationally happy. In consequence, many native Americans have grown up without musical faculty and without any power to draw or sketch, and so without the high capacity for enjoyment, and for giving joy, which even a moderate acquaintance with these arts imparts. This is a disaster which has much diminished the happiness of the native American stock. It is high time that the American school—urban or rural, mechanical, commercial, or classical, public, private, or endowed—set earnestly to work to repair this great loss and damage. Although considerable improvements have been recently made in the programmes of American secondary schools, especially within the past ten years or since vocational training has been much discussed, multitudes of Americans continue to regard the sense-training subjects as fads and superfluities. They say: the public elementary schools should teach thoroughly

reading, writing, spelling, and arithmetic, and let natural science, drawing, music, domestic arts and crafts, and manual training severely alone. Let the secondary schools teach thoroughly English, Latin, American history, and mathematics, with a dash of economics and civics, and cease to encumber their programmes with bits of the new sciences and the new sociology. This doctrine is dangerously conservative; for it would restrict the rising generations to memory studies, and give them no real acquaintance with the sciences and arts which within a hundred years have revolutionized all the industries of the white race, modified profoundly all the political and ethical conceptions of the freedom-loving peoples, and added wonderfully to the productive capacity of Europe and America.

If any one asks how it can be possible that these new subjects, all time-consuming, should be introduced into the existing secondary schools of the United States, the answer—adequate, though not easy to put into practice—is, first, that the memory subjects and the mathematics should be somewhat reduced as regards number of assigned periods in the week; secondly, that afternoon hours should be utilized, or, in other words, that the school day should be lengthened; and thirdly, that the long summer vacation should be reduced. It is worse than absurd to turn city children into the streets for more than two months every summer. Since the new subjects all require bodily as well as mental exertion, they can be added to the memory subjects without any risk to the health of the children, provided that the shops, laboratories, and exercising rooms be kept cool and well ventilated. In rural schools a good part of the new work in sowing, planting, cultivating the ground, and harvesting must be done out of doors. The observational, manual, and scientific subjects often awaken in a boy or young man for the first time an intellectual interest and zeal in work which memory studies have never stirred. Hand and eye work often develops a power of concentrated attention which book work had failed to produce, but which can be transferred to book work when once created. All the new subjects require vigorous and constant use of the memory, and give much practice in exact recording, and in drawing only the limited and legitimate inference from the recorded facts.

If the educational material and the method of instruction were right, the training given in the grades would be just as good for the

children who leave school at fourteen as for those who go on till eighteen, and the training in the high school would be equally appropriate for pupils who do not go to college and for those who do. The progressive sense-training from beginning to end of systematic education is desirable for all pupils, whatever their destinations in after life, and should prepare every pupil for his best entrance on earning a livelihood, at whatever age that necessity is to come upon him. It should be the same with the language and history studies in every public school programme. At every stage, or in every grade, they should be suitable for every pupil no matter what his destination. Flexibility and adaptation to individual needs would still be necessary in the programmes, first, in order to enable the individual pupil to concentrate on the studies he prefers and excels in, and, secondly, to enable pupils of different capacity to advance at different rates. The adoption of these principles would solve justly problems in the American tax-supported system of public education which have been in debate for generations.

Every school plant, whether in city or country, should be used, not only by the regular pupils between the hours of eight or half-past eight and four or half-past four, but by older youths and adults at hours outside the working time in the prevailing industries of the town or city where the school is situated. Many efforts are now being made to introduce continuation schools and to develop evening schools; but these efforts should become universal, and should result speedily in a large extension of the American public school system. Moreover, the fundamental object of the proposed changes in the programmes should be distinctly recognized—the better training of the senses.

The suggested changes in American school programmes will not make public school life harder or more fatiguing for the pupils. On the contrary, observational study and concrete teaching are more interesting to both children and adults than memory study of any sort; and whenever the interest of pupils is aroused it brings out more concentrated attention and harder work, but causes less fatigue. The obvious utility of mental labor directed to a practical end increases the interest the pupils take in their work, and stimulates them to effective effort. To use a good tool or machine, and get the results it is competent to produce when in skilful hands, is vastly more interesting than reading or hearing about the uses of

such a tool or machine. Whenever by the use of observational and concrete methods the pupils' power of attention and of concentrated effort is developed, that power of attention once acquired can be exercised in other subjects. This principle holds true not only of manual or bodily labor, but also of games and sports, and of coöperation in rhythmical movements like dancing. The power of concentrated attention won in carpentry, turning, forging, or farm work is easily transferred to work in reading, writing, and ciphering, or at a later stage in history, literature, and civics; so that the reduction in the so-called academic studies made to allow the introduction of observational studies need not result in less attainment in the academic studies themselves.

These changes will all add to the annual cost of the schools, because much of the new instruction must be given to the individual pupil, treated by himself, and not as a member of a numerous class. In short, the example of the modern medical school, which needs to be imitated in all schools, teaches that good training of the senses is more costly than the ancient classwork with books and lectures. The cost of town and city school systems will be also increased by the necessity of employing a larger number of teachers, if the schools are to be kept at work evenings, as well as daytimes, and during forty-six weeks of the year instead of forty-one. Indeed, the chief item in the increased cost in city schools, consequent on the introduction of sense-training and observational studies, would be in the salary list. More teachers would be required and a larger proportion of them would be men. The new teachers would be good mechanics, well-trained laboratory assistants, and naturalists competent to teach botany, zoölogy, and geology on walks and excursions with the pupils. To provide these teachers in sufficient numbers, the programmes of normal schools would need to be considerably modified; so that it would probably be necessary to wait for the production of an adequate number of teachers competent to give the new kinds of instruction. The prime object being to give all pupils a correct conception of the modern scientific method, and sound practice in using it, the teachers themselves must understand that method, and be bred to its constant use. It is possible to deaden any subject as a means of mental training, and science and the Fine Arts just as easily as the classics, history, geography, or arithmetic. It is quite possible to teach observa-

tional subjects in a memoriter, unreasoning way, and without imparting the essential moralities of freedom and brotherhood. Such teaching would defeat the object of the proposed reform. On the other hand, some of the traditional subjects may be taught in a concrete way, which really enlarges the field of observational study, when once the pupil has mastered the observational method in regions within sight and touch; just as printed cases in medical practice which give all the symptoms and facts in each case may be used to supplement bedside study of actual patients. The printed cases would be of no use to students who had never seen an actual case, or had never themselves made up the record of an actual case for the use of the visiting physician. So when pupils in a secondary school have once mastered a portion of the history of their own country by the study of personages, places, pictures, speeches, charts, and diagrams, they can safely use their imaginations to clothe and vivify the history of other times and peoples, and particularly the biographies of famous men. This is a legitimate enlargement of a true observational method. By mixing geometry with arithmetic and with algebra the teaching of elementary mathematics may be much enlivened, the concrete illustrations apprehended by sight or touch vivifying the abstract numbers or quantities.

For this great improvement in the conduct of American secondary schools a good deal of preparation has already been made. The new schools of Mechanic Arts, the Trade Schools, the various endowed Institutes for giving a sound training in applied science, and such institutions as Hampton Institute and Tuskegee Institute are showing how to learn by actual seeing, hearing, touching, and doing, instead of by reading and committing to memory. They have proved that the mental powers, as well as the bodily powers, are strongly developed by the kind of instruction they give; so that nobody need apprehend that reduced attention to memory subjects, with increased attention to the training of the senses, the muscles, and the nerves will result in a smaller capacity for sound thinking and for the exercise of an animating good-will.

There has not infrequently been much disappointment as to the effect on the mental powers of the pupils of the new courses in scientific subjects and the new instruction in drawing, carpentry, forging,

moulding, and so forth, which have already been introduced into American secondary schools. The reason for these disappointments is the imperfect manner in which the new instruction has been given. It is indispensable to success with the new subjects that the pupils should use their own eyes, ears, and hands, and themselves describe and coördinate their own observations. In the study of their own results they must apply their own powers of discrimination, memory, and expression. It is the combined action of senses, reasoning, and memory, which alone gives the true result in the pupil. The real educational use of any concrete experience requires reflection on its significance, and finally the firm holding in the memory of the results of both observation and reflection.

It is not the secondary school alone which needs to be reformed —the elementary school needs to set a different standard of attainment, not lower or easier, but rather higher and harder—a standard in which the training of the senses shall be an important element. If the new secondary schools are to accomplish their rational objects, they must rest on new elementary schools which utilize the spontaneous aptitudes of childhood—for the acquisition of modern languages, for example. As to the American college, it may be said to have already abandoned the traditional four years' programme of linguistic, literary, and mathematical studies with a dash of history and philosophy; and many colleges now require for admission the elements of some scientific subject. As a whole, the colleges have already begun to attend to the training of the senses by introducing a considerable variety of elective courses in science; but the changes already introduced do not afford the mass of the students adequate opportunities to remedy the deficiencies in the training they received in their schools. Moreover, to begin that systematic training of the senses at the college age is not the most advantageous arrangement.

If the elementary and secondary schools served well boys and girls from six to eighteen years of age, the main reform would in time be accomplished. It is but a small percentage of the youth of the country that go to the colleges and the higher technical schools; and the parents of this small percentage are often able to provide their children with opportunities for securing, outside of their systematic education, a well-coördinated use of all their senses and nerves—such as a violinist, organist, pilot, locomotive engineer,

or sharpshooter requires. The educational publicist must keep in mind the interests of the 95 per cent. of the children, rather than those of the 5 per cent.; for it is on the wise treatment of the mass of the population during youth that a modern democracy must rely for assuring the public health, prosperity, and happiness.

It must not be imagined that any advocate of more sense-training in education expects to see diminished the exercise of the reasoning powers or of the motive powers which distinguish Man from the other animals, or to see impaired Man's faith in the spiritual unity of the world, or his sense of duty toward fellowmen, or his active sympathy with them. The devotees of natural and physical science during the last hundred and fifty years have not shown themselves inferior to any other class of men in their power to reason and to will, and have shown themselves superior to any other class of men in respect to the value or worth to society of the product of those powers. The men who, since the nineteenth century began, have done most for the human race through the right use of their reasons, imaginations, and wills are the men of science, the artists, and the skilled craftsmen, not the metaphysicians, the orators, the historians, or the rulers. In modern times the most beneficent of the rulers have been men who shared in some degree the new scientific spirit; and the same is true of the metaphysicians. As to the real poets, teachers of religion, and other men of genius, their best work has the scientific quality of precision and truthfulness; and their rhetorical or oratorical work is only their second best. The best poetry of the last three centuries perfectly illustrates this general truth. Shakespeare wrote:

"I know a bank whereon the wild thyme grows."

The florists now tell us that thyme will not thrive except on a bank. George Herbert wrote:

"Sweet day, so cool, so calm, so bright;
The bridal of the earth and sky.
The dews shall weep thy fall to-night,
For thou must die."

Precision of statement could not go further; thought and word are perfectly accurate. Emerson said to the rhodora:

"The self-same power that brought me here, brought you."

A more accurate description of the universal Providence could not be given. Even martial poetry often possesses the same absolute accuracy:

"Oh! Tiber, Father Tiber,
To whom the Romans pray,
A Roman's life, a Roman's arms,
Take thou in charge this day!"

"Cannon to right of them,
Cannon to left of them,
Volleyed and thundered,
Into the jaws of Death
Rode the six hundred."

When human emotions are to be stirred, and human wills inspired, it is the simple, convincing statement which moves most, and lasts longest:

"Greater love hath no man than this: that
a man lay down his life for his friends."

The most exact, complete, satisfying, and influential description of true neighborliness in all literature is the parable of the Good Samaritan:

"Which of these three, thinkest thou, proved neighbor
unto him that fell among the robbers? And he said,
He that showed mercy on him. And Jesus said unto him,
Go, and do thou likewise."

It is an important lesson to be drawn from the Great War that under the passionate excitements and tremendous strains of the wide-spread disaster, the medical profession and the nurses of all countries are holding firmly to that exact definition of the neighbor, and are obeying strictly the command, "Do thou likewise." These are men and women who have received thorough training of the senses without suffering any loss of quick sympathy or of humane devotion.

Rhetorical exaggeration, paradox, hyperbole, and rhapsody doubtless have their uses in moving to immediate action masses of ordinary men and women; but they are not the finest weapons of the teacher and moralist:

"Speaks for itself the fact,
As unrelenting Nature leaves
Her every act!"

APPENDIX

The proportion of attention given to observational and scientific subjects in secondary schools in comparison with that given to linguistic, literary, mathematical, and historical subjects, may be illustrated by analysis of the programmes of a few typical schools.

In a New York high school which maintains the traditional four years' high school course, and a course intended to prepare for commercial work, the number of recitation periods offered in the four years are respectively 21, 25, 25, and 35—a total of 106; and out of these 106 periods each pupil is required to attend 72 periods, being 18 periods per week throughout the four years. The number of options is small during the first three years, but large in the fourth year. Out of these 106 periods, 24 had some possible element of observational work; but these could all be avoided by any pupil who wished to do so, unless, indeed, the pupil was hoping to enter a college which demanded the elements of some one science for admission. There were in the school no laboratories for physics, chemistry, or biology. The commercial course contained only $77\frac{1}{2}$ periods, of which 72 were required. Of the $77\frac{1}{2}$ periods, 10 had possibly, but not necessarily, some element of observational work. This school has lately come into possession of a new building which contains well-equipped laboratories for physics, chemistry, and biology, and is this year (1915–16) offering for the first time a noteworthy course in agriculture which includes 13 periods of English, 10 of history, and 10 of mathematics, but also 10 for science and 30 for agriculture, including laboratory and shop work, field trips, project work at home, and classroom work. The instructor for agriculture is engaged for the entire year, and will spend his summer with the boys who pursue the Agricultural Course.

In an excellent high school in an important western city there were in 1914–15 34 teachers who gave full time on the weekly programme of the school, of whom

1 taught physics with the laboratory method
1 chemistry with the laboratory method
1 zoölogy and physiology with the laboratory method
2 mechanical drawing and manual arts, and
1 free-hand drawing.

Thus, about one sixth of the actual teaching force was teaching subjects which might fairly be called observational. This school maintains a "Normal Course" which requires a good two years' course in free-hand drawing, given five days in the week, for forty minutes a day. There being no prescribed outline of work in music, the different high schools in this city make out each its own course in music. One of them maintains an excellent course in music covering the first two years out of the four; but the high school, the composition of whose staff is partially analyzed above, gave no course in music because of lack of accommodations. In general, a course in music is required of pupils in this city only if they select that high school course which is called the "Normal Course." Free-hand drawing is not required except in the "Normal Course." Since the city provides in its high schools more instruction than any one pupil can take, it is possible for pupils to graduate creditably from a high school without having devoted even one sixth of their time to observational studies.

In another large western city the high schools provide seven different courses, among which each pupil chooses one. In three of these courses memory studies have the usual preponderance; but in the other four, called Art, Manual Training, Domestic Art and Science, and Commercial, there is an unusual proportion of observational or vocational studies. The city spends money liberally in its high schools for instruction in drawing—both free-hand and mechanical—manual training including joinery, turning, pattern-making, moulding, forging, and the domestic arts and sciences, knowledge of which is especially desirable for girls, and in botany, physiology, physics, and chemistry. Botany and physiology are only half-year subjects. All science subjects have five periods each per week, usually divided into three recitations and one double laboratory period. In the Art Course, art drawing is required during the four years, and is given in double periods each second day.

In the course called Classical, the proportion of observational studies accessible to the pupil is very small; but in the courses called Art, Manual Training, and Domestic Art and Science it is fairly large, while in the courses called General and Scientific the proportion of observational studies is identical, and approaches one sixth of the total time demanded from the pupils by either of

these courses. In the course called Scientific of the 20 units required for graduation, 4, or one fifth of the whole, must be in science. In the General Course, 18 units being required for graduation, 2 must be in science; and these 2 may be increased to 3 or 4 —that is, one ninth of the total number is required for science; and this proportion may be increased by election to one sixth or even to two ninths.

Music in these schools consists of chorus singing taught for two periods a week for four years; but music is not enumerated among the studies of the schools, being regarded as extra or outside the regular programme. The word music does not occur in the printed programmes of the seven courses. Art Drawing, Mechanical Drawing, Manual Training, and Domestic Art and Science require but little preparatory study in connection with the work done in the periods assigned to these subjects on the programmes. Physics, physiology, chemistry, and physiography require preparatory study, but not so much as the language studies and the mathematical. It has been proved in the high schools of this city that girls devote more time than boys do to study in preparation for the recitation periods of the high school programmes.

In an old secondary school maintained wholly at public expense, and devoted for many years to classical learning, the present Course of Study includes the following observational studies: In the first year 2 periods a week in elementary science and 2 in physical training—these two subjects together having 4 out of 25 periods per week, and being represented in the second and third years in the same proportion. In the fourth and fifth years there is no scientific study whatever. In the sixth and last year of the course physics has 5 periods out of the 25, with lecture demonstrations and laboratory work throughout the year. In the last four years of the course the physical training consists exclusively of military drill—that is, the setting-up drill, the manual of arms, marching, and company and battalion movements. In all the physical training given at this school there is hardly any training of the powers of observation. Neither music nor drawing is a subject of instruction. Laboratory work in the elementary science of the first year and in sixth-year physics occupies about half of the time allotted to those subjects in the programme; but many pupils who

are proposing to go to college give additional time to the laboratory study of physics.

A public school situated in a New England city combines a well-developed English High School Course with an equally well-developed Classical Course intended to prepare boys and girls for admission to colleges of high standing. This school teaches physiology, chemistry, and physics partly by the laboratory method, and is well equipped for such work. It also gives much instruction in penmanship, stenography, and typewriting, but chiefly for pupils who take the Commercial Course. Drawing is an elective study open to all pupils, ordinarily for two periods (of forty-five minutes each) a week. Physical training is an elective subject open to all girls for two periods a week, but not to boys. The school maintains two large chorus classes, and an orchestra of about fifty pieces, each meeting once a week. There is a class in Harmony which meets twice a week. The Boys' Glee Club and the Girls' Glee Club meet outside of the school. All music work is elective, but is under the personal supervision of the Director of Music employed by the School Committee. The school does not provide any form of manual training; perhaps because it has an alliance with a Technical School close by.

On account of the many kinds of pupil in this school, and of the large volume of instruction needed to meet their various wants, the best way to estimate the proportion of the school's energy which goes into the teaching of observational and scientific subjects is to compare the number of teachers employed in the school for those subjects with the number employed for the languages and literatures, and for history, civics, and mathematics.

There are 79 teachers, of whom 13 are men. Out of these 79, 12 teach subjects which may be said to include a considerable proportion of training of the senses—namely, drawing, physiology, chemistry, physics, and physical culture. Of these 12, 2 are men giving full-time, and 1 is the Musical Director, who gives 5 hours a week. One female teacher gives only part of her time to a subject belonging in this category—physiology. Another, a teacher of physiology, gives part of her time to a commercial subject. It appears, therefore, that 15½ per cent. of the School's energy goes into the teaching of subjects of an observational and scientific

quality, and 84⅘ per cent. into instruction in languages, literature, mathematics, history, and civics. The individual pupil may devote either somewhat more or somewhat less than 15 per cent. of his attention to observational and scientific subjects.

In an old New England academy the prescribed studies are exclusively linguistic and mathematical with the following exceptions —a course in physical training which requires four hours a week throughout the Academy Course, and courses in physics, chemistry, and drawing, which are optional studies open to the two upper classes only. Languages—ancient and modern—and elementary mathematics occupy the great majority of the teachers, and almost all the time of the ordinary pupil. Regular instruction in music is, however, provided for members of the glee club and the chapel choir and of the mandolin club and the orchestra. The study of music, however, is completely voluntary and outside of the regular course of the academy. In 1914–15, 32 teachers were employed in this academy, three of whom were devoted to the teaching of physics and chemistry, and two to the instruction in physical training. This academy maintains laboratories for physics, chemistry, and mechanical drawing, and allows the pupils in these subjects to devote two hours twice a week to laboratory work in these subjects. The voluntary instruction in music—both vocal and instrumental—is given one evening a week for about seven months; but much more time is given to music by individual pupils. An examination is required for admission to any one of the musical clubs. Membership in these clubs is considered an honor, and regularity of attendance at their rehearsals is strictly enforced.

Another endowed academy in New England maintains two courses of study—one called the Classical, the other the Scientific. In the Classical Course no observational subject whatever finds place, except optional physics and chemistry, each four periods a week in the senior year, and optional mechanical drawing for two periods a week in the senior year. The Scientific Course makes chemistry and physics elective one year earlier than the Classical, and therefore perhaps permits the pupils who elect it to advance farther in these two subjects. This academy possesses labora-

tories for physics and chemistry, and teaches both these subjects by the laboratory method. Opportunity is offered for the study of piano, organ, and harmony; but this instruction does not make part of any Course of Study maintained by the academy. The subject of drawing other than mechanical drawing is not mentioned either in the Course of Study or in the elaborate Constitution of this academy. Memory subjects have an overwhelming preponderance over observational.

In a good, partially endowed, New England school which is intended for sons of well-to-do people, the total number of recitation hours contained in the six years' programme of studies is 185, of which only 28 contain an element of observational work; and to arrive at this figure 28, there must be included in it all the hours given to physical training, namely, 12, and one hour a week given in the two earliest years to singing. Of the other 14 hours, 5 are devoted to manual training, 5 to physics, and 4 to chemistry, physics being a required study and chemistry an alternative for Greek. In this school nearly the whole weight of instruction is applied to languages, mathematics, and to a moderate proportion of historical teaching in which is included the history of English literature.

In another similar, preparatory school, also partially endowed, four distinct courses are maintained in each of the four years. One of these is called the Scientific Course, because it is intended to prepare candidates for admission to a Scientific School rather than to a College. This course prescribes a little more science in the lower middle (second) and senior years than any one of the other three courses, but out of its 79 periods of recitation in the four years, only 7 are devoted to science of any sort. All the rest are given to languages, history, and elementary mathematics. No drawing is taught in the school, and no music except during one hour a week for those pupils who desire it—about one fifth of the whole number.

In an excellent private school for boys, situated in New England, the five years' Course of Study shows a small proportion of expenditure for instruction in observational and scientific subjects. In-

struction is provided for 139 periods a week of 40 minutes each. Out of these only 16 periods are devoted to observational and scientific subjects all put together, being 11½ per cent. of the total instruction offered. Out of 11 teachers, 2 or 18½ per cent. give their whole attention to manual training, sloyd, drawing, physics, and chemistry; and these teachers are provided with facilities for teaching carpentry, wood-carving, basketry, metal-work, and clay-modelling, and with well-equipped laboratories for teaching physics and chemistry. The school also pays unusual attention to systematic athletic sports and exercises under careful supervision. It should be mentioned also that the spirit of the teaching in such subjects as languages and geometry is unusually observational, and the methods as far as possible inductive and concrete. It is one of the very few schools in the country which provides in its Junior Department of two preliminary years (not included in this statement) a teacher who takes the younger boys on observational walks in the country, and older boys on trips to commercial plants where the practical applications of physics and chemistry in the industrial arts may be seen. The school building contains a gymnasium; but the school puts its emphasis on out-of-door exercises in winter as well as in spring and fall, and to carry out this policy has a good Field and a well-equipped Field-house. In its Course of Study and its announcement for 1914–15 the word music does not occur except as one subject among many for ten-minute morning talks. Like some other schools mentioned in this Appendix, this school has made significant improvements in its programme for 1915–16.

In a good private secondary school for the sons of well-to-do families, recently organized and partially endowed in a New England town, there are 6 classes or years which exhibit varying percentages of observational studies. For the youngest, or Class VI, science has 3 periods out of 25 provided. In Class V political geography is the only subject that could be called scientific; and this subject has 2 periods out of 25. In Class IV science, which is physiology and hygiene, is assigned 2 periods out of 19. In the three classes already mentioned manual training is provided for 2 periods a week, and music is taught for 1 period; but for these periods no previous preparation by study or practice is required of

the pupils. In Class III forestry replaces the manual training; and no other science appears in the work of the year. In Class II physics, with 4 periods and 2 hours of laboratory work, is offered as an alternative for Latin with 5 periods; and elective science is offered for 2 periods more. Manual training for 2 periods reappears in the programme of this year; and the 1 period for music is continued. For Class II the school offers instruction covering 37 periods, of which chemistry and physics have each 4 periods with 2 hours of laboratory work in each. There is an option between these two subjects. Two periods are given to manual training and 1 to music, as before. One period a week is given to music in every one of the 6 years of this school. The boys are taught first to read music, and then are trained in part singing. Incidentally they learn a little about harmony, and about the technique and the various forms of musical composition. In the first class (last year) appreciation of music is taught in connection with the study of famous works. The school also provides teaching for two glee clubs and the school chorus, which are voluntary pupil organizations. In the final year (Class I) each pupil selects from the 37 periods of instruction, with the advice and approval of the headmaster, a course of study suited to his own needs, the amount of instruction provided by the school being at least twice as much as any single pupil can advantageously take.

In an excellent secondary school for girls, situated in New England, the whole course is divided into 8 classes, each of which has some instruction in sight-singing, the use of the voice in reading and speaking, and gymnastics. In the first year, or Class I, of the school, and out of a total of 19 periods in the week, one period is devoted to elementary science, without the use of any text-book; and 2 periods are devoted to drawing, color work, and writing. In the next year of the school, Class II, out of 21 periods, one period is devoted to botany, and 2 periods for half the year to physical geography; and the time devoted to drawing, color work, and writing is the same as in the first year. In the third year, Class III, out of 21 periods, one is given to the elements of zoölogy, no text-book being used; and 3 periods are devoted to sewing, stencilling, and color work. In the fourth year, Class IV, instruction is given in the elements of domestic economy, cooking, leather work, and color

work, and 4 periods are used for these subjects; but leather work and color work are elective subjects. In the fifth year, Class V, color work, copying at the Boston Museum of Fine Arts, carving and drawing are taught as elective subjects each for one period; but the copying at the Art Museum is done in the afternoon, outside of school hours. This special opportunity at the Museum may be used once a week in the afternoon in each of four years of the programme. In the sixth year, Class VI, 3 periods out of 29 are used for general science, and of the 29 periods, 5 are assigned to elective Greek. In the seventh year, Class VII, out of 37½ periods, 2 periods are assigned to physiology and 3 to chemistry as elective studies; and Greek is again elective for 5 periods. The pupil may not take 5 hours of science in Class VII. In the eighth and last year of the regular programme, Class VIII, out of 54 periods of instruction provided by the school, a large majority of which are elective, the pupil may, if she wish, devote 3 hours to physiology, 7 to chemistry, 2 to drawing, and 3 to music, thus giving a large part of her time to observational studies. Such a course would not, however, lead to a diploma, since with 15 hours given to observational work most pupils would find it impossible to meet the requirements of the school in regard to history and language. The number of recitation periods for members of the older classes averages 18 a week.

This school employs 8 room teachers, all of whom teach subjects not observational, and 31 department teachers, not all of whom give full time. Of the department teachers, 2 teach science, properly so-called, 2 teach musical subjects, 3 artistic subjects, and 7 teach various forms of household economics, games, or sports, and gymnastics. Approximately, one third of the teaching force is employed on observational, scientific, or skill subjects.

The excellent building of this school contains, besides the ordinary classrooms and recitation-rooms, six music-rooms, three laboratories, two play-rooms, a gymnasium with a stage suitable for concerts, tableaux, and plays, a swimming-pool, drawing- and wood-carving-rooms, a studio, and a domestic-science kitchen. This fact, as well as the varied instruction provided, shows that the school pays unusual attention to observational studies and to the acquisition by nearly every pupil of some sort of bodily skill.

The manual training or technical schools of the country, in the

secondary grade, generally retain in their courses a considerable amount of what is called academic work—that is, instruction in languages, history, and mathematics—but their programmes contain a large proportion of studies which may properly be called observational, such as carpentry, printing, music—both vocal and instrumental—drawing—both mechanical and free-hand—pattern-making, forging, chemistry, and physics. These schools offer a course in elementary science which gives a general view of science, and is provided for the purpose of arousing the interest of the pupils in the scientific method and its fruits. They usually offer a variety of industrial courses—such as courses in which printing, free-hand drawing, mechanical drawing, electricity, wood-working, or iron-working is the leading subject; and these courses naturally vary considerably in regard to the observational studies selected for each course. In all such courses the proportion of elective subjects is larger than in the ordinary high schools and academies; and the observational studies are apt to appear in the list of electives, although some of them frequently appear in the list of required studies. On the whole, the usual predominance of memory subjects disappears in the programmes of these schools, doubtless for the reason that they really attempt to prepare boys for specified industrial careers. For decided success in any good, modern trade or industry, a reasonable amount of sense-training is almost indispensable. In all such schools chemistry and physics are taught with some use of the laboratory method. Drawing—both mechanical and free-hand—has its proper place in the appropriate programmes of technical schools, and through it an invaluable training of both eye and hand can be acquired. Some of these schools pay more attention to music than the average high school; although the work in music is generally elective. In order to give time for working in the shops and laboratories, these schools usually extend the school day at least two hours into the afternoon without objection on the part of the pupils, because the value of the shop and laboratory work is as plain to them as it is to the teachers.

PUBLICATIONS OF THE GENERAL EDUCATION BOARD

OCCASIONAL PAPERS, No. 3

A MODERN SCHOOL

BY

ABRAHAM FLEXNER

THE GENERAL EDUCATION BOARD
61 BROADWAY NEW YORK CITY
1916

PUBLICATIONS
OF THE
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OCCASIONAL PAPERS

1. **The Country School of To-morrow,** By FREDERICK T. GATES. Paper, 15 pages.

2. **Changes Needed in American Secondary Education,** By CHARLES W. ELIOT. Paper, 29 pages.

3. **A Modern School,** By ABRAHAM FLEXNER. Paper, 24 pages.

Report of the Secretary of the General Education Board, 1914-1915, paper, 96 pages.

PREFATORY NOTE

At several of its recent meetings, the subject of elementary and secondary education has been discussed by the General Education Board. President Eliot's paper, entitled "Changes Needed in American Secondary Education"[1] was prepared in this connection and was the centre of discussion at one meeting; the present paper formed the topic of discussion at another. The attitude of the Board towards the position taken in these two papers is expressed in the following, quoted from the minute adopted by the Board:

"The General Education Board does not endorse or promulgate any educational theory, but is interested in facilitating the trial of promising educational experiments under proper conditions.

"The Board authorizes the publication of these papers with a request for criticism and suggestions, and an expression of opinion as to the desirability and feasibility of an experiment of this type."

[1]Published by the General Education Board as No. 2 in its series of Occasional Papers.

A MODERN SCHOOL

BY
ABRAHAM FLEXNER

CURRENT EDUCATION

AS PRESIDENT ELIOT has so clearly pointed out in his paper on the "Changes Needed in American Secondary Education," tradition still too largely determines both the substance and the purpose of current education. A certain amount of readjustment has indeed taken place; in some respects almost frantic efforts are making to force this or that modern subject into the course of study. But traditional methods and purposes are strong enough to maintain most of the traditional curriculum and to confuse the handling of material introduced in response to the pressure of the modern spirit. It is therefore still true that the bulk of the time and energy of our children at school is devoted to formal work developed by schoolmasters without close or constant reference to genuine individual or social need. The subjects in question deal predominantly with words or abstractions, remote from use and experience; and they continue to be acquired by children because the race has formed the habit of acquiring them, or, more accurately, the habit of going through the form of acquiring them, rather than because they serve the real purposes of persons living to-day. Generally speaking, it may be safely affirmed that the subjects commonly taught, the time at which they are taught, the manner in which they are taught, and the amounts taught are determined by tradition, not by a fresh and untrammeled consideration of living and present needs.

PUBLICATIONS OF THE GENERAL EDUCATION BOARD

OCCASIONAL PAPERS, No. 2

CHANGES NEEDED IN AMERICAN SECONDARY EDUCATION

BY

CHARLES W. ELIOT

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A Modern School, By ABRAHAM FLEXNER.

CHANGES NEEDED IN AMERICAN SECONDARY EDUCATION

BY

CHARLES W. ELIOT

THE prevailing programmes in American secondary schools contain many valuable features. It is the purpose of this essay to set forth certain much-needed amendments of these programmes.

The best part of all human knowledge has come by exact and studied observation made through the senses of sight, hearing, taste, smell, and touch. The most important part of education has always been the training of the senses through which that best part of knowledge comes. This training has two precious results in the individual besides the faculty of accurate observation—one the acquisition of some sort of skill, the other the habit of careful reflection and measured reasoning which results in precise statement and record.

A baby spends all its waking time in learning to use its senses, and to reason correctly from the evidence of its senses. At first, it reaches after objects near by and far off alike, but gradually learns to judge by the eye whether or not it can reach the object seen. It tries to put everything into its mouth, perhaps in an effort to estimate size and shape correctly—which at first it cannot accomplish by the eye alone as the adult does, nor satisfactorily to itself even by the hand—or else to renew some of the agreeable sensations as to flavor or texture which it has already experienced,

or possibly to rub its gums against something which feels cool and smooth. The baby's assiduity in observation and experimentation, and the rapidity of its progress in sense-training are probably never matched in after life. Its mind is also trained fast; because it is constantly practising the mental interpretation of the phenomena which its senses present to it.

The boy on a farm has admirable opportunities to train eye, ear, and hand; because he can always be looking at the sky and the soils, the woods, the crops, and the forests, having familiar intercourse with many domestic animals, using various tools, listening to the innumerable sweet sounds which wind, water, birds, and insects make on the countryside, and in his holidays hunting, fishing, and roaming.

Increasing skill in the use of the hands and fingers has undoubtedly had much to do with the development of the human mind ever since man first stood erect, and set free from foot work his fingers and their opposing thumb. One of the best methods of developing the minds of children is practice in the coördinated activities of the brain and the hand. If brain, eye, and hand are coöperating, the developing mental effect is increased; and the mental action and reaction is stronger still when eyes, ears, and hands, and the whole nervous system, the memory, and the discriminating judgment are at work together.

The fundamental trades—such as those of the carpenter, mason, blacksmith, wheelwright, painter, hand leather-worker, and shoemaker, have provided immensely valuable education for the human race, and have, indeed, been the chief means of raising barbarous peoples to a condition of approximate civilization. To-day the teaching of those trades, without much use of machinery, is the best mode of developing the natural powers of a backward people—like the North American Indians and the negroes. When a Hindu father transmits to his son not only his caste with all its privileges and its restrictions, but also his hand-trade—such, for example, as that of a goldsmith or a potter, he imparts to his son under a religious sanction some of the most important elements in a sound education. East Indian civilization has been in great part transmitted in this way. The European guilds with their elaborate rules about apprenticeship contributed strongly for centuries to the education of the people through trades, before public schools

and education for the masses through books and reading had been thought of.

There have of course been civilizations which had but slight foundations, apart from military force, except a strong development of linguistic, philosophical, or theological studies; but even these civilizations have generally developed also to a high degree some fine art, like architecture, sculpture, or ceramic art, which requires keen observation and no little skill. Moreover, none of these civilizations were so firmly founded as our own; for they had not attained to the scientific conception of truth, or to the inductive method of arriving at truth. It should be the great advantage of modern education that it has learnt to combine the training of the powers of observation with an accurate use of language and the best kind of memory work.

In noble and rich families some training of the senses was obtained all through feudal times; because the men were brought up to war and the chase, and the women not only shared in some degree the sports of the men, but acquired the manual skill which sewing, knitting, hand-weaving, and embroidering demand. Even before the invention of gunpowder, success in war demanded the skilful use of trained senses in accurate and quick observation. Hunting and fishing have from the earliest times provided all sorts and conditions of men with admirable training of alert senses.

In respect to the training of their senses the children of well-to-do parents nowadays are often worse off than the children of the poor; because they are not called upon to perform services in the household or on the farm which give practice in accurate observation and manual dexterity.

The advent of mechanical power and machinery has greatly impaired the educational value of many trades; and this impairment has become so common that it may almost be called universal. The accurate joints a carpenter used to make by the careful use of his own eyes and hands are now made by machines almost without human intervention. The horseshoes which a blacksmith used to turn by hand on his anvil, and temper in his own little fire with an accurate appreciation of the changing tints of the hot metal, are now turned out by machinery by the hundred thousand, almost without touch of human hand or glance of human eye. Tending machinery is, as a rule, less instructive for the workman than hand-

work of the old-fashioned sort, unless, indeed, the machine is complex, and the product liable to imperfections. In that case the working of the machine must be closely watched by trained human senses. The ordinary uniformity of a machine product is due to invariability in the action of the machine; and this invariability is a main object from the point of view of the inventor or the proprietor; but that same invariability makes the tending of the machine of little use in the education of the human being that tends it—child, woman, or man. In certain industries a young man may learn in two or three days to make the few almost automatic movements which the right tending of his machine demands; and then may go on for years tending that same machine. Any ambitious or even prudent young man will try to escape as soon as possible from that sort of work. There is in it no training of the senses, no progress, and no joy in work.

The difference between a good workman and a poor one in farming, mining, or manufacturing is the difference between the man who possesses well-trained senses and good judgment in using them, and the man who does not. The valuable farm-hand is the man that can drive a straight furrow with a plough and a pair of mules, or can follow accurately in parallel curves the contours of the land while ploughing. The good hand-fisherman is the man who can feel correctly what is going on at the fishhook out of sight, and can make his motor nerves react quickly to what he feels there. The successful hunter is the man who can not only organize a well-devised drive, but can shoot surely the instant the game comes in sight. It is the blacksmith who has the sure touch with his hammer and the quick sight of the right tint on the heated drills who can sharpen three sets of quarryman's drills, while another man sharpens one.

It follows from these considerations that the training of the senses should always have been a prime object in human education at every stage from primary to professional. That prime object it has never been, and is not to-day. The kind of education the modern world has inherited from ancient times was based chiefly on literature. Its principal materials, besides some elementary mathematics, were sacred and profane writings, both prose and poetry, including descriptive narration, history, philosophy, and

religion; but accompanying this tradition of language and literature was another highly useful transmission from ancient times—the study of the Fine Arts, with the many kinds of skill that are indispensable to artistic creation. Wherever in Europe the cultivation of the Fine Arts has survived in vigor, there the varied skill of the artist in music, painting, sculpture, and architecture has been a saving element in national education, although it affected strongly only a limited number of persons. The English nation was less influenced by artistic culture than the nations of the continent. American secondary and higher education copied English models, and were also injuriously affected by the Puritan, Genevan, Scotch-Presbyterian, and Quaker disdain for the Fine Arts. As a result the programmes of secondary schools in the United States allotted only an insignificant portion of school time to the cultivation of the perceptive power through music and drawing; and, until lately, boys and girls in secondary schools did not have their attention directed to the Fine Arts by any outside or voluntary organizations. As a rule, the young men admitted to American colleges can neither draw nor sing; and they possess no other skill of eye, ear, or hand. A high degree of skill in athletic sports is acquired only by exceptional persons; and the skill itself is of a coarser kind than that needed by the artist and the skilled workman.

Since the middle of the eighteenth century a new element in the education of the white race has been developing, slowly for a hundred years but rapidly during the past fifty. This new element is physical, chemical, and biological science. Through the study of these subjects the medical profession has been revolutionized and several new professions of high value have been created—such as that of the chemist, of the engineer—civil, mechanical, electrical, or metallurgical—and of the forester. Through the radical work of great inventors and discoverers and of these new professions, all the large industries and transportation methods of the world, and therefore the commerce of the world, have been so changed that the producers and traders of times preceding 1850 would find, if they should revisit the scenes of their labors, that the processes by which they made their livings or their fortunes had completely disappeared. This prodigious change should have instructed the makers of programmes for schools and colleges maintained by

nations which were undergoing this great revolution in regard to their means of livelihood; but for the most part professional educators have been, and still are, blind to the necessity of a corresponding reformation or revision of the processes of education.

There is one profession, however, in which the educational processes have been adequately changed, but only within recent years, namely—the profession of medicine. The reason for the comparatively early improvement of medical education is that the medical art has always depended for such measure of success as it attained on the physician's power of accurate observation, and his faculty of reasoning cautiously and soundly on the testimony which his senses gave him. From remotest times the successful physician has been by nature a naturalist. He saw and heard straight, and his touch gave him trustworthy information. He has still, and must always have, the naturalist's temperament, and he must possess the naturalist's trained senses. The reason that medicine and surgery have within twenty-five years made such astonishing progress is that the practitioner, possessing the senses and mental habits of the naturalist, has been supplied through the progress of biological, chemical, and physical science with wonderful new means of accurate diagnosis. The training the medical student now receives is largely individual training in the use of his senses; and this training is given by experts in the use of their own eyes, ears, and hands in diagnosis and treatment. The just reasoning follows on the trustworthy observation. What has already been done in medical education needs to be done in all other forms of education, whether for trades or for professions, whether for occupations chiefly manual or for those chiefly mental.

The great increase of urban population at the expense of rural which has taken place during the past sixty years, with the accompanying growth of factories and the crowding together of the working people and their families, has resulted, so far as schools and colleges are concerned, in placing more children and youths than formerly under the influence of systematic education and keeping them there for a longer period; but this improvement has been accompanied by a decline in the amount and quality of the sense-training which children and adolescents have received. An increasing proportion of children goes to the high schools, academies, and colleges; but the farm now teaches but a small proportion

of the children born to the nation, and the urban family cannot train the children's senses in so effective and wholesome ways as the rural family could. In cities and large towns the trade which a boy chooses, or is assigned to, no longer demands for admission a prolonged apprenticeship. Machinery turns out an ample product without the need of much skilled labor. The general result is an inadequate training of the senses of the rising generation for accurate and quick observation. Unfortunately, the schools, which might have come to the rescue of the children, have for the most part clung to the traditional programmes which rely chiefly on studies that train the memory and the powers of discrimination and analysis, but do not drill children in seeing and hearing correctly, in touching deftly and rapidly, and in drawing the right inferences from the testimony of their senses.

In recent years, on account of the complexities, urgencies, and numerous accidents of urban life, there has been a striking revelation of the untrustworthiness of human testimony, not because witnesses intended to deceive, but because they were unable to see, hear, or describe accurately what really happened in their presence. This is probably an old difficulty; but it has been freshly brought to public attention by the numerous cases of conflicting testimony developed in courts, and before commissions of inquiry, medical examiners, and police authorities. Indeed, in such investigations it is well-nigh the rule that the testimony of the different witnesses not only presents many variations of detail, but is often discordant and even contradictory. The investigators have to rely chiefly, not on what the witnesses testify occurred at the moment, but on what careful observers can subsequently learn from the actual state of the wreck, and the condition of the dead, the wounded, and the more or less injured survivors. This inability to see, hear, and describe correctly is not at all confined to uneducated people. On the contrary, it is often found in men and women whose education has been prolonged and thorough, but never contained any significant element of sense-training. Many highly educated American ministers, lawyers, and teachers have never received any scientific training, have never used any instrument of precision, possess no manual skill whatever, and cannot draw, sing, or play on a musical instrument. Their entire education has dwelt in the region of language, literature, philosophy, and history, with limited

excursions into the field of mathematics. Many an elderly professional man, looking back on his education and examining his own habits of thought and of expression, perceives that his senses were never trained to act with precision, that his habits of thought permit vagueness, obscurity, and inaccuracy, and that his spoken or written statement lacks that measured, cautious, candid, simple quality which the scientific spirit fosters and inculcates. Such a deplorable result ought not to have been possible; but it has been unavoidable by the individual, whether child or parent, because the programmes of secondary schools still cling almost exclusively to the memory subjects and the elements of mathematics, and college students are apt to adhere in college to the mental habits they acquired at school. The ordinary student does not venture into untried fields, because he feels more secure in the familiar.

If any one should ask—why has modern society got on as well as it has, if the great majority of its members have had an inadequate training in the use of their senses or no systematic training of that sort, the answer is that some voluntary agencies and some influences which take strong effect on sections of the community have been at work to mitigate the evil. Such are, for example, athletic sports, travel, the use by city people of public parks and gardens, the practice of that alert watchfulness which the risks of crowded thoroughfares and of the dangerous industries compel, and the training of the senses which any man who practises well a manual trade obtains on the way. Many of the household arts also give a good training in the careful seeing and handling which lead to accurate perception. The problem is now how to make systematic secondary education support and better these incidental influences, and how to coördinate sense-training with accurate reasoning and retentive memorizing.

In urging the training of the senses, the educator must never lose sight of the fact that mental vigor does not necessarily result from bodily work alone, whether handwork or work in directing machines. Many persons work all their lives with a moderate amount of manual skill, who never develop any considerable faculty of discrimination or of sound judgment. Whole tribes and nations have done fine handwork for generations, and yet never developed intellectual superiority. If one had to choose

between training the senses and training the memory and the language powers, one would choose the latter; but both are indispensable to the best results in education. Neither depends for its educational value on imparting information; each supplies an indispensable discipline for the human intelligence.

A survey of the programmes of the existing American secondary schools—public, private, and endowed—would show that as a rule they pay little attention to the training of the senses, and provide small opportunities for acquiring any skill of eye, ear, or hand, or any acquaintance with the accurate recording and cautious reasoning which modern science prescribes. To make, or read, a complete survey of these programmes would be a dull and heavy task; but the demonstration needed for the purpose of the present essay can be readily given by analyzing the programmes of a few typical schools and academies. Such an analysis of the programmes and regulations of twelve different schools and one group of kindred schools is given in the Appendix, the general result being that the secondary schools are giving not more than from one tenth to one sixth of their force to observational, sense-training subjects. Any school superintendent, teacher, or committeeman can verify the results of this analysis in any secondary schools with which he is acquainted.

The changes which ought to be made immediately in the programmes of American secondary schools, in order to correct the glaring deficiencies of the present programmes, are chiefly: the introduction of more hand, ear, and eye work—such as drawing, carpentry, turning, music, sewing, and cooking, and the giving of much more time to the sciences of observation—chemistry, physics, biology, and geography—not political, but geological and ethnographical geography. These sciences should be taught in the most concrete manner possible—that is in laboratories with ample experimenting done by the individual pupil with his own eyes and hands, and in the field through the pupil's own observation guided by expert leaders. In secondary schools situated in the country the elements of agriculture should have an important place in the programme, and the pupils should all work in the school gardens and experimental plots, both individually and in coöperation with

others. In city schools a manual training should be given which would prepare a boy for any one of many different trades, not by familiarizing him with the details of actual work in any trade, but by giving him an all-round bodily vigor, a nervous system capable of multiform coördinated efforts, a liking for doing his best in competition with mates, and a widely applicable skill of eye and hand. Again, music should be given a substantial place in the programme of every secondary school, in order that all the pupils may learn musical notation, and may get much practice in reading music and in singing. Drawing, both freehand and mechanical, should be given ample time in every secondary school programme; because it is an admirable mode of expression which supplements language and is often to be preferred to it, lies at the foundation of excellence in many arts and trades, affords simultaneously good training for both eye and hand, and gives much enjoyment throughout life to the possessor of even a moderate amount of skill.

Drawing and music, like other Fine Art studies, were regarded by the Puritan settlers of New England and by all their social and religious kindred as superfluities, which, if not positively evil, were still of wasteful or harmful tendency, and were, therefore, to be kept out of every course of education. By many teachers and educational administrators music and drawing are still regarded as fads or trivial accomplishments not worthy to rank as substantial educational material; whereas, they are important features in the outfit of every human being who means to be cultivated, efficient, and rationally happy. In consequence, many native Americans have grown up without musical faculty and without any power to draw or sketch, and so without the high capacity for enjoyment, and for giving joy, which even a moderate acquaintance with these arts imparts. This is a disaster which has much diminished the happiness of the native American stock. It is high time that the American school—urban or rural, mechanical, commercial, or classical, public, private, or endowed—set earnestly to work to repair this great loss and damage. Although considerable improvements have been recently made in the programmes of American secondary schools, especially within the past ten years or since vocational training has been much discussed, multitudes of Americans continue to regard the sense-training subjects as fads and superfluities. They say: the public elementary schools should teach thoroughly

reading, writing, spelling, and arithmetic, and let natural science, drawing, music, domestic arts and crafts, and manual training severely alone. Let the secondary schools teach thoroughly English, Latin, American history, and mathematics, with a dash of economics and civics, and cease to encumber their programmes with bits of the new sciences and the new sociology. This doctrine is dangerously conservative; for it would restrict the rising generations to memory studies, and give them no real acquaintance with the sciences and arts which within a hundred years have revolutionized all the industries of the white race, modified profoundly all the political and ethical conceptions of the freedom-loving peoples, and added wonderfully to the productive capacity of Europe and America.

If any one asks how it can be possible that these new subjects, all time-consuming, should be introduced into the existing secondary schools of the United States, the answer—adequate, though not easy to put into practice—is, first, that the memory subjects and the mathematics should be somewhat reduced as regards number of assigned periods in the week; secondly, that afternoon hours should be utilized, or, in other words, that the school day should be lengthened; and thirdly, that the long summer vacation should be reduced. It is worse than absurd to turn city children into the streets for more than two months every summer. Since the new subjects all require bodily as well as mental exertion, they can be added to the memory subjects without any risk to the health of the children, provided that the shops, laboratories, and exercising rooms be kept cool and well ventilated. In rural schools a good part of the new work in sowing, planting, cultivating the ground, and harvesting must be done out of doors. The observational, manual, and scientific subjects often awaken in a boy or young man for the first time an intellectual interest and zeal in work which memory studies have never stirred. Hand and eye work often develops a power of concentrated attention which book work had failed to produce, but which can be transferred to book work when once created. All the new subjects require vigorous and constant use of the memory, and give much practice in exact recording, and in drawing only the limited and legitimate inference from the recorded facts.

If the educational material and the method of instruction were right, the training given in the grades would be just as good for the

children who leave school at fourteen as for those who go on till eighteen, and the training in the high school would be equally appropriate for pupils who do not go to college and for those who do. The progressive sense-training from beginning to end of systematic education is desirable for all pupils, whatever their destinations in after life, and should prepare every pupil for his best entrance on earning a livelihood, at whatever age that necessity is to come upon him. It should be the same with the language and history studies in every public school programme. At every stage, or in every grade, they should be suitable for every pupil no matter what his destination. Flexibility and adaptation to individual needs would still be necessary in the programmes, first, in order to enable the individual pupil to concentrate on the studies he prefers and excels in, and, secondly, to enable pupils of different capacity to advance at different rates. The adoption of these principles would solve justly problems in the American tax-supported system of public education which have been in debate for generations.

Every school plant, whether in city or country, should be used, not only by the regular pupils between the hours of eight or half-past eight and four or half-past four, but by older youths and adults at hours outside the working time in the prevailing industries of the town or city where the school is situated. Many efforts are now being made to introduce continuation schools and to develop evening schools; but these efforts should become universal, and should result speedily in a large extension of the American public school system. Moreover, the fundamental object of the proposed changes in the programmes should be distinctly recognized—the better training of the senses.

The suggested changes in American school programmes will not make public school life harder or more fatiguing for the pupils. On the contrary, observational study and concrete teaching are more interesting to both children and adults than memory study of any sort; and whenever the interest of pupils is aroused it brings out more concentrated attention and harder work, but causes less fatigue. The obvious utility of mental labor directed to a practical end increases the interest the pupils take in their work, and stimulates them to effective effort. To use a good tool or machine, and get the results it is competent to produce when in skilful hands, is vastly more interesting than reading or hearing about the uses of

such a tool or machine. Whenever by the use of observational and concrete methods the pupils' power of attention and of concentrated effort is developed, that power of attention once acquired can be exercised in other subjects. This principle holds true not only of manual or bodily labor, but also of games and sports, and of coöperation in rhythmical movements like dancing. The power of concentrated attention won in carpentry, turning, forging, or farm work is easily transferred to work in reading, writing, and ciphering, or at a later stage in history, literature, and civics; so that the reduction in the so-called academic studies made to allow the introduction of observational studies need not result in less attainment in the academic studies themselves.

These changes will all add to the annual cost of the schools, because much of the new instruction must be given to the individual pupil, treated by himself, and not as a member of a numerous class. In short, the example of the modern medical school, which needs to be imitated in all schools, teaches that good training of the senses is more costly than the ancient classwork with books and lectures. The cost of town and city school systems will be also increased by the necessity of employing a larger number of teachers, if the schools are to be kept at work evenings, as well as daytimes, and during forty-six weeks of the year instead of forty-one. Indeed, the chief item in the increased cost in city schools, consequent on the introduction of sense-training and observational studies, would be in the salary list. More teachers would be required and a larger proportion of them would be men. The new teachers would be good mechanics, well-trained laboratory assistants, and naturalists competent to teach botany, zoölogy, and geology on walks and excursions with the pupils. To provide these teachers in sufficient numbers, the programmes of normal schools would need to be considerably modified; so that it would probably be necessary to wait for the production of an adequate number of teachers competent to give the new kinds of instruction. The prime object being to give all pupils a correct conception of the modern scientific method, and sound practice in using it, the teachers themselves must understand that method, and be bred to its constant use. It is possible to deaden any subject as a means of mental training, and science and the Fine Arts just as easily as the classics, history, geography, or arithmetic. It is quite possible to teach observa-

tional subjects in a memoriter, unreasoning way, and without imparting the essential moralities of freedom and brotherhood. Such teaching would defeat the object of the proposed reform. On the other hand, some of the traditional subjects may be taught in a concrete way, which really enlarges the field of observational study, when once the pupil has mastered the observational method in regions within sight and touch; just as printed cases in medical practice which give all the symptoms and facts in each case may be used to supplement bedside study of actual patients. The printed cases would be of no use to students who had never seen an actual case, or had never themselves made up the record of an actual case for the use of the visiting physician. So when pupils in a secondary school have once mastered a portion of the history of their own country by the study of personages, places, pictures, speeches, charts, and diagrams, they can safely use their imaginations to clothe and vivify the history of other times and peoples, and particularly the biographies of famous men. This is a legitimate enlargement of a true observational method. By mixing geometry with arithmetic and with algebra the teaching of elementary mathematics may be much enlivened, the concrete illustrations apprehended by sight or touch vivifying the abstract numbers or quantities.

For this great improvement in the conduct of American secondary schools a good deal of preparation has already been made. The new schools of Mechanic Arts, the Trade Schools, the various endowed Institutes for giving a sound training in applied science, and such institutions as Hampton Institute and Tuskegee Institute are showing how to learn by actual seeing, hearing, touching, and doing, instead of by reading and committing to memory. They have proved that the mental powers, as well as the bodily powers, are strongly developed by the kind of instruction they give; so that nobody need apprehend that reduced attention to memory subjects, with increased attention to the training of the senses, the muscles, and the nerves will result in a smaller capacity for sound thinking and for the exercise of an animating good-will.

There has not infrequently been much disappointment as to the effect on the mental powers of the pupils of the new courses in scientific subjects and the new instruction in drawing, carpentry, forging,

moulding, and so forth, which have already been introduced into American secondary schools. The reason for these disappointments is the imperfect manner in which the new instruction has been given. It is indispensable to success with the new subjects that the pupils should use their own eyes, ears, and hands, and themselves describe and coördinate their own observations. In the study of their own results they must apply their own powers of discrimination, memory, and expression. It is the combined action of senses, reasoning, and memory, which alone gives the true result in the pupil. The real educational use of any concrete experience requires reflection on its significance, and finally the firm holding in the memory of the results of both observation and reflection.

It is not the secondary school alone which needs to be reformed —the elementary school needs to set a different standard of attainment, not lower or easier, but rather higher and harder—a standard in which the training of the senses shall be an important element. If the new secondary schools are to accomplish their rational objects, they must rest on new elementary schools which utilize the spontaneous aptitudes of childhood—for the acquisition of modern languages, for example. As to the American college, it may be said to have already abandoned the traditional four years' programme of linguistic, literary, and mathematical studies with a dash of history and philosophy; and many colleges now require for admission the elements of some scientific subject. As a whole, the colleges have already begun to attend to the training of the senses by introducing a considerable variety of elective courses in science; but the changes already introduced do not afford the mass of the students adequate opportunities to remedy the deficiencies in the training they received in their schools. Moreover, to begin that systematic training of the senses at the college age is not the most advantageous arrangement.

If the elementary and secondary schools served well boys and girls from six to eighteen years of age, the main reform would in time be accomplished. It is but a small percentage of the youth of the country that go to the colleges and the higher technical schools; and the parents of this small percentage are often able to provide their children with opportunities for securing, outside of their systematic education, a well-coördinated use of all their senses and nerves—such as a violinist, organist, pilot, locomotive engineer,

or sharpshooter requires. The educational publicist must keep in mind the interests of the 95 per cent. of the children, rather than those of the 5 per cent.; for it is on the wise treatment of the mass of the population during youth that a modern democracy must rely for assuring the public health, prosperity, and happiness.

It must not be imagined that any advocate of more sense-training in education expects to see diminished the exercise of the reasoning powers or of the motive powers which distinguish Man from the other animals, or to see impaired Man's faith in the spiritual unity of the world, or his sense of duty toward fellowmen, or his active sympathy with them. The devotees of natural and physical science during the last hundred and fifty years have not shown themselves inferior to any other class of men in their power to reason and to will, and have shown themselves superior to any other class of men in respect to the value or worth to society of the product of those powers. The men who, since the nineteenth century began, have done most for the human race through the right use of their reasons, imaginations, and wills are the men of science, the artists, and the skilled craftsmen, not the metaphysicians, the orators, the historians, or the rulers. In modern times the most beneficent of the rulers have been men who shared in some degree the new scientific spirit; and the same is true of the metaphysicians. As to the real poets, teachers of religion, and other men of genius, their best work has the scientific quality of precision and truthfulness; and their rhetorical or oratorical work is only their second best. The best poetry of the last three centuries perfectly illustrates this general truth. Shakespeare wrote:

"I know a bank whereon the wild thyme grows."

The florists now tell us that thyme will not thrive except on a bank. George Herbert wrote:

"Sweet day, so cool, so calm, so bright;
The bridal of the earth and sky.
The dews shall weep thy fall to-night,
For thou must die."

Precision of statement could not go further; thought and word are perfectly accurate. Emerson said to the rhodora:

"The self-same power that brought me here, brought you."

A more accurate description of the universal Providence could not be given. Even martial poetry often possesses the same absolute accuracy:

"Oh! Tiber, Father Tiber,
To whom the Romans pray,
A Roman's life, a Roman's arms,
Take thou in charge this day!"

"Cannon to right of them,
Cannon to left of them,
Volleyed and thundered,
Into the jaws of Death
Rode the six hundred."

When human emotions are to be stirred, and human wills inspired, it is the simple, convincing statement which moves most, and lasts longest:

"Greater love hath no man than this: that
a man lay down his life for his friends."

The most exact, complete, satisfying, and influential description of true neighborliness in all literature is the parable of the Good Samaritan:

"Which of these three, thinkest thou, proved neighbor
unto him that fell among the robbers? And he said,
He that showed mercy on him. And Jesus said unto him,
Go, and do thou likewise."

It is an important lesson to be drawn from the Great War that under the passionate excitements and tremendous strains of the wide-spread disaster, the medical profession and the nurses of all countries are holding firmly to that exact definition of the neighbor, and are obeying strictly the command, "Do thou likewise." These are men and women who have received thorough training of the senses without suffering any loss of quick sympathy or of humane devotion.

Rhetorical exaggeration, paradox, hyperbole, and rhapsody doubtless have their uses in moving to immediate action masses of ordinary men and women; but they are not the finest weapons of the teacher and moralist:

"Speaks for itself the fact,
As unrelenting Nature leaves
Her every act!"

APPENDIX

The proportion of attention given to observational and scientific subjects in secondary schools in comparison with that given to linguistic, literary, mathematical, and historical subjects, may be illustrated by analysis of the programmes of a few typical schools.

In a New York high school which maintains the traditional four years' high school course, and a course intended to prepare for commercial work, the number of recitation periods offered in the four years are respectively 21, 25, 25, and 35—a total of 106; and out of these 106 periods each pupil is required to attend 72 periods, being 18 periods per week throughout the four years. The number of options is small during the first three years, but large in the fourth year. Out of these 106 periods, 24 had some possible element of observational work; but these could all be avoided by any pupil who wished to do so, unless, indeed, the pupil was hoping to enter a college which demanded the elements of some one science for admission. There were in the school no laboratories for physics, chemistry, or biology. The commercial course contained only $77\frac{1}{2}$ periods, of which 72 were required. Of the $77\frac{1}{2}$ periods, 10 had possibly, but not necessarily, some element of observational work. This school has lately come into possession of a new building which contains well-equipped laboratories for physics, chemistry, and biology, and is this year (1915–16) offering for the first time a noteworthy course in agriculture which includes 13 periods of English, 10 of history, and 10 of mathematics, but also 10 for science and 30 for agriculture, including laboratory and shop work, field trips, project work at home, and classroom work. The instructor for agriculture is engaged for the entire year, and will spend his summer with the boys who pursue the Agricultural Course.

In an excellent high school in an important western city there were in 1914–15 34 teachers who gave full time on the weekly programme of the school, of whom

1 taught physics with the laboratory method
1 chemistry with the laboratory method
1 zoölogy and physiology with the laboratory method
2 mechanical drawing and manual arts, and
1 free-hand drawing.

Thus, about one sixth of the actual teaching force was teaching subjects which might fairly be called observational. This school maintains a "Normal Course" which requires a good two years' course in free-hand drawing, given five days in the week, for forty minutes a day. There being no prescribed outline of work in music, the different high schools in this city make out each its own course in music. One of them maintains an excellent course in music covering the first two years out of the four; but the high school, the composition of whose staff is partially analyzed above, gave no course in music because of lack of accommodations. In general, a course in music is required of pupils in this city only if they select that high school course which is called the "Normal Course." Free-hand drawing is not required except in the "Normal Course." Since the city provides in its high schools more instruction than any one pupil can take, it is possible for pupils to graduate creditably from a high school without having devoted even one sixth of their time to observational studies.

In another large western city the high schools provide seven different courses, among which each pupil chooses one. In three of these courses memory studies have the usual preponderance; but in the other four, called Art, Manual Training, Domestic Art and Science, and Commercial, there is an unusual proportion of observational or vocational studies. The city spends money liberally in its high schools for instruction in drawing—both free-hand and mechanical—manual training including joinery, turning, pattern-making, moulding, forging, and the domestic arts and sciences, knowledge of which is especially desirable for girls, and in botany, physiology, physics, and chemistry. Botany and physiology are only half-year subjects. All science subjects have five periods each per week, usually divided into three recitations and one double laboratory period. In the Art Course, art drawing is required during the four years, and is given in double periods each second day.

In the course called Classical, the proportion of observational studies accessible to the pupil is very small; but in the courses called Art, Manual Training, and Domestic Art and Science it is fairly large, while in the courses called General and Scientific the proportion of observational studies is identical, and approaches one sixth of the total time demanded from the pupils by either of

these courses. In the course called Scientific of the 20 units required for graduation, 4, or one fifth of the whole, must be in science. In the General Course, 18 units being required for graduation, 2 must be in science; and these 2 may be increased to 3 or 4 —that is, one ninth of the total number is required for science; and this proportion may be increased by election to one sixth or even to two ninths.

Music in these schools consists of chorus singing taught for two periods a week for four years; but music is not enumerated among the studies of the schools, being regarded as extra or outside the regular programme. The word music does not occur in the printed programmes of the seven courses. Art Drawing, Mechanical Drawing, Manual Training, and Domestic Art and Science require but little preparatory study in connection with the work done in the periods assigned to these subjects on the programmes. Physics, physiology, chemistry, and physiography require preparatory study, but not so much as the language studies and the mathematical. It has been proved in the high schools of this city that girls devote more time than boys do to study in preparation for the recitation periods of the high school programmes.

In an old secondary school maintained wholly at public expense, and devoted for many years to classical learning, the present Course of Study includes the following observational studies: In the first year 2 periods a week in elementary science and 2 in physical training—these two subjects together having 4 out of 25 periods per week, and being represented in the second and third years in the same proportion. In the fourth and fifth years there is no scientific study whatever. In the sixth and last year of the course physics has 5 periods out of the 25, with lecture demonstrations and laboratory work throughout the year. In the last four years of the course the physical training consists exclusively of military drill—that is, the setting-up drill, the manual of arms, marching, and company and battalion movements. In all the physical training given at this school there is hardly any training of the powers of observation. Neither music nor drawing is a subject of instruction. Laboratory work in the elementary science of the first year and in sixth-year physics occupies about half of the time allotted to those subjects in the programme; but many pupils who

are proposing to go to college give additional time to the laboratory study of physics.

A public school situated in a New England city combines a well-developed English High School Course with an equally well-developed Classical Course intended to prepare boys and girls for admission to colleges of high standing. This school teaches physiology, chemistry, and physics partly by the laboratory method, and is well equipped for such work. It also gives much instruction in penmanship, stenography, and typewriting, but chiefly for pupils who take the Commercial Course. Drawing is an elective study open to all pupils, ordinarily for two periods (of forty-five minutes each) a week. Physical training is an elective subject open to all girls for two periods a week, but not to boys. The school maintains two large chorus classes, and an orchestra of about fifty pieces, each meeting once a week. There is a class in Harmony which meets twice a week. The Boys' Glee Club and the Girls' Glee Club meet outside of the school. All music work is elective, but is under the personal supervision of the Director of Music employed by the School Committee. The school does not provide any form of manual training; perhaps because it has an alliance with a Technical School close by.

On account of the many kinds of pupil in this school, and of the large volume of instruction needed to meet their various wants, the best way to estimate the proportion of the school's energy which goes into the teaching of observational and scientific subjects is to compare the number of teachers employed in the school for those subjects with the number employed for the languages and literatures, and for history, civics, and mathematics.

There are 79 teachers, of whom 13 are men. Out of these 79, 12 teach subjects which may be said to include a considerable proportion of training of the senses—namely, drawing, physiology, chemistry, physics, and physical culture. Of these 12, 2 are men giving full-time, and 1 is the Musical Director, who gives 5 hours a week. One female teacher gives only part of her time to a subject belonging in this category—physiology. Another, a teacher of physiology, gives part of her time to a commercial subject. It appears, therefore, that 15⅛ per cent. of the School's energy goes into the teaching of subjects of an observational and scientific

quality, and 84⅘ per cent. into instruction in languages, literature, mathematics, history, and civics. The individual pupil may devote either somewhat more or somewhat less than 15 per cent. of his attention to observational and scientific subjects.

In an old New England academy the prescribed studies are exclusively linguistic and mathematical with the following exceptions —a course in physical training which requires four hours a week throughout the Academy Course, and courses in physics, chemistry, and drawing, which are optional studies open to the two upper classes only. Languages—ancient and modern—and elementary mathematics occupy the great majority of the teachers, and almost all the time of the ordinary pupil. Regular instruction in music is, however, provided for members of the glee club and the chapel choir and of the mandolin club and the orchestra. The study of music, however, is completely voluntary and outside of the regular course of the academy. In 1914–15, 32 teachers were employed in this academy, three of whom were devoted to the teaching of physics and chemistry, and two to the instruction in physical training. This academy maintains laboratories for physics, chemistry, and mechanical drawing, and allows the pupils in these subjects to devote two hours twice a week to laboratory work in these subjects. The voluntary instruction in music—both vocal and instrumental—is given one evening a week for about seven months; but much more time is given to music by individual pupils. An examination is required for admission to any one of the musical clubs. Membership in these clubs is considered an honor, and regularity of attendance at their rehearsals is strictly enforced.

Another endowed academy in New England maintains two courses of study—one called the Classical, the other the Scientific. In the Classical Course no observational subject whatever finds place, except optional physics and chemistry, each four periods a week in the senior year, and optional mechanical drawing for two periods a week in the senior year. The Scientific Course makes chemistry and physics elective one year earlier than the Classical, and therefore perhaps permits the pupils who elect it to advance farther in these two subjects. This academy possesses labora-

tories for physics and chemistry, and teaches both these subjects by the laboratory method. Opportunity is offered for the study of piano, organ, and harmony; but this instruction does not make part of any Course of Study maintained by the academy. The subject of drawing other than mechanical drawing is not mentioned either in the Course of Study or in the elaborate Constitution of this academy. Memory subjects have an overwhelming preponderance over observational.

In a good, partially endowed, New England school which is intended for sons of well-to-do people, the total number of recitation hours contained in the six years' programme of studies is 185, of which only 28 contain an element of observational work; and to arrive at this figure 28, there must be included in it all the hours given to physical training, namely, 12, and one hour a week given in the two earliest years to singing. Of the other 14 hours, 5 are devoted to manual training, 5 to physics, and 4 to chemistry, physics being a required study and chemistry an alternative for Greek. In this school nearly the whole weight of instruction is applied to languages, mathematics, and to a moderate proportion of historical teaching in which is included the history of English literature.

In another similar, preparatory school, also partially endowed, four distinct courses are maintained in each of the four years. One of these is called the Scientific Course, because it is intended to prepare candidates for admission to a Scientific School rather than to a College. This course prescribes a little more science in the lower middle (second) and senior years than any one of the other three courses, but out of its 79 periods of recitation in the four years, only 7 are devoted to science of any sort. All the rest are given to languages, history, and elementary mathematics. No drawing is taught in the school, and no music except during one hour a week for those pupils who desire it—about one fifth of the whole number.

In an excellent private school for boys, situated in New England, the five years' Course of Study shows a small proportion of expenditure for instruction in observational and scientific subjects. In-

struction is provided for 139 periods a week of 40 minutes each. Out of these only 16 periods are devoted to observational and scientific subjects all put together, being 11½ per cent. of the total instruction offered. Out of 11 teachers, 2 or 18½ per cent. give their whole attention to manual training, sloyd, drawing, physics, and chemistry; and these teachers are provided with facilities for teaching carpentry, wood-carving, basketry, metal-work, and clay-modelling, and with well-equipped laboratories for teaching physics and chemistry. The school also pays unusual attention to systematic athletic sports and exercises under careful supervision. It should be mentioned also that the spirit of the teaching in such subjects as languages and geometry is unusually observational, and the methods as far as possible inductive and concrete. It is one of the very few schools in the country which provides in its Junior Department of two preliminary years (not included in this statement) a teacher who takes the younger boys on observational walks in the country, and older boys on trips to commercial plants where the practical applications of physics and chemistry in the industrial arts may be seen. The school building contains a gymnasium; but the school puts its emphasis on out-of-door exercises in winter as well as in spring and fall, and to carry out this policy has a good Field and a well-equipped Field-house. In its Course of Study and its announcement for 1914–15 the word music does not occur except as one subject among many for ten-minute morning talks. Like some other schools mentioned in this Appendix, this school has made significant improvements in its programme for 1915–16.

In a good private secondary school for the sons of well-to-do families, recently organized and partially endowed in a New England town, there are 6 classes or years which exhibit varying percentages of observational studies. For the youngest, or Class VI, science has 3 periods out of 25 provided. In Class V political geography is the only subject that could be called scientific; and this subject has 2 periods out of 25. In Class IV science, which is physiology and hygiene, is assigned 2 periods out of 19. In the three classes already mentioned manual training is provided for 2 periods a week, and music is taught for 1 period; but for these periods no previous preparation by study or practice is required of

the pupils. In Class III forestry replaces the manual training; and no other science appears in the work of the year. In Class II physics, with 4 periods and 2 hours of laboratory work, is offered as an alternative for Latin with 5 periods; and elective science is offered for 2 periods more. Manual training for 2 periods reappears in the programme of this year; and the 1 period for music is continued. For Class II the school offers instruction covering 37 periods, of which chemistry and physics have each 4 periods with 2 hours of laboratory work in each. There is an option between these two subjects. Two periods are given to manual training and 1 to music, as before. One period a week is given to music in every one of the 6 years of this school. The boys are taught first to read music, and then are trained in part singing. Incidentally they learn a little about harmony, and about the technique and the various forms of musical composition. In the first class (last year) appreciation of music is taught in connection with the study of famous works. The school also provides teaching for two glee clubs and the school chorus, which are voluntary pupil organizations. In the final year (Class I) each pupil selects from the 37 periods of instruction, with the advice and approval of the headmaster, a course of study suited to his own needs, the amount of instruction provided by the school being at least twice as much as any single pupil can advantageously take.

In an excellent secondary school for girls, situated in New England, the whole course is divided into 8 classes, each of which has some instruction in sight-singing, the use of the voice in reading and speaking, and gymnastics. In the first year, or Class I, of the school, and out of a total of 19 periods in the week, one period is devoted to elementary science, without the use of any text-book; and 2 periods are devoted to drawing, color work, and writing. In the next year of the school, Class II, out of 21 periods, one period is devoted to botany, and 2 periods for half the year to physical geography; and the time devoted to drawing, color work, and writing is the same as in the first year. In the third year, Class III, out of 21 periods, one is given to the elements of zoölogy, no text-book being used; and 3 periods are devoted to sewing, stencilling, and color work. In the fourth year, Class IV, instruction is given in the elements of domestic economy, cooking, leather work, and color

work, and 4 periods are used for these subjects; but leather work and color work are elective subjects. In the fifth year, Class V, color work, copying at the Boston Museum of Fine Arts, carving and drawing are taught as elective subjects each for one period; but the copying at the Art Museum is done in the afternoon, outside of school hours. This special opportunity at the Museum may be used once a week in the afternoon in each of four years of the programme. In the sixth year, Class VI, 3 periods out of 29 are used for general science, and of the 29 periods, 5 are assigned to elective Greek. In the seventh year, Class VII, out of 37½ periods, 2 periods are assigned to physiology and 3 to chemistry as elective studies; and Greek is again elective for 5 periods. The pupil may not take 5 hours of science in Class VII. In the eighth and last year of the regular programme, Class VIII, out of 54 periods of instruction provided by the school, a large majority of which are elective, the pupil may, if she wish, devote 3 hours to physiology, 7 to chemistry, 2 to drawing, and 3 to music, thus giving a large part of her time to observational studies. Such a course would not, however, lead to a diploma, since with 15 hours given to observational work most pupils would find it impossible to meet the requirements of the school in regard to history and language. The number of recitation periods for members of the older classes averages 18 a week.

This school employs 8 room teachers, all of whom teach subjects not observational, and 31 department teachers, not all of whom give full time. Of the department teachers, 2 teach science, properly so-called, 2 teach musical subjects, 3 artistic subjects, and 7 teach various forms of household economics, games, or sports, and gymnastics. Approximately, one third of the teaching force is employed on observational, scientific, or skill subjects.

The excellent building of this school contains, besides the ordinary classrooms and recitation-rooms, six music-rooms, three laboratories, two play-rooms, a gymnasium with a stage suitable for concerts, tableaux, and plays, a swimming-pool, drawing- and wood-carving-rooms, a studio, and a domestic-science kitchen. This fact, as well as the varied instruction provided, shows that the school pays unusual attention to observational studies and to the acquisition by nearly every pupil of some sort of bodily skill.

The manual training or technical schools of the country, in the

secondary grade, generally retain in their courses a considerable amount of what is called academic work—that is, instruction in languages, history, and mathematics—but their programmes contain a large proportion of studies which may properly be called observational, such as carpentry, printing, music—both vocal and instrumental—drawing—both mechanical and free-hand—pattern-making, forging, chemistry, and physics. These schools offer a course in elementary science which gives a general view of science, and is provided for the purpose of arousing the interest of the pupils in the scientific method and its fruits. They usually offer a variety of industrial courses—such as courses in which printing, free-hand drawing, mechanical drawing, electricity, wood-working, or iron-working is the leading subject; and these courses naturally vary considerably in regard to the observational studies selected for each course. In all such courses the proportion of elective subjects is larger than in the ordinary high schools and academies; and the observational studies are apt to appear in the list of electives, although some of them frequently appear in the list of required studies. On the whole, the usual predominance of memory subjects disappears in the programmes of these schools, doubtless for the reason that they really attempt to prepare boys for specified industrial careers. For decided success in any good, modern trade or industry, a reasonable amount of sense-training is almost indispensable. In all such schools chemistry and physics are taught with some use of the laboratory method. Drawing—both mechanical and free-hand—has its proper place in the appropriate programmes of technical schools, and through it an invaluable training of both eye and hand can be acquired. Some of these schools pay more attention to music than the average high school; although the work in music is generally elective. In order to give time for working in the shops and laboratories, these schools usually extend the school day at least two hours into the afternoon without objection on the part of the pupils, because the value of the shop and laboratory work is as plain to them as it is to the teachers.

PUBLICATIONS OF THE GENERAL EDUCATION BOARD

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A MODERN SCHOOL

BY

ABRAHAM FLEXNER

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Report of the Secretary of the General Education Board, 1914-1915, paper, 96 pages.

PREFATORY NOTE

At several of its recent meetings, the subject of elementary and secondary education has been discussed by the General Education Board. President Eliot's paper, entitled "Changes Needed in American Secondary Education"[1] was prepared in this connection and was the centre of discussion at one meeting; the present paper formed the topic of discussion at another. The attitude of the Board towards the position taken in these two papers is expressed in the following, quoted from the minute adopted by the Board:

"The General Education Board does not endorse or promulgate any educational theory, but is interested in facilitating the trial of promising educational experiments under proper conditions.

"The Board authorizes the publication of these papers with a request for criticism and suggestions, and an expression of opinion as to the desirability and feasibility of an experiment of this type."

[1]Published by the General Education Board as No. 2 in its series of Occasional Papers.

A MODERN SCHOOL

BY
ABRAHAM FLEXNER

CURRENT EDUCATION

AS PRESIDENT ELIOT has so clearly pointed out in his paper on the "Changes Needed in American Secondary Education," tradition still too largely determines both the substance and the purpose of current education. A certain amount of readjustment has indeed taken place; in some respects almost frantic efforts are making to force this or that modern subject into the course of study. But traditional methods and purposes are strong enough to maintain most of the traditional curriculum and to confuse the handling of material introduced in response to the pressure of the modern spirit. It is therefore still true that the bulk of the time and energy of our children at school is devoted to formal work developed by schoolmasters without close or constant reference to genuine individual or social need. The subjects in question deal predominantly with words or abstractions, remote from use and experience; and they continue to be acquired by children because the race has formed the habit of acquiring them, or, more accurately, the habit of going through the form of acquiring them, rather than because they serve the real purposes of persons living to-day. Generally speaking, it may be safely affirmed that the subjects commonly taught, the time at which they are taught, the manner in which they are taught, and the amounts taught are determined by tradition, not by a fresh and untrammeled consideration of living and present needs.

I am not forgetful of the fact that the moment a student takes fire in studying any subject, no matter how remote or abstract, it assumes a present reality for him. Thus, sometimes through the personality of the teacher, less often through the congeniality of the subject matter, Latin and algebra may seem as real to particular students as woodwork, Shakespeare, biology or current events. It still remains true, however, that these cases are highly exceptional; and that most children in the elementary and high schools struggle painfully and ineffectually to bring the subject matter of their studies within a world that is real and genuine for them. The best of them succeed fitfully; most of them never succeed at all.

It is perhaps worth while stopping long enough to show by figures the extent to which our current teaching fails. Complete statistics which would tell us how many of all the pupils who study Latin and algebra and geometry fail to master them do not exist. But we know that a large percentage of the better students of these subjects try the College Entrance Examinations, and that for these examinations many receive special drill in addition to the regular teaching. Now in the examinations held by the College Entrance Board in 1915, 76.6 per cent. of the candidates failed to make even a mark of 60 per cent. in Cicero; 75 per cent. failed to make a mark of 60 per cent. in the first six books of Vergil, every line of which they had presumably read and re-read; 69.7 per cent. of those examined in algebra from quadratics on failed to make as much as 60 per cent.; 42.4 per cent. failed to make 60 per cent. in plane geometry. What would the record be if all who studied these subjects were thus examined by an impartial outside body? Probably some of those who fail do not do themselves justice; but as many—perhaps more—of the few who reach the really low mark of 60 per cent. do so by means of devices that represent stultification rather than intelligence. For nothing is commoner in the teaching of ancient languages and formal mathematics than drilling in arbitrary signs by means of which pupils determine mechanically what they should do, without intelligent insight into what they are doing. It is therefore useless to inquire whether a knowledge of Latin and mathematics is valuable, because pupils do not get it; and it is equally beside the mark to ask whether the effort to obtain this knowledge is a valuable discipline, since failure

is so widespread that the only habits acquired through failing to learn Latin or algebra are habits of slipshod work, of guessing and of mechanical application of formulæ, not themselves understood.

A word should perhaps be said at this point by way of explaining why the Germans appear to succeed where we fail. There are two reasons: in the first place, the German gymnasium makes a ruthless selection. It rejects without compunction large numbers whom we in America endeavor to educate; and on the education of this picked minority it brings to bear such pressure as we can never hope to apply—family pressure, social pressure, official pressure. Under such circumstances, success is possible with small numbers; but the rising tide of opposition to the classical gymnasium and the development of modern schools with equivalent privileges show that even in Germany the traditional education is undermined.

But not only do American children as a class fail to gain either knowledge or power through the traditional curriculum—they spend an inordinately long time in failing. The period spent in school and college before students begin professional studies is longer in the United States than in any other western country. An economy of two or three years is urgently necessary. The Modern School must therefore not only find what students can really learn—it must feel itself required to solve its problem within a given number of years—the precise number being settled in advance on social, economic and professional grounds. Its problem may perhaps be formulated in these terms: how much education of a given type can a boy or girl get before reaching the age of, let us say, twenty, on the theory that at that age general opportunities automatically terminate?

A MODERN CONCEPTION OF EDUCATION

Before I undertake to do this, it is necessary to define education for the purposes of this sketch; and for obvious reasons this definition will be framed from a practical rather than from a philosophical point of view. All little children have certain common needs; but, beginning with adolescence, education is full of alternatives. The education planned for children who must leave school at fourteen necessarily differs in extent and thus to a degree in content from that feasible for those who can remain, say, two years

longer, so as to acquire the rudiments of a vocation. Still different are the possibilities for children who have the good fortune to remain until they are eighteen or twenty, reasonably free during this lengthened period from the necessity of determining procedure by other than educational considerations. I assume that the Modern School of which we are now speaking contemplates liberal and general education in the sense last-mentioned. With regard to children who expect to enjoy such opportunities, what do we moderns mean when we speak of an educated man? How do we know and recognize an educated man in the modern sense? What can he do that an uneducated man—uneducated in the modern sense—cannot do?

I suggest, that, in the first place, a man educated in the modern sense, has mastered the fundamental tools of knowledge: he can read and write; he can spell the words he is in the habit of using; he can express himself clearly orally or in writing; he can figure correctly and with moderate facility within the limits of practical need; he knows something about the globe on which he lives. So far there is no difference between a man educated in the modern sense and a man educated in any other sense.

There is, however, a marked divergence at the next step. The education which we are criticising is overwhelmingly formal and traditional. If objection is made to this or that study on the ground that it is useless or unsuitable, the answer comes that it "trains the mind" or has been valued for centuries. "Training the mind" in the sense in which the claim is thus made for algebra or ancient languages is an assumption none too well founded; traditional esteem is an insufficient offset to present and future uselessness. A man educated in the modern sense will forego the somewhat doubtful mental discipline received from formal studies; he will be contentedly ignorant of things for learning which no better reason than tradition can be assigned. Instead, his education will be obtained from studies that serve real purposes. Its content, spirit and aim will be realistic and genuine, not formal or traditional. Thus, the man educated in the modern sense will be trained to know, to care about and to understand the world he lives in, both the physical world and the social world. A firm grasp of the physical world means the capacity to note and to interpret phenomena; a firm grasp of the social world means a compre-

hension of and sympathy with current industry, current science and current politics. The extent to which the history and literature of the past are utilized depends, not on what we call the historic value of this or that performance or classic, but on its actual pertinency to genuine need, interest or capacity. In any case, the object in view would be to give children the knowledge they need, and to develop in them the power to handle themselves in our own world. Neither historic nor what are called purely cultural claims would alone be regarded as compelling.

Even the progressive curricula of the present time are far from accepting the principle above formulated. For, though they include things that serve purposes, their eliminations are altogether too timid. They have occasionally dropped, occasionally curtailed, what experience shows to be either unnecessary or hopelessly unsuitable. But they retain the bulk of the traditional course of study, and present it in traditional fashion, because an overwhelming case has not—so it is judged—yet been made against it. If, however, the standpoint which I have urged were adopted, the curriculum would contain only what can be shown to serve a purpose. The burden of proof would be on the subject, not on those who stand ready to eliminate it. If the subject serves a purpose, it is eligible to the curriculum; otherwise not. I need not stop at this juncture to show that "serving a purpose," "useful," "genuine," "realistic," and other descriptive terms are not synonymous with "utilitarian," "materialistic," "commercial," etc., for intellectual and spiritual purposes are genuine and valid, precisely as are physical, physiological, and industrial purposes. That will become clear as we proceed.

It follows from the way in which the child is made and from the constitution and appeal of modern society that instruction in objects and in phenomena will at one time or another play a very prominent part in the Modern School. It is, however, clear that mere knowledge of phenomena, and mere ability to understand or to produce objects falls short of the ultimate purpose of a liberal education. Such knowledge and such ability indubitably have, as President Eliot's paper pointed out, great value in themselves; and they imply such functioning of the senses as promises a rich fund of observation and experience. But in the end, if the Modern School is to be adequate to the need of modern life, this concrete

training must produce sheer intellectual power. Abstract thinking has perhaps never before played so important a part in life as in this materialistic and scientific world of ours—this world of railroads, automobiles, wireless telegraphy, and international relationships. Our problems involve indeed concrete data and present themselves in concrete forms; but, back of the concrete details, lie difficult and involved intellectual processes. Hence the realistic education we propose must eventuate in intellectual power. We must not only cultivate the child's interests, senses, and practical skill, but we must train him to interpret what he thus gets to the end that he may not only be able to perceive and to do, but that he may know in intellectual terms the significance of what he has perceived and done. The Modern School would prove a disappointment, unless greater intellectual power is procurable on the basis of a realistic training than has been procured from a formal education, which is prematurely intellectual and to no slight extent a mere make-believe.

A MODERN CURRICULUM

Aside from the simply instrumental studies mentioned—reading, writing, spelling and figuring—the curriculum of the modern school would be built out of actual activities in four main fields which I shall designate as science, industry, æsthetics, civics. Let me sketch briefly a realistic treatment of each of these fields.

The work in science would be the central and dominating feature of the school—a departure that is sound from the standpoint of psychology and necessary from the standpoint of our main purpose. Children would begin by getting acquainted with objects—animate and inanimate; they would learn to know trees, plants, animals, hills, streams, rocks, and to care for animals and plants. At the next stage, they would follow the life cycles of plants and animals and study the processes to be observed in inanimate things. They would also begin experimentation—physical, chemical, and biological. In the upper grades, science would gradually assume more systematic form. On the basis of abundant sense-acquired knowledge and with senses sharpened by constant use, children would be interested in problems and in the theoretic basis on which their solution depends. They will make and understand a fireless cooker, a camera, a wireless telegraph; and they will ultimately

deal with phenomena and their relations in the most rigorous scientific form.

The work in science just outlined differs from what is now attempted in both its extent and the point of view. Our efforts at science teaching up to this time have been disappointing for reasons which the above outline avoids: the elementary work has been altogether too incidental; the advanced work has been prematurely abstract; besides, general conditions have been unfavorable. The high school boy who begins a systematic course of physics or chemistry without the previous training above described lacks the basis in experience which is needed to make systematic science genuinely real to him. The usual textbook in physics or chemistry plunges him at once into a world of symbols and definitions as abstract as algebra. Had an adequate realistic treatment preceded, the symbols, when he finally reached them, would be realities. The abyss between sense training and intellectual training would thus be bridged.

Of coördinate importance with the world of science is the world of industry. The child's mind is easily captured for the observation and execution of industrial and commercial processes. The industries growing out of the fundamental needs of food, clothing and shelter; the industries, occupations and apparatus involved in transportation and communication—all furnish practically unlimited openings for constructive experiences, for experiments and for the study of commercial practices. Through such experiences the boy and girl obtain not only a clearer understanding of the social and industrial foundations of life, but also opportunities for expression and achievement in terms natural to adolescence.

Under the word "æsthetics"—an inappropriate term, I admit—I include literature, language, art, and music—subjects in which the schools are mainly interested on the appreciative side. Perhaps in no other realm would a realistic point of view play greater havoc with established routine. The literature that most schools now teach is partly obsolete, partly ill-timed, rarely effective or appealing. Now nothing is more wasteful of time or in the long run more damaging to good taste than unwilling and spasmodic attention to what history and tradition stamp as meritorious or respectable in literature; nothing more futile than the make-believe by which children are forced to worship as "classics" or "standards" what

in their hearts they revolt from because it is ill-chosen or ill-adjusted. The historic importance or inherent greatness of a literary document furnishes the best of reasons why a mature critical student of literature or literary history should attend to it; but neither consideration is of the slightest educational cogency in respect to a child at school. A realistic treatment of literature would take hold of the child's normal and actual interests in romance, adventure, fact or what not, and endeavor to develop them into as effective habits of reading as may be. Translations, adaptations and originals in the vernacular—old and new—are all equally available. They ought to be used unconventionally and resourcefully, not in order that the child may get—what he will not get anyway—a conspectus of literary development; not in order that he may some day be certificated as having analyzed a few outstanding literary classics; but solely in order that his real interest in books may be carried as far and as high as is for him possible; and in this effort, the methods pursued should be calculated to develop his interest and his taste, not to "train his mind" or to make of him a make-believe literary scholar. There would be less pretentiousness in the realistic than there is in the orthodox teaching of literature; but perhaps in the end the child would really know and care about some of the living masterpieces and in any event there might exist some connection between the school's teaching and the child's spontaneous out-of-school reading.

Of the part to be played by art and music I am not qualified to speak. I do not even know to what extent their teaching has been thought of from this point of view. I venture to submit, however, that the problem presented by them does not differ in principle from the problem presented by literature. Literature is to be taught in the Modern School primarily for the purpose of developing taste, interest and appreciation, not for the purpose of producing persons who make literature or who seem to know its history; we hope to train persons, not to write poems or to discuss their historic place, but to care vitally for poetry—though not perhaps without a suspicion that this is the surest way of liberating creative talent. The Modern School would, in the same way, endeavor to develop a spontaneous, discriminating and genuine artistic interest and appreciation—rather than to fashion makers of music and art. It would take hold of the child where he is and endeavor to develop

and to refine his taste; it would not begin with "classics" nor would it necessarily end with them. By way of showing, however, that a real curriculum is not synonymous with an easy curriculum, I may say that, if, as one factor in appreciation, it should be decided that all children should at least endeavor to learn, say, some form of instrumental music, the fact that there are certain advantages to be gained from an early start must decide the "when" and the "how," regardless of the child's inclination or disinclination. It is none the less true, however, that the child's interests and capacities are in general so fundamental and so significant that the question here raised is not often presented. Most of what a child should do coincides with its own preference, or with a preference very readily elicited. But preference or lack of preference on the child's part is not a sole or final consideration.

The study of foreign languages must be considered in this connection. The case of Latin and Greek will be taken up later; German, French, perhaps other languages are now in question. Languages have no value in themselves; they exist solely for the purpose of communicating ideas and abbreviating our thought and action processes. If studied, they are valuable only in so far as they are practically mastered—not otherwise; so at least the Modern School holds. From this standpoint, for purposes of travel, trade, study, and enjoyment, educated men who do not know French and German usually come to regret it keenly. When they endeavor during mature life to acquire a foreign tongue, they find the task inordinately difficult and the results too often extremely disappointing. It happens, however, that practical mastery of foreign languages can be attained early in life with comparative ease. A school trying to produce a resourceful modern type of educated man and woman would therefore provide practical training in one or more modern languages.

The fourth main division which I have called civics, includes history, institutions, and current happenings. Much has been written, little done, toward the effective modernization of this work; so that though new views of historical values prevail in theory, the schools go on teaching the sort of history they have always taught and in pretty much the same way. "Should a student of the past," writes Professor Robinson of Columbia, "be asked what he regarded as the most original and far-reaching discovery of modern

times, he might reply with some assurance that it is our growing realization of the fundamental importance and absorbing interest of common men and common things."[1] Now the conventional treatment of history is political. Meanwhile, as Professor Robinson goes on to say, "It is clear that our interests are changing, and consequently the kind of questions that we ask the past to answer. Our most recent manuals venture to leave out some of the traditional facts least appropriate for an elementary review of the past and endeavor to bring their narrative into relation, here and there, with modern needs and demands. But I think that this process of eliminating the old and substituting the new might be carried much farther; that our best manuals are still crowded with facts that are not worth while bringing to the attention of our boys and girls and that they still omit in large measure those things that are best worth telling."[2] If this be true, as it appears to be, the realistic approach may make as much difference in history as in literature.

The subject of mathematics offers peculiar difficulty. Perhaps nowhere else is waste through failure so great. Moreover, even when a certain degree of success is attained, it happens often that it is quite unintelligent; children mechanically carry out certain operations in algebra, guided by arbitrary signs and models; or they learn memoriter a series of propositions in geometry. The hollowness of both performances—and most children do not accomplish even so much—is evident the moment a mathematical problem takes a slightly unfamiliar turn. The child's helplessness exhibits a striking lack of both mathematical knowledge and "mental discipline." It cannot be that this training through failure is really valuable. Finally, a point might even be made on the ground that algebra and geometry as traditionally taught are mainly deductive exercises, whereas practical living involves the constant interplay of observation, induction and deduction. The artificiality of conventional mathematics therefore raises a suspicion as to its value—even were the subjects mastered.

The truth is that the present position of both algebra and geometry is historical. Now, let us suppose the realistic standard applied—how much mathematics would be taught, when, and in

[1] "The New History," (New York, 1913) p. 132.

[2] Ibid, p. 137.

what form? "Mental discipline" as a formal object is not a "realistic" argument, since, as has been already said, it is an unproved assumption. At any rate, it is for those who believe in it to demonstrate how much good it does most children to make a failure in algebra and geometry. Is the elaborate study of mathematical and spatial relations through algebra and geometry a valid undertaking for its own sake? If so, neither the disinclination of the child nor the difficulty of the achievement is a reason for abandoning it. Disinclination and difficulty in that case simply put a problem up to the teachers of the subject: it is for them to find ways of triumphing over both. If, however, this study does not serve a legitimate and genuine purpose, then the mathematical curriculum must undergo a radical reorganization for the purpose of treating algebra and geometry from the standpoint of the other subjects which they serve. They would be taught in such form, in such amounts and at such times as the other subjects required. Thus geometry would be decreased in amount by something like two-thirds or three-fourths[1] and the form of the remaining fourth would be considerably modified. It is interesting to observe that doubt as to the soundness and value of our mathematical instruction has recently become so serious a matter that the Association of Teachers of Mathematics in New England has suggested "a one-year course in elementary algebra and geometry of a concrete sort, designed so far as possible to test the pupil's qualifications for future mathematical study";[2] and Dr. Snedden has raised the question as to why girls in high schools or as candidates for college should be required to present algebra; he has also urged that a knowledge of algebra is of no importance to men following law, medicine, journalism, or theology.[3] Professor Breslich of Chicago, has been attacking the same problem vigorously from a not unrelated point of view.[4] Without considering any point settled, it is clear that a Modern School which wiped the slate of mathematics and

[1] "All the facts of geometry that a skilled mechanic or an engineer would ever need could be taught in a few lessons. All the rest is either obvious or is commercially and technically useless."—D. E. Smith, "Teaching of Geometry," (New York, 1911) p. 7.

[2] Preliminary Report on Status of Mathematics in Secondary Schools, December, 1914, p. 11.

[3] Ibid, p. 4.

[4] First Year Mathematics, (Chicago, 1906.) Author's Preface.

then subsequently wrote upon it only what was found to serve the real needs of quantitative thought and action might evolve a curriculum in mathematics that we should not recognize.

For convenience sake, the four large fields of activity have been separately discussed. But it must be pointed out that the failure of the traditional school to make cross connections is an additional unreality. The traditional school teaches composition in the English classes; quantitative work, in the mathematics classes; history, literature, and so on each in its appropriate division. Efforts are indeed making to overcome this separateness but they have gone only a little way. The Modern School would from the first undertake the cultivation of contacts and cross-connections. Every exercise would be a spelling lesson; science, industry, and mathematics would be inseparable; science, industry, history, civics, literature, and geography would to some extent utilize the same material. These suggestions are in themselves not new and not wholly untried. What is lacking is a consistent, thoroughgoing, and fearless embodiment. For even the teachers who believe in modern education are so situated that either they cannot act, or they act under limitations that are fatal to effective effort.

In speaking of the course of study, I have dwelt wholly on content. Unquestionably, however, a curriculum, revolutionized in content, will be presented by methods altered to suit the spirit and aim of the instruction. For children will not be taught merely in order that they may know or be able to do certain things that they do not now know and cannot now do, but material will be presented to them in ways that promote their proper development and growth—individually and socially. For education is not only a matter of what people can do, but also of what they are.

In the preceding sketch, I have made no distinction between the sexes. It is just as important for a girl as it is for a boy to be interested in the phenomenal world, to know how to observe, to infer, and to reason, to understand industrial, social, and political developments, to read good books, and to finish school by the age of twenty. Differentiation at one point or another may be suggested by experience. In any event the Modern School, with its strongly realistic emphasis will undoubtedly not overlook woman's domestic rôle and family function.

This necessarily brief and untechnical sketch will perhaps become more definite if I look at the curriculum from the standpoint of the omissions. Let us restate our guiding thesis: modern education will include nothing simply because tradition recommends it or because its inutility has not been conclusively established. It proceeds in precisely the opposite way: *it includes nothing for which an affirmative case cannot now be made out.* As has already been intimated, this method of approach would probably result in greatly reducing the time allowed to mathematics, and in decidedly changing the form of what is still retained. If, for example, only so much arithmetic is taught as people actually have occasion to use, the subject will shrink to modest proportions; and if this reduced amount is taught so as to serve real purposes, the teachers of science, industry, and domestic economy will do much of it incidentally. The same policy may be employed in dealing with algebra and geometry. What is taught, when it is taught, and how it is taught will in that event depend altogether on what is needed, when it is needed, and the form in which it is needed.

Precisely the same line of reasoning would be applied to English, history, and literature. For example: There has been a heated discussion for years on the subject of formal grammar, which has been defended, first, on the ground that it furnishes a valuable mental discipline; second, on the ground that it assists the correct use of language. It is passing strange how many ill-disciplined minds there are among those who have spent years being mentally disciplined now in this subject, now in that. The Modern School would not hesitate to take the risk to mental discipline involved in dropping the study of formal grammar. It would, tentatively, at least, also risk the consequences to correct speech involved in the same step. For such evidence as we possess points to the futility of formal grammar as an aid to correct speaking and writing. The study would be introduced later, only if a real need for it were felt—and only in such amounts and at such periods as this need clearly required.

In respect to history and literature, a Modern School would have the courage not to go through the form of teaching children useless historic facts just because previous generations of children have

learned and forgotten them; and also the courage not to read obsolete and uncongenial classics, simply because tradition has made this sort of acquaintance a kind of good form. We might thus produce a generation as ignorant of the name of the Licinian laws as we who have studied them are ignorant of their contents and significance; a generation that did not at school analyze Milton's "Lycidas" or Burke's speech as we did, who then and there vowed life-long hostility to both. But might there not be an offset if the generation in question really cared about the history and politics of, say, modern England or New York City, and read for sheer fun at one time or another and quite regardless of chronological order Homer, Chaucer, Shakespeare, Walter Scott, Stevenson, Kipling, and Masefield?

Neither Latin nor Greek would be contained in the curriculum of the Modern School—not, of course, because their literatures are less wonderful than they are reputed to be, but because their present position in the curriculum rests upon tradition and assumption. A positive case can be made out for neither. The literary argument fails, because stumbling and blundering through a few patches of Latin classics do not establish a contact with Latin literature. Nor does present-day teaching result in a practical mastery of Latin useful for other purposes. Mature students who studied Latin through the high school, and perhaps to some extent in college, find it difficult or impossible to understand a Latin document encountered in, say, a course in history. If practical mastery is desired, more Latin can be learned in enormously less time by postponing the study until the student needs the language or wants it. At that stage he can learn more Latin in a few months than he would have succeeded in acquiring through four or five years of reluctant effort in youth. Finally, the disciplinary argument fails, because mental discipline is not a real purpose; moreover, it would in any event constitute an argument against rather than for the study of Latin. I have quoted figures to show how egregiously we fail to teach Latin. These figures mean that instead of getting orderly training by solving difficulties in Latin translation or composition, pupils guess, fumble, receive surreptitious assistance or accept on faith the injunctions of teacher and grammar. The only discipline that most students could get from their

classical studies is a discipline in doing things as they should not be done.[1]

EXTRA CURRICULAR ACTIVITIES

So far I have discussed the Modern School only from the standpoint of its course of study. It is time now to mention other implications of the realistic or genuine point of view. If children are to be taught and trained with an eye to the realities of life and existence, the accessible world is the laboratory to be used for that purpose. Let us imagine a Modern School located in New York City; consider for a moment its assets for educational purposes: the harbor, the Metropolitan Museum, the Public Library, the Natural History Museum, the Zoological Garden, the city government, the Weather Bureau, the transportation systems, lectures, concerts, plays, and so on. Other communities may have less, but all have much. As things now are, children living in this rich and tingling environment get for the most part precisely the same education that they would be getting in, let us say, Oshkosh or Keokuk. Again, the Modern School is as much interested in the child's body as in his mind. It would therefore provide play-facilities, sports, and gymnastics. A study of Gary[2] and of the country day schools, now springing up should tell us whether the Modern School should or should not seek to provide for the child's entire day. Some of this additional material, we already know pretty well how to organize and use; as for the rest, we shall have to find out.

It is evident that, while in some directions the Modern School would have a fairly clear path, in others it would have to feel its way, and in all its attitude would be distinctly tentative and experimental. To no small extent it would have to create apparatus and paraphernalia as it proceeds. Textbooks, for example, almost invariably conform to tradition; or innovate so slightly as to be, from our point of view, far from satisfactory. The Modern School would thus at the start be at a great disadvantage as compared with

[1] I should perhaps deal with yet another argument—viz. that Latin aids in securing a vigorous or graceful use of the mother tongue. Like the arguments previously considered, this is unsubstantiated opinion; no evidence has ever been presented in proof.

[2] The General Education Board has just authorized a study of the Gary schools, the results of which will be published.

established schools that seek gradual improvement through readjustment. But it would have this advantage—that it could really try its experiments with a free hand.

ORGANIZATION OF THE MODERN SCHOOL

President Eliot's paper was called "Changes Needed in Secondary Education." But the habits and capacities needed in a reconstructed secondary school are those whose formation must be begun in the primary school. A modern secondary school cannot be built on a conventional elementary school. If the primary years are lost in the conventional school, the child's native freshness of interest in phenomena has to be recovered in youth—a difficult and uncertain task, which, even if successful, does not make up the loss to the child's fund of knowledge and experience. Nor can the child's singular facility in acquiring a speaking command of other languages be retrieved. The Modern School would therefore have to begin with a vestibule, an elementary "Vorschule," in which children would be started properly. The relation between elementary and secondary education would be a matter for experimental determination; for whatever may prove to be right, the present break is surely wrong. So, also, the relation of the Modern School to the American College would have to be worked out by experience.

POSSIBLE RESULTS

Would the proposed education educate? Many of the disagreeable features of education with which under existing circumstances children are compelled to wrestle would be eliminated. Would not the training substituted be soft—lacking in vigor, incapable of teaching the child to work against the grain? Again, is there not danger that a school constituted on the modern basis would be unsympathetic with ideals and hostile to spiritual activity?

Two questions are thus raised, (1) the question of discipline, moral and mental, (2) the question of interest or taste.

There is, I think, no harm to be apprehended on either score. The Modern School would "discipline the mind" in the only way in which the mind can be effectively disciplined—by energizing it through the doing of real tasks. The formal difficulties which the Modern School discards are educationally inferior to the

genuine difficulties involved in science, industry, literature and politics; for formal problems are not apt to evoke prolonged and resourceful effort. It is, indeed, absurd to invent formal difficulties for the professed purpose of discipline, when, within the limits of science, industry, literature, and politics, real problems abound. Method can be best acquired, and stands the best chance of being acquired, if real issues are presented. Are problems any the less problems because a boy attacks them with intelligence and zest? He does not attack them because they are easy, nor does he shrink from them because they are hard. He attacks them, if he has been wisely trained, because they challenge his powers. And in this attack he gets what the conventional school so generally fails to give—the energizing of his faculties, and a directive clue as to where he will find a congenial and effective object in life.

A word on the subject of what I have just called the "directive clue." Our college graduates are in large numbers pathetically in the dark as to "what next." Even the elective system has not enabled most of them to find themselves. The reason is clear. A formal education, devoted to "training the mind" and "culture" does little to connect capacity with opportunity or ambition. The more positive endowments, of course, assert themselves; but the more positive endowments are relatively scarce. In the absence of bent, social pressure determines a youth's career in America less frequently than in more tightly organized societies. But an education that from the start makes a genuine appeal will disclose, develop and specialize interest. It will, in a word, furnish the individual with a clue.

In this connection it may be fairly asked whether, in the end, it will not turn out that the Modern School practically eschews compulsion. Not at all. But it distinguishes. First of all, the interests of childhood, spontaneous or readily excitable, are of great educational significance: interests in life, objects, adventure, fancy —these the Modern School proposes to utilize and to develop in their natural season. Next, the capacities of childhood—for the learning of languages, for example—of these the Modern School proposes to make timely use with a view to remote contingencies. So far there is little need to speak of compulsion. Compulsion will be employed, however, to accomplish anything that needs to be accomplished by compulsion, provided it can be accomplished

by compulsion. Children can and, if necessary, must be compelled to spell and to learn the multiplication table, and anything else that serves a chosen purpose, near or remote; but they cannot be compelled to care about the Faerie Queene, and sheer compulsion applied to that end is wasted. If children cannot through skilful teaching be brought to care about the Faerie Queene, compulsory reading of a book or two is as futile a performance as can be imagined. The Modern School will not therefore eschew compulsion; but compulsion will be employed with intelligence and discrimination.

As to the second question—whether the Modern School would not be spiritually unsympathetic, the answer depends on the relation of genuine interests of a varied character to spiritual activity. It is, of course, obvious that, if the Modern School were limited to industrial or commercial activities, with just so much language, mathematics and science as the effective prosecution of those activities requires, the higher potentialities of the child would remain undeveloped. But the Modern School proposes nothing of this kind. It undertakes a large and free handling of the phenomenal world, appealing in due course to the observational, the imaginative and the reasoning capacities of the child; and in precisely the same spirit and with equal emphasis, it will utilize art, literature and music. Keeping always within reach of the child's genuine response should indeed make for, not against the development of spiritual interests. Are science and such poetry as children can be brought to love more likely or less likely to stir the soul than formal grammar, algebra, or the literature selections that emanate from the people who supervise the college entrance examinations?

The education of the particular pupils who attend the Modern School might prove to be the least of the services rendered by the School. More important would perhaps be its influence in setting up positive as against dogmatic educational standards. We go on teaching this or that subject in this or that way for no better reason than that its ineffectiveness or harmfulness has not been established. Medicines were once generally and are still not infrequently prescribed on exactly the same basis. Modern teaching, like modern medicine, should be controlled by positive indications. The schools should teach Latin and algebra, if at all,

just as the intelligent physician prescribes quinine, because it serves a purpose that he knows and can state. Nor will tact and insight and enthusiasm cease to be efficient virtues, simply because curriculum and teaching method are constant objects of scientific scrutiny.

In education, as in other realms, the inquiring spirit will be the productive spirit. There is an important though not very extensive body of educational literature of philosophical and inspirational character; but there is little of scientific quality. The scientific spirit is just beginning to creep into elementary and secondary schools; and progress is slow, because the conditions are unfavorable. The Modern School should be a laboratory from which would issue scientific studies of all kinds of educational problems—a laboratory, first of all, which would test and evaluate critically the fundamental propositions on which it is itself based, and the results as they are obtained.

The inauguration of the experiment discussed in this paper would be at first seriously hampered because of the lack of school paraphernalia adapted to its spirit and purposes. Textbooks, apparatus and methods would have to be worked out—contrived, tentatively employed, remodelled, tried elsewhere, and so on. In the end the implements thus fashioned would be an important factor in assisting the reorganization and reconstruction of other schools—schools that could adopt a demonstration, even though they could not have made the original experiment.

Finally, the Modern School, seeking not only to train a particular group of children, but to influence educational practice, can be a seminary for the training of teachers, first, its own, then others who will go out into service. The difficulty of recruiting a satisfactory staff to begin with must not be overlooked; for available teachers have been brought up and have taught on traditional lines. On the other hand, the spirit of revolt is rife; and teachers can be found whose efforts have already passed beyond conventional limits. With these the new enterprise would be started.

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BY
EDWIN A. ALDERMAN

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THE FUNCTION AND NEEDS OF SCHOOLS OF EDUCATION IN UNIVERSITIES AND COLLEGES

BY
EDWIN A. ALDERMAN

THE purpose of this paper is to ascertain as definitely as the present stage of educational development will permit, and to state as clearly as may be done in a brief compass:

I. What should be the precise and definite aims of a school or college of education within a university, especially a state university considered as the head of a modern democratic school system;

II. What should be the essential equipment, both physical and instructional, of such a school or college, whereby it may reasonably hope to achieve those aims;

III. Whether observation schools, practical work in schools, and experimental schools are essential adjuncts to such schools or colleges, and, if so, what are the best practical methods for obtaining experience in observation, practice in teaching, and the scientific spirit in investigation as part of student training.

In addition to such personal experience as I possess, and in further addition to such literature of the subject as is available, I prepared and sent out to about one hundred leading American teachers, scholars, and administrators, in different fields of educational work, the inevitable questionnaire, embodying the above questions and asking a statement of their judgment. Answers were received from seventy-eight persons. This paper is, in a measure, a digest or analysis—a sort of composite judgment—of these workers in various fields. There was general agreement among them all that the existence of such a school or college satisfies both the historical function and very vital social needs of our universities.

Historically, as early as the end of the sixteenth century, Richard Mulcaster, an English schoolmaster, is found pleading for a "College of Traine" and asking the pointed question: "Why should not leaders be well provided for to continue their whole life in school, as Divines, Lawyers, and Physicians do in their several professions?" Germany led the way by founding the first pedagogical seminary in 1619 at Köthen under Ratich. This foundation gave birth to the normal school development on the continent of Europe, and later to the establishment of chairs in seminaries within universities for the systematic study of educational problems. In Germany, as later in America, the need for the training of elementary teachers first suggested professional training and our first normal schools, established in Massachusetts and New York in 1839, were founded in response to an outside demand to satisfy this need and to the fact, then becoming evident, that a new and vigorous nation had been born and must be perpetuated. Agencies for the professional training of secondary teachers came more slowly. The expanding curricula of normal schools, providing for the instruction of secondary teachers, suggested to the colleges, especially the state universities of the West, the creation of normal departments; and between 1845 and 1870 Henry Barnard and Brown University led in the establishment of such departments in a number of American colleges. These departments were in no sense professional schools but rather tentative efforts to train teachers in school procedure and methods. This normal school movement, both in colleges and normal schools proper, originated with the people and as a result of the pressure of public need, and had no better defined purpose than the training of teachers of all grades, but especially the elementary grades of school work. Passing through a natural process of evolution under changing conditions of education, the movement in the universities eventually came to concern itself with the professional preparation of secondary teachers. By the last quarter of the nineteenth century, this new impulse had taken very definite shape in Great Britain and America. Single chairs for professional teacher-training had been established at Edinburgh and Glasgow in the early 'seventies, and in 1879, under William H. Payne, Michigan became the pioneer of such training in America by establishing a professorship in the "Science and Art of Teaching." The pur-

pose of this pioneer school was thus, for the time, admirably stated:

1. To fit university students for the higher positions in the public school service,

2. To promote the study of educational science,

3. To teach the history of education and of educational systems and doctrines,

4. To secure to teaching the rights, prerogatives, and advantages of a profession,

5. To give a more perfect unity to our state educational system by bringing the secondary schools into closer relations to the university.

The new departure was grounded on the principle that the primary function of the university was to teach and to supply the world with teachers. There was a foreshadowing in its origin of the widening processes of educational work as manifested in our present complicated organization, involving supervision, school superintendencies, and large executive fields. By the beginning of the twentieth century, it was perfectly clear that a new faculty had been created within our universities, informed with an humble but scientific spirit, confident of its potential value, and shed of raw empiricism and charlatanism. This faculty, being of professional character, belonged logically in strong universities where many faculties existed and all complemented and reinforced one another. This new faculty had come into being despite the strong traditional disinclination to admit new subjects into the circle of liberal training, and despite the stronger belief, among those who taught to adults highly but simply organized subjects like mathematics and Latin, that the subject matter was all in all and that the teacher was born, not made. Such institutions as Teachers College of Columbia, George Peabody College for Teachers at Nashville, and the Colleges or Schools of Education in the Universities of Chicago, Illinois, California, Washington, Missouri, and Kansas, and in Clark and Harvard Universities, to mention a few notable examples, meant the end of mere toleration and the beginning of coördinate work in preparation for the most vital of all professions.[1] Slowly but surely the immensity of the

[1] For a statement in regard to the present organization of professional training for teachers in American Universities, see Appendix, page 30.

business of teaching as the greatest and most daring of human industries took hold of our democratic imagination. We saw three-fourths of a million teachers—more than the combined force of clergymen, lawyers, doctors, engineers—attempting to instruct twenty million young people at an annual cost of $500,000,000. Such a task as this was no work for amateurs. We saw the schools of today outgrowing mere literary instruction and the exaltation of memory, and seeking to train the eye, the hand, the senses. We saw, furthermore, with the mind's eye, the schools of tomorrow, in town and country, working away from a curriculum adapted to a small and specialized class toward one which should be truly representative of the needs and conditions of a society made over in spirit and method by steam, the gas engine, electricity, natural science, immigration, and urban development. A great readjustment was at hand as to the very nature of schooling and curricula. A fresh realization of the fact that no one knew, after ages of effort, the best way to teach a child anything, took possession of the minds of thoughtful teachers and anxious parents. It was realized, as patient old Pestalozzi tried to teach his generation, that knowledge, apart from its social bearings, was fairly useless. Work as an educational agent came to supplant bookish learning. New educational forms—vocational, manual, continuation schools —shaped themselves more or less clearly in the thought of society, and the teacher as a creator and moulder of life, as well as a classroom tactician, began to appear.

In the states of the South, attempting to reconquer their old place in an industrial order, these facts made great appeal. After providing for university education to supply the precious stuff of scholarship to its youth and normal school training for its elementary teachers, these states turned their attention to education as a university subject with the purpose of developing general technical educational knowledge and determining wise educational policies or programs in their regions. Chairs of education in the universities of the South have existed for thirty years. Twenty-three years ago, the writer of this paper held such a chair in the University of North Carolina, somewhat blindly feeling after a broader background of educational knowledge and truer craftsmanship in teaching. Today all Southern universities maintain a school or department of education. The Peabody Education

Fund has, in recent years, granted $40,000 to each of the following universities, on condition that the university in each case contribute for the perpetual maintenance of the School of Education at least $10,000, annually:

University of Alabama
University of Arkansas
University of Florida
University of Georgia
State University of Kentucky
Louisiana State University
University of Mississippi
University of North Carolina
University of Virginia

The following have, at present, taken advantage of the offer:

University of Alabama
University of Florida
University of Georgia
University of North Carolina
University of Virginia

This gift with its conditions has stimulated all the universities to greater practical service. These departments at this moment seem to me to possess a peculiar interest and to deserve thoughtful attention, for they are just entering upon their careers as organized and definite agencies.

Having thus briefly outlined the origin, progress, and present aspect of education as a professional study, I shall proceed to answer in order the stated inquiries of this investigation.

I. THE DEFINITE AIMS OF DEPARTMENTS OF EDUCATION

The definite aims of schools of education in our universities, appear to me to be fivefold in nature:

1. To afford opportunity for the study of education as an important function of society, and as of interest consequently to all university students whether they intend to become teachers or not, and tending frequently by its social appeal to draw into the profession increasing numbers of men of superior attainments. A new era in education will dawn when parents and citizens generally learn how to ask *why* intelligently and coöperatively as to all edu-

cational technique. Public sympathy and support of educational administration, in its larger directive aspects, will fall upon the shoulders of college-bred men and women as a duty and privilege of democratic citizenship. An appreciation of modern educational thought and tendency by such men and women will greatly increase its power and clarify its aims. I know of no better discipline to lead university students into an appreciation of education as a social function and of schools as social institutions. In this respect it may be confidently claimed that education is as fruitful a subject of academic study as economic or political science.

2. To give the necessary technical training for teaching or administration, whether special or advanced in character, to

(a) University students, with or without experience, who intend to teach;

(b) Secondary school principals and teachers;

This second purpose is now and should be for a decade a primary aim of educational departments in the nation—for the high school must in its final development become a sort of people's college from which the one-tenth of our youth now able to reach it will receive their entire school training.

(c) Normal school teachers and principals;

(d) College teachers of education;

(e) College teachers and administrators.

College professors have rarely studied their profession as a profession. They have only studied the subjects which they intend to teach. It is doubtful if at the beginning of their careers, their teaching skill equals the teaching skill of the trained high school instructors. Every college teacher would profit greatly by studying thoroughly the historical and contemporary problems of education, and of higher education in particular, together with the methods of college teaching. On the basis of such study the college professor would not only be a better teacher of his own subject, but a more effective participant in determining educational policies and a more sympathetic coöperator with the secondary schools.

(f) Superintendents, supervisors, and other executives of schools of all grades in city, county, or district.

The majority of the experts consulted did not deem it incumbent upon the university to prepare teachers of elementary grades. This

specific task belongs, they think, to the normal school. The problems of the two levels, though equally important, are essentially different, and emphasis is placed on this point not to circumscribe but to enhance the essential function of the normal school.

In my judgment, though mentioned last, the above training constitutes a most important field of opportunity for schools of education. Genuine constructive service is to be performed and really scientific results are to be attained in the work of supervision and administration and in the acquisition of skill to guide teachers and school authorities in testing and measuring their work. In the fields covered by the history of education and psychology, essentially important and stimulating as they may be made, there exists a certain tendency, owing to their similarity in content to the cultural subjects, to present them in such generalized form as to yield unfruitful results. But in the domain of administration and scientific evaluation, the situation is quite different. Here is something big, indefinite, disorganized, waiting for the very genius of the American mind and temperament, properly trained, to place it in order and to give it enduring form. Here is a career offering rewards in honor, service, and money, comparable, if not superior, to law or medicine, awaiting young men or women trained to organize and administer schools or systems with power and insight. Mr. Samuel P. Orth has recently declared that the position of Superintendent of Schools in American cities demands the learning of a college president, the consecration of a clergyman, the wisdom of a judge, the executive talents of a financier, the patience of a church janitor, the humility of a deacon, and the craftiness of a politician. Surely such a many-sided job will one day undergo sub-division and offer the highest inducements to ambition and intelligence.

3. To develop scientific methods of testing school work and to furnish demonstrations of the way in which these methods may be applied, thus developing a spirit of scientific observation and experimentation tending to increase our knowledge of the science and art of education.

4. To become a centre of educational influence to which teachers of all grades and kinds should be able to resort for information, inspiration, and all kinds of educational guidance. Such a school

would miss a most definite aim if it failed to achieve this kind of usefulness. A state university should keep itself sympathetically informed of the widening purposes and improving methods of the state school system of which it is an organic part. A school of education ought, therefore, to bring to the different faculties of a university the knowledge, interest, and coöperation with the state system, without which the institution cannot properly fulfil its function.

5. To carry out to the general public beyond university walls clearer ideas about educational work and a better conception of civic duty by furnishing information and stimulus through lectures, bulletins, visitations, technical guidance and advice on such questions as location, equipment, and construction of school buildings, medical inspection, community sanitation, consolidation of schools, formulation of study courses, playgrounds, manual training, school libraries.

To sum up, then, it may be claimed, at this point, that a school or college of education in a university should be a professional school like the schools of medicine, engineering, and law, not a chair of education co-equal with single subjects like mathematics or Latin. The analogy, of course, as regards medicine certainly is not quite exact, for the college of education remains in closer contact with the science departments at all levels. It should aim to prepare young men and women of liberal culture for leadership in scientific educational work, through whom the whole educational process from the primary school to the university may be tied in coöperative unity, and the whole process ordered along such scientific lines as are, at the time, clearly apprehended. What is deemed scientific or valid in education may, of course, change with time. One hundred and forty years ago the aim of the process would probably have been stated in utterly different terms by Rousseau; a hundred years ago very differently, perhaps, by Goethe; and certainly a decade ago Dr. William T. Harris would have expressed it in different forms. Through all these changes of particular aim the university must simply confront the whole problem with the whole of that which it has to contribute.

This college of education should contain both undergraduate and graduate courses. The undergraduate college would have as its function (1) to train young men and women to practise skil-

fully the art of teaching; (2) to give instruction in the processes of administration and supervision; (3) to furnish teacher-candidates with the technique and spirit which will enable them to measure the results of their work. Such a course should culminate in the baccalaureate degree in education, and should comprise at least thirty semester hours of professional work or one-fourth of the total required for the bachelor's degree, in addition to the necessary observation and apprentice teaching.

The graduate school or college, while undertaking, on the basis of the bachelor's degree or equivalent training, wider instruction in teaching and supervision, would have for its chief function research and directed experimentation, and its instruction should issue in the master's or doctor's degree. The details of this organization must be here omitted, but attention is called to the graduate organizations of Columbia, Chicago, Harvard, Peabody, and Illinois, and the undergraduate organization of the University of Washington.

II. THE ESSENTIAL EQUIPMENT FOR DEPARTMENTS OF EDUCATION

It is difficult to state in precise form just what should be the essential equipment for the accomplishment of these defined aims of professional schools of education. The academic purposes of a department of education may be realized with one or two professors, dealing with the history, psychology, and social aspects of the subject. Indeed a single, able, purposeful man like Hanus at Harvard, or Payne at Michigan, or Sadler in England, may achieve much by creating an atmosphere and illustrating a spirit, but a professional school needs a personnel and a material equipment adequate to its aim. The minimum instructorial staff necessary for such work will also depend in some measure on the extent to which other departments are equipped to train teachers. There should, unquestionably, be courses offered in methods of teaching history, biology, Latin, English, and other individual subjects. Such courses may be supplied in two ways:

1. They may be offered solely by the members of the staff of the school of education, and this disposition of this phase of the work is strongly advocated by a majority of the leaders in professional training. Their contention is that it is inexpedient to use academic professors in organic connection with schools of

education because of fundamental differences in point of view. The academic professor is primarily concerned with the content of his subject and his finest aim is, by research, to extend the boundaries of that content. The organization of material for presentation to the learning mind and the details of the procedure of presentation are not to him matters of primary significance. In short, he is engrossed with teaching as a means of spreading and increasing knowledge and not with teaching as an act of professional public service.

2. The academic departments dealing with the subject-matter may offer certain courses in methods of teaching given subjects, provided that the professors giving them be chosen by the school of education and be under the control of that school. The academic professors so chosen should be selected by reason of their special skill in teaching and of their proved interest in teaching as a professional task. It is idle to deny that the colleges contain a certain proportion of such men and it would seem wise, as well as expedient, to make use of them lest otherwise an iron wall of misunderstanding and even active ill-will arise between those who actually teach men and those who are seeking to teach men to teach. It is probably true that the average academic professor is unfitted by inclination and point of view for rendering satisfactory service in professional schools of education, but whenever one is found whose genius and aptitudes reach out toward that field, his acquisition seems to me a clear gain. Assuming that reasonable facilities for academic preparation have been provided by the college of arts and science, I venture to suggest the following as a minimum essential equipment of an allied college or school of education in a university, and in this suggestion my correspondents are in practical agreement. By minimum, I do not mean the very smallest number of instructors and the most restricted physical equipment under which the work can be carried to any sort of respectable accomplishment, but rather such a staff of instructors and such material as will guarantee genuine results and a momentum of growth which will arrest the public attention and satisfy the public need. The statement is based on an estimated registration of about one hundred students.

1. A building containing:

(a) Properly furnished classrooms and offices,

(b) A simple laboratory for educational psychology,

(c) An educational library,

(d) An educational exhibit room for the display and study of appliances, text books, lantern slides, etc.

(e) Equipment for the teaching of home economics and practical arts.

2. A fund available for purchase of books, apparatus, publication of bulletins, traveling expenses of the faculty, clerical help, postage, etc., approximating $3,000 a year.

3. An administrative and instructorial staff consisting of:

(a) A Professor of the History and Philosophy of Education,

(b) A Professor of Educational Psychology and Methods of Teaching,

(c) A Professor of Educational Administration,

(d) A Professor of Elementary Education and Rural Education,

(e) A Professor of Secondary Education,

(f) Three Instructors in the fields of Vocational Education, Practical Arts and Drawing, and Practical Work in Teaching,

(g) An Instructor in Statistics and Educational Measurements.

An annual income of $30,000 will be necessary to provide for this staff, and if the numbers specializing in education increase, the staff must be correspondingly increased.

I have elsewhere defined as one of the aims of a department of education the carrying of technical guidance to advancing community life. In highly developed universities this great service has been separately organized under the general term of academic or university extension. This, of course, is the proper way to handle so great an undertaking, but, in my judgment, in the states of the South at least, and probably in other regions where concerted community effort is not highly developed, the schools or colleges of education should be expected to inaugurate these new and needed activities and conduct them in such fashion as to fix upon states and communities deeply steeped in individualism the principle of concerted action for the common good, the habit of reliance upon expert counsel, and the desire for civic betterment based on exact knowledge. Of course, the major

members of the college of education should all be drawn into field work—state and city surveys—and the proper analogy for their activities should be geological surveys rather than extension work. A certain propagandist work, however, must be done by this department. No other department has the means to be in such close touch with the masses of the people, and in no other way can the confidence of the people be so justly gained. No other department ought to be so able to mould and direct public opinion, so in sympathy with popular needs, so likely, as I have said, to fasten upon the state the fashion of expecting guidance from its seminaries of learning, and in such a position to interpret to their colleagues within universities, to picked youth, to publicists and communities, the unity and full meaning of the whole educational purpose of democracy. I rank this sort of endeavor in the same class with so much of the pioneer work attempted by the General Education Board which, when set going, will generally be taken over in time by the state and carried forward as a permanent state agency. I conceive the content of such extension work to be in brief:

(a) Correspondence—advisory—state—local—individual,
(b) Summer schools,
(c) Conferences (state and local),
(d) The promotion of clubs for the intimate study, by students, of state and county affairs,
(e) Educational publications (bulletins, etc.)
(f) Organization of high school activities (literary societies, athletics, honor leagues),
(g) Library advice and loans,
(h) Educational research (state and local),
(i) Participation in educational campaigns (state and local) and contribution to educational legislation,
(j) Lectures (general and technical).

And I conceive the minimum staff for such service to be:

(a) A Director,
(b) One special agent who might give all of his time to extra-mural work,
(c) Clerical assistance.

I estimate the annual cost of the initial undertaking to be around the sum of $7,500.

It is hardly necessary to add that not a great many schools of education in the nation are attaining, or even attempting, the aims which I have here outlined. The South, if I may venture to localize in such a discussion as this, for the reason that I know best this field and because of the interest taken by the General Education Board in that region, has yet to realize the tremendous educational worth of such an undertaking when properly organized and equipped.

Owing to the demands made upon the treasuries of many of our states by the public schools, the agricultural schools, the county high schools, and the normal schools, some years will probably elapse before these departments can hope to receive from such states a sufficient appropriation to enable them to achieve the ends sought, if the states are at the same time to supply other needs.

III. OBSERVATION AND PRACTICAL WORK IN DEPARTMENTS OF EDUCATION

The most hopeful sign of the existence of a sound scientific spirit in modern American education I conceive to be the unanimous and enthusiastic belief of all my correspondents and of all recent expression of current opinion that schools of observation, practical work or practice teaching, as it is sometimes untactfully called, and experimentation are necessary adjuncts of a professional school for the training of teachers. In fact, the common judgment of American educational opinion about works down to the conviction that a college of education existing in a university, without some sort of close connection with a school or schools which may serve as a sort of clinic for demonstration and practice and as an agency of experimentation, is seriously incomplete and genuinely hampered in its work. As medical colleges have given up the practice of training physicians without hospitals, as agricultural colleges no longer attempt to train farmers without farms, as West Point relies on drill and practice to develop skill in military technique, as engineering schools fix their theoretical instruction by the use of basic tools and machines, as general science depends upon the laboratory for definite results, so whatever truths and principles about teaching exist can be invigorated and, in most cases, gained by the learner only through the habits of observation, experimentation, and testing. The average teacher teaches

as he was taught, and not as he is taught theoretically to teach, and that simply means that he unconsciously applies to his job what skill he possesses as the result of undirected observation. The real question or group of questions for us to solve is how shall prospective teachers get observation and practice in their proposed art under the most favorable conditions, and how, further, if they be gifted with greatly needed human qualities like sympathy, personality, genius for approach to adolescence, and insight, can they be put in the way of investigating the learning process, and, perchance, of discovering new and wise ways to organize the material of knowledge and to present it to the learning mind? Tests and forethought as to the nature of our educational material must take the place of guessing and patchwork. It is fair to say that at present apprentice work in practical teaching with secondary pupils is less satisfactorily administered than any other phase of teacher-training. It is even claimed that 10 per cent. of the $500,000,000 spent for education in the United States is devoted to re-teaching children what they have already been taught but have failed to learn.

The methods by which practical work in the training of teachers can be wisely carried on will depend upon the resources of the university and upon surrounding communities. An institution located in or near a large city or numerous towns can and will use different methods from one located in a smaller community.

There will be several classes of students to be provided for:

(a) Students in their junior and senior years who have never taught,

(b) Students who have had experience but without supervision,

(c) Students who are preparing for supervisory and administrative positions.

Class (a) should have a maximum of observation and practice; class (b) should have more observation work and needs less practice; class (c) will usually have had experience and should have opportunities for experimentation and testing, for observation of demonstration lessons, for solving problems connected with subject-matter and methods, and some supervision of inexperienced teachers.

The practical work sought after in colleges of education logically orders itself under three heads:

1. Observation,
2. Supervised or directed teaching,
3. Experimentation and investigation.

Observation is that phase of practical work which involves purposeful study under direction and supervision of the work of experienced teachers under normal conditions. It may be mere observation, which has a minimum value, or it may be practice under close supervision in a special school (Chicago), which has highest value, or it may be observation and practice in public schools, city and rural, under coöperative agreement with these schools and under supervision of a representative of the department (Harvard). This latter is the easiest and cheapest method and a necessary one, I think, no matter how many supplementary methods may be established and employed, not only because it is sensible to take advantage of the most available agencies, but because it is essential that candidate-teachers come in contact with actual school conditions for a considerable period of time, and this is the only method which secures this end.

The most serious objection to it is that it cannot be entirely controlled by the school of education. Such coöperation may be sought after in several ways:

(a) By supplementing the salaries of the teachers whose work is to be observed and under whom practice teaching is to be done, and, in addition, by having the work under the general supervision and direction of a representative of the department of education, and as closely controlled as possible by it;

(b) By employing specialists as heads of the different departments in the schools in which such observation and teaching is to be done—half the salary to be paid by the department of education (Iowa Plan). These specialists, in addition to directing the observation and practice, should teach one class of three hours a week in special methods in their subjects. This plan would not be feasible under all circumstances.

Supervised or directed teaching is the second process in this scheme and means actual teaching under direction for at least an hour a day. This should include at least two subjects in at least two grades (for instance, first and fourth in the high school). In some institutions senior students are sent to selected high schools in different portions of the state to teach one session under the

direction of the principal with such supervision as can be given by the department of education.

Perhaps the most feasible arrangement which can be made in the majority of colleges and universities is for the university to cooperate with a public school system, including the high school, by contributing a portion of the expenses and thereby securing some right, in coöperation with the school authorities, to direct the work, to use student teachers as apprentices, and to carry on experiments. I do not think I can better illustrate the working of three of these forms of practical teacher-training than by giving a brief summary of the methods in use in the University of Pittsburgh and in Harvard University, as reported by Professor C. B. Robertson, of Pittsburgh, and Professor Alexander J. Inglis, of Harvard.

The Pittsburgh plan requires all juniors and seniors in the School of Education who are without satisfactory experience to serve an apprenticeship in teaching as a part of their professional training. The juniors do but little systematic observation; in fact, most of the students do none. They are sent into near-by schools where they act as apprentices or assistants to the regular teachers of a department, usually the department representing their major subject. Here the students participate in classroom management and in most cases gradually work into the coaching of backward groups, care of laboratory sections, or supervision of study, and eventually take the recitation work under supervision part of the time. In certain cases some success has been had by giving members of the junior class charge of seventh and eighth grade classes for certain periods daily. The value of this form of junior experience seems to show to good advantage in the senior year when the student assumes full responsibility for the conduct of a class.

The juniors are carefully watched, regular reports being made by the student, department head, and supervisor from the university. Regular group conferences are held weekly at which the experiences of the apprentice teachers are discussed.

The practice work of the senior year consists of assuming complete charge of one or two classes daily in public and private schools that have made application for apprentice teachers. One of the classes taught *must* be in the student's major subject.

These cadet teachers are subject to all conditions and regulations of the regular teacher as to regularity of service, responsibility for the success of the pupils under their control, adjustment to and coöperation in the school spirit. They are subject to the school authorities under whom they work and are subject to constant *unannounced* supervision by the faculty of the school of education. At the weekly conference, which in a general way conforms to the junior conference, these cadet teachers submit in advance to the supervisor of apprentice teaching an outline or scheme for the work of each week. There is a constant effort to make the work practical. Courses in administration and pedagogy are given in the second semester of the senior year and are the outgrowth and climax of the cadet work.

The schools receiving the service of the apprentice pay only the actual cost of his transportation, and for every cadet teacher a school receives a limited scholarship for the use of one of its teachers in the school of education.

Plans have been consummated whereby certain teachers in selected schools are subsidized on condition that they give special attention to the cadet group.

Although the Harvard system for training secondary school teachers has many points in common with the Pittsburgh plan, it differs in other respects. At present the courses at Harvard are specifically designed for seniors and graduate students, the present registration being about equally divided between seniors and graduate students.

No student is admitted to apprentice courses in secondary school teaching unless he has taken, or is taking, the general course in the principles of secondary education. In addition he is supposed to have taken courses in (a) the principles of education, (b) the history of education, and (c) general and educational psychology. Further, he is required to present evidence (usually from instructors in other departments of the university) that he has manifested sufficient knowledge of the subject or subjects which he intends to teach in the secondary school. He is admitted to the apprentice teaching course at the option of the instructor in charge of that course, with due reference to his personality and other qualifications.

The course in the principles of secondary education is so or-

ganized that during the first half-year those who are planning to enter the course of apprentice teaching make systematic observation of teaching and class management in the secondary schools in the vicinity of the university. Previous to this time these students have been required to observe in all grades, elementary and secondary, in order to get a general survey of the whole. During the two months or one month before the close of the first semester this observation is made in the class which the student will conduct during the second semester.

The course in apprentice teaching comes in the second semester of the senior year. The work of the course consists primarily of actual teaching in one of the secondary schools in the vicinity of the university but the class meets twice a week as a whole for the discussion of problems and principles of classroom practice definitely connected with the student's experience in his practice teaching. Principles of method are considered in direct connection with practice so that theory and practice may be closely related.

Special courses in special methods are not given at Harvard University at the present time. Direction in connection with special methods is confined to the coöperation of heads of departments and qualified teachers in the schools in which the apprentice teaching is done.

Within easy reach of the university are more than fifty different high schools, with more than 1,000 teachers and enrolling more than 20,000 secondary school pupils, open to observation by the students of the university; and systematic observation is required of prospective secondary school teachers enrolled in the division of education. This group of schools includes general high schools, manual training high schools, technical high schools, commercial high schools, clerical high schools, practical arts high schools for girls, mechanic arts high schools, textile high schools, trade schools, vocational high schools, junior and senior high schools, private high schools of every description, public Latin schools, etc.

At present, contract agreements exist between the university and the school committees of cities within easy reach of the university. Apprentice teaching is provided for in those cities by these formal contracts. In accordance with the agreements made between the university and the school committees of these cities, candidates are assigned to practice-teaching positions in the

various cities after conference with the school authorities, who have the right to reject any candidate for satisfactory reasons.

The senior assigned to a position in any school, after a period of partial control and responsibility, assumes full responsibility of a single class during the last half of the school year, always under the supervision and control of the teacher assigned for that purpose. His period of service lasts for about eighteen weeks and the number of periods which he teaches varies from three to five per week according to the subject. Thus his classroom experience normally varies from fifty-four to ninety school periods.

The supervision and direction of the work of the apprentice teacher is shared by the teacher assigned for that purpose (usually the head of the department in the school), the principal of the school, and the college instructor in charge, with his assistants. By far the greatest share of the supervision rests with the teacher who is constantly in charge of the student's teaching.

Arrangements have recently been made by the division of education with the Boston School Committee whereby properly qualified students may act as assistants to teachers in the high schools of Boston, assuming partial responsibility for a given class. Such arrangements do not, however, provide for the amount of training deemed desirable. It is necessary to supplement such training by practical work in other schools where students are charged with larger responsibility. The essential disciplines sought in all this work are the disciplines of observation, supervision, the actual doing of things, and criticism. The chief defects of all this elaborate effort to provide practical training in teaching for teacher-candidates are:

1. Insufficient teaching staff to supervise properly the teaching practice attempted,

2. The difficulty of finding a suitable teacher to supervise the teaching of the subject in which the student has been specializing,

3. The difficulty of obtaining practice, under real masters of methods, in teaching special subjects, e. g., English, chemistry, mathematics.

IV. DEMONSTRATION AND EXPERIMENTATION IN DEPARTMENTS OF EDUCATION

Thus far our attention has been directed to some form of co-operative arrangement between the university and the public

high schools and school systems whereby, under a certain measure of control by the department within the university, various phases of practical work are attempted. It is highly desirable, however, that a university department of education possess a school of its own, not necessarily a model school, but simply one in which it may define and exemplify its ideals, and wherein opportunity for minute studies of educational processes may be immediately at hand. The committee of the Society of College Teachers of Education thus declare their reasons for believing that a Laboratory School—called by them an "Own" School—is necessary to the best results. "An 'Own' School is necessary

"(a) Because conditions can be controlled according to standards desired by the University;

"(b) Because demonstration lessons for observation can readily be arranged;

"(c) Because experiments with courses of study and method can be carried on.

"In other words, the peculiar function of a university-controlled school is that of demonstration and experimentation. An 'Own' School adjusts environment to the student; a public school compels a student to adjust himself to his environment." In such a school there will be freedom to contribute to the working out of a wiser elementary and secondary curriculum, freed from the bondage of our present four-hundred-year-old scheme, and liberalized to meet the needs of our own age. The cost of such a school may be what you please. For example, we might take as an attainable type such a school as the William McGuffey School maintained by Teachers College, Miami University. The cost of this school, which offers a full elementary school course and an elaborate high school course, is approximately, as follows:

A. Building and Equipment	$65,000
B. Maintenance	
(1) Annual Salaries	11,500
(2) Upkeep and Supplies	2,250
	$78,750*

Such "Own" schools of high scientific value exist at Columbia, Chicago, Wisconsin, Missouri, Nebraska, Minnesota.

(*The upkeep of such schools may be met in part by tuition, as in Illinois.)

In the course of this study, I repeat, we have reached the conclusion that our universities should contain a new professional school or college for the training of teachers. This school should be so manned with instructors and practical laboratories, and so allied to the work of the college of arts and sciences, as to be able to give a baccalaureate degree in education and a master's and doctor's degree in graduate work, and in every way to rank in usefulness and dignity with the more ancient schools existing to train men for other forms of leadership in our common life.

In view of the sure and rapid way in which the study of education is passing from a deductive to an inductive basis, and in view of the need of proper equipment for these processes, I believe that the most pressing requirements of such colleges or schools are (1) the experimental school or clinic, if I may continue to make use of the medical analogy, within the university, conducted by the college of education; (2) properly organized field or out-service work whereby coöperation may be established between the university experimental school and state, county, and city departments of education. Unless this laboratory exist at the university, and this connection with life itself outside be made, this hopeful educational movement may easily harden into theoretical instruction and out of it issue merely new dogmas instead of old; (3) an ordered scheme by which all students can be put in the way of obtaining practical training in the teaching process.

Slight effort has been made in this paper, it will be observed, to confound or even argue with those who think that teaching cannot be made a subject of special study and instruction. It is fairly clear that Teachers College at Columbia, the School of Education at Chicago, the George Peabody College for Teachers at Nashville and at least a dozen other such institutions in America need no apology. They are the answer to a demand for leadership in the most unorganized but most necessary and costly enterprise ever undertaken by mankind. They are more or less scientific efforts to enable teachers to organize their material in such a way that it has significance not only for their own minds but for the minds of youth. The old assumption simply claimed that every learner should think out a formula as his teacher had thought it out or be branded as a fool. It is not claimed that these schools will ever devise patent formulæ to suit infinite varieties of mind and char-

acter. Their simple virtue lies in the fact that they set out to investigate both general principles and individual differences; and one would fancy that even research teachers and doctors of philosophy would sympathize with them in the task, particularly as it relates itself to a more enlightened organization of the old subject-matter of the curriculum. In the field of organization, as I have elsewhere said, the problem of directing vast educational activities wisely and rationally has become an affair of high statesmanship, and is demanding some intelligent solution. To whom should democracy turn in such a crisis if not to its universities?

The outstanding fact is that there is a universal tendency on the part of all colleges and universities to meet the demand for teachers' courses because these courses tend directly to serve three high ends. They make contribution to science, and this is one of the greatest functions of any university; they set more vital standards for classroom teaching; and they organize and guide the school system. A state should not only expect, but should demand, such guidance from its publicly supported university, and society at large should expect and demand such service from the great private foundations.

No one can deny that education is becoming more keenly conscious of itself as a subject of scientific study, is growing impatient with its ancient and stately forms, and is eager for the application to its processes of those searching methods which have given to agriculture and medicine, and the sciences upon which they are based, such powerful impetus in the last quarter of a century. For example, between general psychology and general methods lie two new fields which attempt to organize psychological knowledge in terms of actual, observed mental development, and to set forth the psychology of learning the common branches like writing, reading, spelling, and arithmetic. Indeed it begins to appear as if the science of education might be as highly organized at the end of the twentieth century as medicine was at its beginning. A very striking evidence of this is the expanding scientific literature emanating directly from schools of education and from bureaus of educational investigation and measurement, in connection with the school systems of the leading American cities. From sixty to seventy-five educational periodicals in English, German, and French, are available in good educational libraries. Six hundred books, published in the last fifteen

years, are now considered indispensable to such library, though, like the physician, the modern teacher's main reliance is on the journals which more and more take on a highly specialized character, and record daily growth and change. The whole character of the educational literature of today differs from that of twenty-five years ago, as a laboratory differs from a pulpit. Investigation is supplanting exhortation and dogma, giving place to analysis of facts. It is the same old process which has marked the blundering but majestic progress of medicine through the ages. Such books as Terman's "The Measurement of Intelligence" and Whipple's "Manual of Mental and Physical Tests" would have been both unthinkable and unreadable a dozen years ago.

Both medicine and education were and are sciences "in posse" rather than "in esse." Both have accumulated a great body of doctrine and tradition, not without value, but representing empiricism, not science. Both have their respective practices which can for distinction be called the art of medicine and the art of education. Both deal with immediate necessities and cannot wait in meeting those necessities until scientific knowledge has traveled its perfect path. In dealing primarily with the body and secondarily with the mind, medicine meets much less individual variation than does education, which deals primarily with the mind and secondarily with the body.

Under the leadership of such men as Meumann in Germany, Binet in France, Winch in England, and Thorndike, Judd, Dewey, Ayres, Cubberley, McMurry, and others in America, education as a science has now a considerable body of proved principles of teaching and administration, growing steadily and modifying slowly but surely the everyday practice of our school systems. But this early progress should not make one lose sight of the fact that a science attempting to systematize and advance a phase of social practice, so complex through a multitude of individual variations, can develop only through the painstaking labor of trained specialists, concentrating for years in limited phases of this great subject and using elaborate experimental and statistical technique.

In conclusion and in amplification of the proposed programme for the organization of the subject matter of education into courses for instruction and clinical purposes, I offer the following scheme based upon a recent summary by Bolton.

Courses in education may be combined into a few main groups represented by the professors indicated earlier in this paper as necessary to the staff of our proposed school of education. The nomenclature of the subject is far from being standardized, such standardization being a next step in educational progress, but the first group may be designated

(1) Principles of education or philosophy of education and purports to give

(a) a general survey of the meaning, aims, problems, content, and guiding principles of modern education,

(b) a study of the bases of education in the biological and social sciences.

(2) The second group, which may be called the history of education, attempts to interpret

(a) schools of different times and nations,

(b) the educational classics, or

(c) social evolution as the cause and effect of educational systems.

(3) The third group may be termed child study and adolescence, and tries to sum up our knowledge of the physical and mental development of normal children and to suggest such an adaptation of home and school as will utilize most effectively the capacities and interests of successive stages in child life.

(4) The fourth group, school hygiene, studies the deviations from the normal development and the organization of school equipment, inspection, and instruction so as to protect and promote health of body and mind.

(5) The fifth group, educational psychology, analyzes the kind and degree of response to various educative influences and evaluates the different phases of school instruction and management. What are the natural relations among the powers of an individual? How do these powers unfold, and how can they be cultivated or repressed? Practical psychological observation must answer such questions or they will remain unanswered. As the basis of general method, educational psychology underlies the special methods of the school subjects. Most, but not all, of the observation and practice teaching is related to this group.

(6) The sixth group, educational administration, discusses the inclusive problems of school laws, finances, and statistics, of

officials, teachers, and equipment, of courses, grading, and correlation.

Further groups deal with application of the aforesaid general principles to different divisions of the public schools—kindergarten, elementary, secondary, vocational, etc. Universities naturally give special emphasis to secondary education, as most of their teachers in training expect to go into this field. Altogether, variations within and without the groups here mentioned will continue to be unduly large, until teachers of teachers agree on what to teach.

One phase of educational instruction and research is becoming so significant that a few words may well be devoted to it here. This is the use of standard or standardized tests, especially in the drill subjects of the grammar grades—reading, writing, spelling, arithmetic, and drawing. Similar tests have not been worked out for the more complex high school subjects, though algebra and foreign languages are being studied by specialists for this purpose. Carefully selected material, such as the Ayres test in spelling or the Courtis test in arithmetic, is first given to thousands of children in many kinds of schools and the average ability of the children is then found by grades. This more or less national average is used further as a measuring-rod to compare classes, schools, and methods; and by a cautious selection of methods giving higher averages, the general efficiency of a school or schools is increased. Just as industrial corporations have their accurate standards of production, so should schools be able to measure their efficiency by their own standards of production. In order to improve, schools need enlightenment as to the results so far achieved. The tests now being used promise more effective standards in the future, not only in the subjects mentioned but in the entire range of school instruction.

In addition to these tests in school subjects, specialists in America and Europe are trying to work out standard tests of the fundamental abilities of children, in order to grade the kind and degree of normal development at successive ages and also the kind and degree of mental defectiveness. The influence of such tests in the next decade will be vital to educational practice notwithstanding the usual crudity and excess that invariably mark the rise of any new instrument of scientific value, and it is not unlikely that "in-

telligence tests will, in time, become as much a matter of routine in educational procedure as blood counts in physical diagnosis." Perhaps the immediate need in this new and interesting field is not so much the creation of new tests as the creation of trained agencies for putting into wide use over large territories standard tests of approved value so that they may become a part of the average teacher's equipment.

Many American cities have recently carried this test idea to its ultimate by seeking expert and impartial judgment as to the extent to which the potential value of their schools is actually being realized. Local boards, legislative committees, educational foundations, university departments of education, or individuals have been asked to "survey" some part or the whole of an educational system, as in New York City, Springfield (Ill.), Portland (Ore.), Cleveland, and other cities, and in Wisconsin, Vermont, Maryland, Missouri, and other states. Sometimes a survey has been instituted without sufficient consideration of the newness and uncertainty of educational standards, and sometimes the responsibility for a survey has been put in the hands of those whose judgment can hardly be called expert or even impartial in education. But as a whole the surveys have done great service in directing public attention to educational needs, and by degrees the people concerned will understand the necessity for specialization, freedom, patience, and caution in making an extremely difficult diagnosis.

The United States is second to no country in the serious endeavor to develop the science of education. With our many specialists in universities and normal schools, with more and more highly prepared officials and teachers in elementary and secondary schools, with some fine technical journals of international influence, with many annual conferences among the workers, and with the stimulus of several educational foundations, the science of education may hope in the coming time to absorb more specialized effort than any other science, and in that event a certain very genuine world leadership may fall to this nation.

The present need of the world and the more rational direction of educational science are in timely accord. In all ages nations sorely tested or defeated in war, or mistaken in ideals and purposes, have turned from broken adults to unbeaten youth for the realization of their hopes and dreams. Great revolutions, great social changes

—like the Renaissance, the Reformation, the French Revolution —are landmarks in the history of education. Such an hour of almost universal educational reconstruction has struck. Many old traditions and misconceptions will be cleared up and swept away. The opportunity of education thus reformed and redirected and of the science of education which attempts to organize this effort will be very far-reaching and fundamental.

APPENDIX

THE PRESENT ORGANIZATION OF PROFESSIONAL TRAINING FOR TEACHERS IN AMERICAN UNIVERSITIES

The following is a summary of the terminology of the organization in the various universities and colleges as given in full by Professor Fred. E. Bolton in *School and Society* for December 11, 1915.

It will be noted that three general designations of the work attempted are used, viz.: Colleges, Schools, and Departments. These designations are not based on any carefully thought out differences in structure but are more or less loosely used in the absence of any standardized nomenclature. Sometimes college and school mean the same thing and department is sometimes used as synonymous with school. In most universities the study of education is regarded as a department of the college of arts or sciences in the sense that chemistry or physics is a department. A considerable number have named themselves "Schools of Education" but are in reality departments of the college allowing a certain amount of work in education to count towards a degree or to secure certain certificate privileges. Indeed some of the "Colleges" have no distinctive curriculum and offer no teaching degree. Fourteen state universities have what they call Departments of Education. Twenty have what may be called "pseudo schools" with separate curricula of their own, and only six—Florida, Kansas, Missouri, Ohio, Washington, Pennsylvania (not a State University) have what appear to be colleges in the sense of having a really separate organization with a separate degree and curriculum (Alexander, School Review Monograph No. 6, Feb. 1915). Columbia and Chicago have highly organized independent organizations leading to special teachers' degrees. New York University and Pittsburgh have independent organizations. Columbia has recently changed to a graduate organization, and Brown has inaugurated a form of graduate work. Inexactness in terminology in both the organization itself and the courses offered is quite baffling. In some cases the curriculum begins with the junior year. In Chicago, Pittsburgh, Ohio, Pennsylvania, and Washington, the work begins with the freshman year and the college of education has control of the entire course.

1. Colleges of Education

Chicago
Colorado
Florida
Iowa
Minnesota
Nebraska
Ohio
Syracuse
Washington

2. Schools of Education

Alabama
Arkansas
California
Columbia
Georgia
Illinois
Indiana
Kansas
Missouri
New York

2. Schools of Education—*Continued*

North Dakota
Oregon
Pennsylvania
Pittsburgh
South Carolina
Tennessee
Texas

3. Departments of Education

Brown
Bryn Mawr
Catholic Univ. of America
Clark
Dartmouth
Harvard
Johns Hopkins
Idaho
Maine
Michigan
Mississippi
North Carolina
Northwestern
Oklahoma
Smith
South Dakota
Southern California
Leland Stanford
Virginia
George Washington
Wellesley
West Virginia
Wisconsin
Yale

Wisconsin has a "Course for the Training of Teachers." Nevada, Utah, and Wyoming each has a department and also the state normal school in the university. (Bolton: School and Society).

PUBLICATIONS OF
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OCCASIONAL PAPERS No. 5

LATIN AND THE A. B. DEGREE

BY
CHARLES W. ELIOT

GENERAL EDUCATION BOARD
61 BROADWAY NEW YORK CITY
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LATIN AND THE A.B. DEGREE*

A CONSIDERATION of the expediency of continuing to require some knowledge of Latin on the part of all candidates for the degree of Bachelor of Arts is timely; because many changes in respect to this requirement have already been made, and more seem to be imminent.

To exhibit the present state of the question in the secondary schools and the colleges and universities of the United States, the requirements for admission and for graduation with the degree of Bachelor of Arts in seventy-six American colleges and universities have been carefully studied; and the institutions selected have been found to be divisible into five groups based on their requirements in respect to Latin. The seventy-six institutions include the principal state universities, the principal endowed universities and colleges, and several institutions of different types which stand on the list of colleges accepted by the Carnegie Foundation. A large number of the leading American institutions which confer

*This paper discusses the requirement of Latin for the A.B. degree, and for that degree only. It is important to bear this point in mind. Certain institutions, such as Harvard and the University of Chicago, while requiring some Latin for the A. B. degree, nevertheless, open their facilities and opportunities in the undergraduate department to students who do not offer Latin, such students receiving, instead of the A.B. degree, the degree of S.B. at Harvard, and the degree of Ph.B. or S.B. at Chicago. Within these institutions, therefore, the same facilities are open to students who, aiming at the A.B. degree, offer Latin, and to students who, not offering Latin, are willing to accept some other degree. This paper urges the abolition of this distinction; so that a Harvard student or a University of Chicago student who enters without Latin may still receive the A.B. degree, just as he may receive it at Columbia.

On the other hand, there are institutions, such as Yale, where students who do not offer Latin for entrance are admitted only to certain departments—at Yale, the Sheffield Scientific School, where they receive the degree of Ph.B.

Still other institutions, Amherst College, for example, do not at present admit any undergraduate students without Latin.

For detailed information in regard to the amount of Latin required for the A.B., Ph.B., and S.B. degrees by the various institutions discussed in the paper, see the tables which are printed in the appendix, pages i-xvii.

that degree have already ceased to require Latin of candidates for admission to colleges and of candidates for the degree of Bachelor of Arts within the college. The following list of institutions which require no Latin for the A.B. degree contains thirty-eight out of seventy-six selected universities and colleges whose usages in this respect have been carefully examined:

INSTITUTIONS WHICH REQUIRE NO LATIN FOR THE A.B. DEGREE EITHER BEFORE OR AFTER ENTRANCE

Beloit College, Wisconsin
Carleton College, Minn.
Columbia University, N. Y
Cornell University, N. Y.
Franklin College, Ind.
Goucher College, Md.
Grinnell College, Iowa
Indiana University, Ind.
Miami University, Ohio
Ohio State University
Ohio University
Pomona College, Cal.
Reed College, Oregon
Ripon College, Wisconsin
Stanford University, Cal.
State University of Iowa
Swarthmore College, Pa.
Trinity College, N. C.
University of Arkansas
University of California
University of Colorado
University of Illinois
University of Kansas
University of Maine
University of Michigan
University of Minnesota
University of Nebraska
University of North Carolina
University of Oregon
University of South Carolina
University of Tennessee
University of Texas
University of Washington, Wash.
University of Wisconsin
Washington and Lee University, Va.
Washington University, Mo.
Western Reserve University, Ohio
West Virginia University

In addition to these institutions which require no knowledge whatever of Latin on the part of candidates for the degree of A.B. the following list contains institutions which require some Latin for admission, but none during the four-year course in college. This list contains nine universities and colleges,—among them such leading institutions as Harvard University and Yale University for men, and Wellesley College for women:

INSTITUTIONS WHICH REQUIRE FOR THE A.B. DEGREE SOME LATIN FOR ADMISSION BUT NONE IN COLLEGE

Bowdoin College, Maine
Colorado College, Col.
Connecticut College for Women
Delaware College, Del.
Harvard University, Mass.
Johns Hopkins University, Md.
Oberlin College, Ohio
Wellesley College, Mass.
Yale University, Conn.

Two institutions require no Latin for admission but a small amount of Latin or Greek, during college life:

INSTITUTIONS WHICH REQUIRE NO LATIN FOR ADMISSION BUT SOME IN COLLEGE

UNIVERSITY OF MISSOURI UNIVERSITY OF PENNSYLVANIA

These three lists together contain forty-nine out of the seventy-six selected universities and colleges, leaving but twenty-seven which still require some Latin for admission, and some in college. Of these twenty-seven, twenty-two require Latin but no Greek, and five require both Latin and Greek:

INSTITUTIONS WHICH REQUIRE SOME LATIN FOR ADMISSION AND SOME IN COLLEGE

AMHERST COLLEGE, Mass.
BROWN UNIVERSITY, R. I.
BRYN MAWR COLLEGE, Pa.
COLLEGE OF WILLIAM AND MARY, Va.
DARTMOUTH COLLEGE, N. H.
HAVERFORD COLLEGE, Pa.
HENDRIX COLLEGE, Ark.
KNOX COLLEGE, Ill.
MIDDLEBURY COLLEGE, Vt.
MT. HOLYOKE COLLEGE, Mass.
NORTHWESTERN UNIVERSITY, Ill.
RANDOLPH-MACON WOMAN'S COLLEGE, Va.
SMITH COLLEGE, Mass.
TRINITY COLLEGE, Conn.
UNIVERSITY OF ALABAMA
UNIVERSITY OF GEORGIA
UNIVERSITY OF VERMONT
UNIVERSITY OF VIRGINIA
VASSAR COLLEGE, N. Y.
WELLS COLLEGE, N. Y.
WESLEYAN UNIVERSITY, Conn.
WILLIAMS COLLEGE, Mass.

INSTITUTIONS WHICH REQUIRE BOTH LATIN AND GREEK FOR THE A.B. DEGREE

PRINCETON UNIVERSITY, N. J.
UNION COLLEGE, N. Y.
UNIVERSITY OF CHICAGO, Ill.
UNIVERSITY OF MISSISSIPPI
VANDERBILT UNIVERSITY, Tenn.

Of the institutions in the above list Latin and Greek are required both for admission and in college by Princeton University and Vanderbilt University; the University of Chicago, the University of Mississippi and Union College permit entrance on the basis of Latin alone, provided Latin and Greek are both pursued in college.

It appears from this enumeration that, so far as the college course in preparation for the degree of Bachelor of Arts is concerned, Latin has already disappeared as a requirement for that degree in a decided majority of the institutions included in the above lists, and that over half of the institutions whose practices have been examined make no demand on the secondary schools of the country that they teach Latin. The position of the institutions which de-

mand of candidates for admission some knowledge of Latin, but none during the college course, is anomalous and undoubtedly temporary. At Harvard University, for example, the wide extension of the elective system led to the abandonment many years ago of the requirement of Latin in college for the degree of Bachelor of Arts. The University was conferring during this period a degree of Bachelor of Science; and candidates for this degree were not required to present Latin at admission, while within the University itself they, too, had a wide range of choice of subjects and freedom in their choice. Down to 1906, candidates for the degree of Bachelor of Science were registered and catalogued apart from the candidates for the degree of Bachelor of Arts, although both sets of students had really been for some time under the control of the single Faculty of Arts and Sciences. In that year, candidates for the degree of Bachelor of Science were registered and catalogued in Harvard College, and the discipline to which the two sets of students were subjected became identical; although candidates for the degree of Bachelor of Science naturally chose a larger proportion of scientific subjects during their four years of residence than candidates for the degree of Bachelor of Arts did. For eleven years, therefore, no distinction in respect to general discipline, social opportunities, or places and conditions of residence has been made at Harvard University between candidates for the degree of Bachelor of Science and candidates for the degree of Bachelor of Arts. The sole distinction between these two sets of candidates is that candidates for the A.B. must present for admission an amount of Latin represented by the term "three units"—a unit meaning one year of instruction in the preparatory school for four or five hours a week. When Harvard University abolishes the requirement of three units of admission Latin from candidates for the degree of Bachelor of Arts, there will be no difference between its conditions for the degree of Bachelor of Arts and those for the degree of Bachelor of Science; so that the latter degree may well cease to be conferred. Columbia University has recently taken these steps.

More than twenty of the seventy-six colleges included in the above lists no longer confer the degree of Bachelor of Science or Bachelor of Philosophy, or never did confer either of those degrees; and with rare exceptions the institutions which have conferred or

are now conferring either of those degrees have not required Latin for admission to candidacy for the S.B. or the Ph.B. Many of them have made foreign language requirements but the presentation of Latin has almost invariably been optional.

It will be seen in the above lists that most of the state universities require no Latin of candidates for the degree of Bachelor of Arts, either for admission or in college. It is, in general, the endowed colleges which are persisting in the requirement of Latin. The universities bearing a state name which retain a Latin requirement, either for admission or in college, are with one exception universities in southern states. That exception is the University of Vermont which is hardly a state university. The immediate reason that most of the state universities have abandoned all requirements in classical languages for admission is that they desire to maintain close affiliations with the public high schools. Now, public high schools the country over have almost ceased to provide instruction in Greek, and maintain instruction in Latin with increasing difficulty. Their pupils are as a rule accepted at the state universities on certificate; and this practice tends to maintain somewhat intimate relations between high schools and these universities. The wishes of principals and local school boards or committees are more regarded by the state universities than they are by the endowed universities and colleges; and the state universities feel and express more sympathy with the serious difficulties which beset public high schools than the endowed institutions do. Nevertheless, the endowed institutions, particularly those that aspire to attract students from all parts of the country, always desire to keep in touch with the public high schools; so that the graduates of those schools can, through a moderate amount of extra study, obtain admission to the endowed institutions of their choice. Behind this immediate reason for dropping Latin requirements, however, lies an increasing sense of their inexpediency in a democracy which wishes to have secondary and higher education as accessible as possible to all competent youth. Some people are furthermore convinced that the Latin requirements are futile; that is, that they do not really promote scholarship or "cultivation" in the youth who have to be forced to comply with them.

Wherever the state university is well developed and is well supported by the legislature, the endowed colleges and universities in

the state maintain a difficult competition with the ampler and richer state university; and with some notable exceptions are likely ultimately to accept whatever conditions of admission the state university prescribes. In states in which the state university is weak or not well supported, and in which strong endowed institutions of higher education have been long established, there generally exist, in addition to the high schools, independent secondary schools, often called academies, the management of which has been more conservative than the management of public high schools during the past forty years; but the coöperation between these academies and the endowed colleges is not always as sympathetic and effective as the coöperation between public high schools and state universities. An academy is usually a boarding school as well as a day school; and the old academies receive pupils from all parts of the country, who are often the sons or grandsons of former graduates. Together, the academies exert a strong influence on national secondary education, and this influence will surely be in the future, as it has been in the past, a conservative influence insistent on traditional subjects and methods. A similar influence will be exerted by the Jesuit colleges and by the boarding schools in which the Protestant Episcopal Church is strongly interested.

East of the Alleghany mountains, where there are many endowed colleges for men and several for women, the colleges have in the main controlled the requirements for admission to college, and therefore have had a strong influence on the programmes of secondary schools, public, private, or endowed. The secondary school has been thought of as primarily a preparatory school for colleges. West of the Alleghanies, the public high school's main function has been to prepare its graduates at eighteen years or thereabouts for various occupations which do not require three or four years more of systematic education. The preparation of a small percentage of its graduates for college or university is a secondary or incidental function. The high school exists for itself, and not for the college. Hence the college or university must accommodate itself to the general policies and needs of the high school, if it is to keep in touch with the mass of the people.

The full or partial adoption of the elective system in the seventy-six institutions of higher education included in the above lists ought to have produced a corresponding, though much more limited,

introduction of elective subjects into the secondary schools of the country. And indeed it has produced this effect in some measure, but to a greater extent in the public high schools than in the endowed academies and private schools. The election introduced into secondary schools has, however, generally been in the form of a choice between distinct courses of instruction running through the four or five years of the secondary school programme, and not a choice among subjects of instruction or studies. Hence the high school pupil has been obliged to decide by the time he was fourteen years of age whether he would or would not go to college,—a choice which he was generally quite unable to make wisely. The academies, on the other hand, generally provided a programme expressly intended to carry the pupil into college, making some modifications in this regular programme on behalf of pupils who knew already that they were going, not to a college, but to a scientific or technical school.

All kinds of secondary schools in the United States have usually been handicapped by the scantiness of their resources, whether provided by public taxation or by endowment. Free election for the pupil by subject costs more than a variety of fixed courses, and the schools have as a rule not had resources adequate to meet this additional cost. Some of the most intelligent and prosperous of American communities, finding it impossible to provide in one programme for the varied wants of the different sorts of pupils who resort to the single high school, have decided to maintain two kinds of high school, one intended to prepare its pupils for college or higher technical school, or for clerical or bookkeeping occupations, and the other—often called a technical high school—intended to prepare boys and girls for the industrial and commercial occupations. This new kind of high school, of course, provides no instruction in the ancient languages. The technical or mechanic arts high school is clearly liable to the objection that it requires determination of the future career before the pupil has obtained knowledge of his own powers and tastes.

While these changes of structure and aim have been going on in the universities, colleges, higher technical schools, and secondary schools, certain new conceptions have obtained a somewhat wide recognition concerning the function of education, and concerning the subjects through the study of which the educated young man

may make himself most serviceable to the community in his after life, and at the same time procure for himself the best satisfactions in the exercise of his own powers.

In the first place, the idea of the cultivated person, man or woman, has distinctly changed during the past thirty-five years. Cultivation a generation ago meant acquaintance with letters and the fine arts, and some knowledge of at least two languages and literatures, and of history. The term cultivation is now much more inclusive. It includes elementary knowledge of the sciences, and it ranks high the subjects of history, government, and economics.

Secondly, when Herbert Spencer seventy years ago said that science was the subject best worth knowing, the schoolmasters and university professors in England paid no attention to his words. The long years of comparative peace, and of active manufacturing and trading which the British Empire since that date enjoyed did something to give practical effect in British education to Spencer's dictum. The present war has demonstrated its truth to all thinking men in Europe and America. It now clearly appears that science is the knowledge best worth having, not only for its direct effects in promoting the material welfare of mankind, but also for its power to strengthen the moral purposes of mankind, to apply its method of accurate observation and inductive reasoning to all inquiries and problems, and to make possible a secure civilization founded on justice, the sanctity of contracts, and good-will.

In the third place, many educators are persuaded that the real objects of education, primary, secondary, or higher, are, first, cultivation of the powers of observation through the senses; secondly, training in recording correctly the accurate observations made, both on paper and in the retentive memory; and, thirdly, training in reasoning justly from the premises thus secured and from cognate facts held in the memory or found in print. As these objects of education are more and more distinctly realized, the subjects of instruction for children, adolescents, and adults, come to be enlarged in number, and some of the new subjects take the place of one or more of the older ones, or at least may wisely be accepted by school and college authorities from some pupils in place of older ones. For example, it has become apparent that free-hand drawing and mechanical drawing give an admirable training to both eye and hand, and provide the youth with an in-

strument for recording, describing, and expounding which is comparable with language, both in increasing individual power and in increasing enjoyment throughout life. Just as every normal child can acquire some skill in language, its own or another, so every normal child can acquire some skill in drawing, and can give satisfactory evidence that it has acquired that skill. It is now beginning to be perceived that a child who has acquired some skill in drawing may be as good material for a high school as a child who has acquired some skill in language, and that the high school ought to provide progressive instruction for the pupil who is admitted with skill in drawing quite as much as it should provide means of further instruction for the child who comes in with some skill in language, Latin or other.

The colleges and universities are all providing large means of instruction in history, government, economics, and business ethics, and are adopting highly concrete and practical methods of teaching not only the new subjects but the old. Both colleges and schools are recognizing that they must teach elaborately not only the literatures and philosophies of the past and the present, but also the sciences and arts "which within a hundred years have revolutionized all the industries of the white race, modified profoundly all the political and ethical conceptions of the freedom-loving peoples, and added wonderfully to the productive capacity of Europe and America."*

Some people think that advantageous changes in systematic education begin in the higher institutions and descend to the lower. Others maintain that durable changes are built up from the bottom. The first seems the more probable theory; because new subjects or new methods require a new teacher, and the teacher is the product of the higher education. Whichever theory be accepted, it is apparent that in practice great changes in the subjects and methods of the higher education have been going on in the United States for more than forty years with increasing impetus and momentum, and that corresponding changes are in progress in the secondary schools.

In order to accommodate the changed schools to the changed colleges, there should be more options in the terms of admission to colleges, and no requirements within the colleges themselves of the

*"Changes Needed in American Secondary Education" by Charles W. Eliot, General Education Board, New York City.

traditional subjects—Latin, Greek, mathematics, and elementary history and philosophy. With this new freedom for the pupil at school and the student in college, the degree of Bachelor of Arts will be the only one needed to mark the conclusion, somewhere between the twenty-first and twenty-third year of age, of a three-year or four-year course of liberal education superadded to a thorough course in sense-training, scientific reasoning, and memory training given within the secondary school period in any subjects which experience has proved to be suitable for this sort of training.

That Latin should be no longer a requirement for the degree of Bachelor of Arts does not mean that the study of Latin should be given up in either the secondary schools or the colleges. On the contrary, it should unquestionably be retained as an elective college subject, and should be accessible to the pupil in all well-endowed and well-supported secondary schools, public or private. Although the argument for the introduction of new subjects in both school and college is overwhelmingly strong, nothing but long experience can fully demonstrate that the new subjects and the new methods are capable of producing as powerful and serviceable men and women as have developed during the régime of the old subjects and methods; and for one generation at least there will be many parents who will prefer that the experiment of omitting Latin be tried on other people's children rather than on their own. The parents that will risk their children in the new programmes, or in the new elections of study, will be those who have been consciously exposed during their adult lives to the new influences which have been moulding human society during the past hundred years, and who have either gained new strength from the contact, or have perceived that their own education was not well adapted to what has proved to be their mental and moral environment.

The present argument only goes to show that the study of Latin ought not to be forced by either school or college on all boys and girls in secondary schools who are going to college, or later on all candidates for the degree of Bachelor of Arts. The argument of course assumes that a knowledge of the Latin language is not indispensable for the study of either ancient or modern civilization, or of the great literatures of the world, or of the best ethical systems and religions, or of any of the supreme concerns of mankind.

The highest human interests are concerned with religion, govern-

ment, and the means of earning a livelihood and promoting the welfare of a family. Now, the religion of Greece and Rome is certainly not as well worth the attention of an American boy to-day as the Jewish-Christian religion, for knowledge of which acquaintance with the Latin language is unnecessary. Moreover, just as a knowledge of the Jewish-Christian religion does not require a knowledge of Hebrew and Greek, so a knowledge of the religion of ancient Rome, whatever importance may be claimed for it, does not depend on a knowledge of Latin.

As to government, it is true that Athens set up a democratic government with a very peculiar definition of the demos; but the number of free citizens was small relatively to the total number of the population, many of whom were slaves and many aliens without power to vote; and it was a government which when it went to war killed or enslaved its prisoners, and planted its colonies by force. The Athenian democratic state was of short duration, and did not set a good example to any later republic; and the study of it is of little real use to a voter or officer in any modern free state. In government, the Roman state was a very impressive example of the results of the ruthless use of military power in conquest, and of the unification through wise laws and skilful administration of an empire containing many races whose religions, languages, and modes of life were diverse; but a far better example of the organization of such an empire is to be found in the British Empire,—better because vaster, more complex in every respect, and far less cruel and brutal than the Roman. For any student of governmental organization the British Empire is a better subject of study than the Roman Empire; because its principles and methods have been much more humane than those of Rome, its risks severer, its field the world instead of the near East and the countries bordering on the Mediterranean and a small part of the eastern Atlantic, its success more striking, and its durability unquestionably greater. If an American student of law is obliged to choose between a study of the Roman law and a study of the English and American law—a competent student can study both—he had far better devote his time to the English and American law than to the Roman. And, besides, even if undergraduate students desire or are expected to study Roman politics, law, and government, they no longer need to know Latin in order to do so. Whatever the value of the study of Greek

and Roman institutions—a knowledge of the Greek and Latin languages is no longer a necessary preliminary to the study.

As to the means of earning a livelihood for a family, no one will now think of maintaining that a knowledge of Latin would be to-day of direct advantage to an American artisan, farmer, operative, or clerk, inasmuch as the means of earning a livelihood in any part of the United States have been wholly changed since Latin became a dead language.

The doctrine that a knowledge of Latin is indispensable to real acquaintance with the great literatures of the world is difficult—indeed impossible—to maintain before American boys and girls whose native language is that of Shakespeare and Milton, of Franklin and Lincoln, of Gibbon and Macaulay, of Scott, Burns, and Tennyson, and of Emerson and Lowell. English literature is incomparably richer, more various, and ampler in respect to both form and substance than the literature of either Greece or Rome. One of the most interesting and influential forms of English literature, namely, fiction as developed in the historical romance, the novel, and the short story, has no existence in Greek and Roman literature; and the types of both poetry and oratory in English are both more varied and more beautiful than those of Greece and Rome. For at least a hundred years past an important part of the real interest in the Greek and Roman literatures for advanced students has been the interest of studying originators and pioneers in literature,—a worthy but not an indispensable study for modern youth. The social and individual problems of life were simpler in the ancient world than in the modern, and they were often solved by giving play to the elemental passions of human nature; so that the study of them affords but imperfect guidance to wise action amid the wider and more complex conditions of the modern world. When, as in this great war, modern peoples see great national governments revert to the barbarous customs and passions which were common in the ancient world, they indignantly resolve that this reversion cannot and shall not last. The languages and literatures of Greece and Rome will always remain attractive fields for students whose tastes and natural capacities are chiefly literary, and especially for men of letters, authors, and professional students of language; but it is certain that they are soon to cease to make a prescribed part of general secondary and higher education. There

are too many histories, too many new sciences with applications of great importance, and too many new literatures of high merit which have a variety of modern uses, to permit anyone, not bound to the classics by affectionate associations and educational tradition, to believe that Latin can maintain the place it has held for centuries in the youthful training of educated men, a place which it acquired when it was the common speech of scholars and has held for centuries without any such good reason. For this loss of status by Latin, genuine classical scholars will naturally console themselves with the reflection that it has never been possible to give an unwilling boy any real acquaintance with the Latin language or any love of Latin literature by compelling him to take three "units" of Latin at school and a course or two of Latin in college.

Benjamin Franklin in his observations concerning the intentions of the founders of the Philadelphia Academy (1789) describes the origin of the Latin and Greek schools in Europe as follows:—

"That until between three and four hundred years past there were no books in any other language; all the knowledge then contained in books, viz., the theology, the jurisprudence, the physic, the art military, the politics, the mathematics and mechanics, the natural and moral philosophy, the logic and rhetoric, the chemistry, the pharmacy, the architecture, and every other branch of science, being in those languages it was, of course, necessary to learn them as the gates through which men must pass to get at that knowledge."

He points out that the books then existing were manuscript, and very dear; and that "so few were the learned readers sixty years after the invention of printing that it appears by letters still extant between the printers in 1499 that they could not throughout Europe find purchasers for more than three hundred copies of any ancient authors." Franklin further says that when printing began to make books cheap, "Gradually several branches of science began to appear in the common languages; and at this day the whole body of science, consisting not only of translations from all the valuable ancients, but of all the new modern discoveries, is to be met with in those languages, so that learning the ancient languages for the purpose of acquiring knowledge is become absolutely unnecessary."

It is a fanciful idea that to understand Greek and Roman civilization and to appreciate the historians, philosophers, orators, military

heroes, and patriots of Greece and Rome, one must be able to read Greek and Latin. The substance of Greek and Roman thought and experience can be got at in translations. It is only the delicacies and refinements of style and of poetical expression which are, as a rule, lost in translations. Let the future poets, preachers, artists in words, and men of letters generally give a large part of their time in school and college, if they will, to Greek and Latin; but do not compel boys and girls who have no such gift or intention to learn a modicum of Latin.

In the present state of the surviving prescription of Latin in secondary schools and colleges, there is another objection to it which has much force. If a college requires, say, three units of Latin for admission but no Latin in college, it inflicts on boys in preparatory schools three years of study of Latin which in many instances will lead to nothing during the education they receive between eighteen and twenty-two or thereabouts. At this moment, for most pupils in preparatory schools, who under compulsion give one-fifth of their school time to the study of Latin for three or four years, the classical road leads to a dead-end, when they have once passed their admission examination in Latin.

Such dead-ends, no matter what the subject, are always deplorable in what should be a progressive course in education. Even if the college in which the student seeks the degree of Bachelor of Arts prescribes some further study of Latin, the amount of that prescription is always small; so that the student who abandons Latin when that prescription has been fulfilled has not made a really thorough acquaintance with Latin, and has therefore wasted the greater part of the time he has devoted to it. In other words, the present prescription in school and college is against the interest of the greater part of the pupils and students who submit to the prescription. Only those who would have chosen Latin without prescription escape injury from it.

An exhibition, in respect to continuity in the study of Latin which some persons might regard as favorable is made by Yale and some of the smaller colleges.* At the Johns Hopkins, for example,

*In the appendix, pages xviii-xxi, the reader will find the official tables upon which the statements in this and the following paragraphs are based. Several of the institutions from which inquiry was made were unable to furnish the information in the form needed.

during the five-year period, 1911-1915, 255 students offered Latin for entrance and 104 (41 per cent.) freely elected it in the freshman year. At Bowdoin, 1912-1916, of 417 students who offered Latin for entrance, 326 (78 per cent.) elected it in the freshman year. At Yale, of the 1,969 students offering Latin for entrance, 1,466 (74 per cent.) continued it during the freshman year. The large percentages at Bowdoin and Yale are, however, probably accounted for by the fact that unless Latin is chosen in the freshman year mathematics must be chosen, or, in other words by a close restriction on election. On the other hand it is probably true that the Latin tradition at Bowdoin and Yale is stronger than in many other colleges; so that even if this restriction on election were removed the percentage choosing Latin would still be unusually high.

Most other institutions requiring Latin for entrance, but allowing a choice at college, show a result less favorable to Latin. At Harvard College, for example, 2,793 students were compelled to offer Latin for entrance in the five-year period, 1912-1916; of this number, 450 (16 per cent.) elected Latin in the freshman year. At Wellesley College during the same period 2,096 students offered Latin for entrance and 434 (21 per cent.) elected it in the freshman year. At Colorado College, within the same period, 1,031 students were required to offer Latin for entrance, while 227 (22 per cent.) studied it during the freshman year at college.

Still more unfavorable to Latin is the experience of the far more numerous institutions which make Latin elective both for entrance and subsequently. Despite the fact that Latin is elective for entrance most students for obvious reasons offer Latin for admission; a relatively small percentage keep it up. Thus, at Cornell University, of 1,622 students who entered during the past five years, 1,475 (91 per cent.) offered Latin for entrance; only 312 (21 per cent. of those who offered Latin for entrance or 19 per cent. of the total number of matriculates) continued it during the freshman year. At Swarthmore, during the four-year period, 1912-1915, of 539 students who entered, 509 (94 per cent.) offered Latin for entrance. Only 92 (18 per cent. of those who offered Latin for entrance or 17 per cent. of the total number of matriculates) continued Latin during the freshman year. The two state universities, Illinois and Minnesota, show a similar condition

for the five-year period, 1912-1916. At the University of Illinois, 5,966 students entered the freshman class, of whom 4,542 (76 per cent.) offered Latin for entrance. Of this latter group only 185 (4 per cent. of those who offered Latin for entrance or 3 per cent. of the total number of matriculates) continued Latin during the freshman year. At the University of Minnesota 3,644 students entered the freshman class, of whom 1,743 (48 per cent.) offered Latin for entrance. In their freshman year only 259 of these elected Latin (15 per cent. of those who offered Latin for entrance or 7 per cent. of the total number of matriculates). The one exception to this general trend is the University of North Carolina, where, of 1,280 freshman matriculates, 1,134 (89 per cent.) offered Latin for entrance, of whom 832 (73 per cent. of those who offered Latin for entrance or 65 per cent. of the total number of matriculates) elected Latin in the freshman year. But even there the tide is running against Latin, for the percentage of matriculates electing Latin has decreased from 74 per cent. in 1912 to 48 per cent. in 1916.

A special inquiry made of all the institutions included in these tables disclosed the fact that in most of them few students who do not take Latin in the freshman year take it in the sophomore, junior, or senior years.

A very instructive experience is that of the University of Chicago where the degree of A.B. is conferred upon students who have pursued the study of both Latin and Greek, and the degrees of Ph.B. and S.B. are conferred upon students who are not required to take either Latin or Greek. In the year 1902, 112 (39 per cent.) out of a total number of 286 who were graduated, received the degree of A.B., that is they elected the required amount of Latin and Greek. This proportion has steadily decreased until in June, 1916, out of 522 bachelor degrees conferred, only 24 (4.6 per cent.) represented the A.B. degree as against 498 (95.4 per cent.) representing degrees which required no Latin or Greek, though, of course, many of these students have taken some Latin.

It is often asserted that the study of Latin gives a boy or girl a mental discipline not otherwise to be obtained, a discipline peculiarly useful to those who have no taste or gift for the study. As a matter of fact, it has doubtless often happened that pupils in secondary schools got through Latin the best training they actually received; because their teachers of Latin were the best teachers

in their schools, the best equipped and the most scholarly. The classical schools have been the best schools, and the classical teachers the best teachers. Gradually, within the past forty years, teachers of modern languages, English, the sciences, and history have been trained in the colleges and universities, who are as scholarly and skilful in their respective fields as any classical teachers. They can teach boys and girls to observe, to think, and to remember in the new subjects quite as well as the teachers of Greek and Latin can in those traditional subjects. At least, they think they can; and many parents and educational administrators think that the new subjects and teachers ought to have a free opportunity to prove this contention. That is all the proposal to abolish the requirement of Latin for the degree of Bachelor of Arts really means.

Accompanying the production of well-equipped teachers of the new subjects, has come a better understanding of the way to get intense application, concentrated attention, and the hardest kind of mental work out of children, and indeed out of adults too. People generally recognize now-a-days that children, like adults, can do their best and hardest work only in subjects or for objects which keenly interest them. Hence uniform prescriptions for all pupils at school are seen to be inexpedient, except in learning to use the elementary tools of learning; and even there much accommodation to individual peculiarities is desirable. Everybody agrees that power to apply oneself, and to work hard mentally is the main object of education; but nearly everybody also has come to know that inspiration or stimulation of interest in any mental work will produce this power to work hard more quickly and more thoroughly than any driving process, no matter what the means of compulsion —rattan, ruler, staying after school, holding up to ridicule, deprivation of play or holiday, or copying pages of French or Latin.

Encouragement concerning the changes to come may be drawn from the changes already achieved. Two generations ago the requirements for admission to Harvard College were Latin, Greek, elementary mathematics, and the barest elements of ancient geography and history; and to those requirements the courses in good secondary schools were accommodated, for the requirements of other American colleges differed from those of Harvard College only in measure or degree and not in substance. To-day the subjects accepted for admission to the freshman class of Har-

vard College embrace English, elementary Greek, Latin, German, French or Spanish, advanced German, advanced French, ancient history, mediaeval and modern history, English history, American history and civil government, elementary algebra and plane geometry, physics, chemistry, geography, botany and zoölogy, advanced Greek, advanced Latin, advanced history, advanced algebra, solid geometry, logarithms and trigonometry, freehand drawing, and mechanical drawing. From this long list of subjects the candidate for admission has a wide range of choice, although certain groupings are prescribed. Nevertheless Harvard College still requires of every candidate for the A.B. degree that he shall have studied elementary Latin three years in his secondary school four or five hours a week—a condition of admission which thirty-eight considerable American universities, including Columbia University, no longer prescribe. All the other leading American universities have adopted to a greater or less extent the new subjects for admission which Harvard has adopted, and only five out of the seventy-six leading American universities and colleges retain conditions of admission at all resembling those of Harvard College in the year 1850.

No one can reasonably maintain that the American educated generation to-day is less well equipped for its life work than the generation which graduated from the American colleges in 1850. On the contrary, all the old professions maintain a much higher standard for admission and in practice than they maintained in 1850, and a large group of new professions have been added to the old. Moreover, business, including farming, manufacturing, trading, and distributing, has become to a much greater extent than formerly an intellectual calling, demanding good powers of observation, concentration, and judgment. There was a time when the chief part of the work of universities was training scholarly young men for the service of the Church, the Bar, and the State, and all such young men needed, or were believed to need, an intimate knowledge of Greek and Latin; but now, and for more than a hundred years, universities are called on to train young men for public service in new democracies, for a new medical profession, and for finance, journalism, transportation, manufacturing, the new architecture, the building of vessels and railroads, and the direction of the great public works which improve agriculture, conserve the

national resources, provide pure water supplies, and distribute light, heat, and mechanical power. The practitioners of these new professions can profit in many directions by so many other studies in youth, that they ought not all indiscriminately to be obliged to study Latin.

The new education since the Civil War has met the rising demand of the times in some measure; but the newer education must go forward more rapidly on the same lines. The rising generations will not prove inferior to the older. With better and more varied training their educated leaders will rise to ever higher levels of bodily vigor, mental capacity, and moral character.

APPENDIX *

Table I. Latin and Greek Requirements of Seventy-six Colleges and Universities.

Table II. Showing Number and Percentage of Students Electing Latin in the Freshman Year in Institutions Requiring Latin for Entrance (A. B. Degree).

Table III. Showing Number and Percentage of Students Offering Latin for Entrance and Electing Latin in the Freshman Year in Institutions Requiring no Latin for Entrance or in College.

*These tables were prepared by Miss Beatrice J. Cohen of the office of the General Education Board.

Table I—Latin and Greek Requirements of Seventy-six Colleges and Universities

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Amherst College Amherst, Mass.	Latin—4 units or Greek—3 units	Latin—2 years, 6 hours or Greek—2 years, 6 hours	Latin—6 years or Greek—5 years or Latin—4 years Greek—2 years	The degree of S. B. is not conferred.			
Beloit College Beloit, Wisconsin	Foreign language—2 units*	Foreign language—3 years, 3 hours each year	Foreign language—5 years Neither Latin nor Greek required	Foreign language—2 units*	Foreign language—3 years, 3 hours each year	Foreign language—5 years Neither Latin nor Greek required	*A student may enter without a foreign language in which case this must be taken at college. If a student offers more than 2 units at entrance the amount of language required at college is proportionately decreased.
Bowdoin College Brunswick, Maine	Latin—4 units*	Latin, Greek or mathematics—4 hours 1st year	Latin—4 years plus Latin, Greek or mathematics—1 year	Foreign language—2 units	Latin—none Greek—none	Any foreign language—2 years. Neither Latin nor Greek required	*Three years of Latin must be completed in school, and the fourth year preferably in school but may be taken in college.
Brown University Providence, Rhode Island	Latin—4 units* or Greek—3 units	Latin—2 years* or Greek—2 years, 3 hours each year or Latin—1 year Greek—1 year	Latin—6 years or Greek—5 years or Latin—5 years Greek—1 year or Latin—4 years Greek—2 years or	*Degree of Ph. B.* Foreign language—3 units, including 1 unit French or German	Latin—none Greek—none	Foreign language—4 years** Neither Latin nor Greek required	*Students who present for admission 4 units of Latin and 3 units of Greek and who take the required 6 hours of classics in college are not required to take more than 6 hours of modern language, i. e., 2 years of German or French. Other students must complete 4 years French or 4 years German of which 1, 2 or 3 years may be taken in high school, taking the 4th year of that language at college and another year in either lan-
				*Degree of S.B.**** Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	

Bryn Mawr College Bryn Mawr, Pa.	Latin—4 units Greek, French, German—3 units each of any two	Greek, French, German or Minor Latin—1 year, 5 hours*	Latin—5 years plus 3 years of each of two other languages or Latin—4 years plus 3 years of each of two other languages and 1 year of a fourth language.*	The degree of S. B. is not conferre			*Either Minor Latin or a language not offered for entrance must be taken at college.
Carleton College Northfield, Minn.	(see total)	Foreign language—2, 3 or 4 years (see total)	Foreign language—4 years, of which 2 years must be taken at college* Neither Latin nor Greek specifically required.	Beginning with June, 1918. The degree of S. B. is not conferred			*Students who select their major in one of the languages are required to include, in this total of four years, two years of Latin or Greek. In the freshman year Latin or Greek may be taken as an alternate for a year of required work in mathematics.
College of William and Mary Williamsburg, Va.	Latin—3 units Greek—none	Latin—2 years, 3 hours each year Greek or modern language—2 years	Latin—5 years Greek or modern language—2 years Greek not required	Latin or modern language—2 units	Latin—none Greek—none	Latin or a modern language—2 years* Neither Latin nor Greek required	*2 years of a modern language are required either in high school or in college.
Colorado College Colorado Springs, Colorado	Latin—2 units* Latin, French or German—2 units	Foreign language—2 years 3 hours each year	Latin—2 years Additional foreign language—4 years Greek not required	Foreign language—2 units	Foreign language—2 years; 3 hours 1st year, 2 or 3 hours 2nd year	Foreign language—4 years Neither Latin nor Greek required	*The 2 years of Latin required may be taken at college, if other requirements are met.
Columbia College* New York City	Latin—4 units or Greek—3 units are alternative to science and advanced requirements in other entrance subjects	College Latin—1 year, 3 hours or College Greek—1 year, 3 hours, are alternative to 1 year, 3 hours, of advanced French or German	Latin or Greek optional but not required.	The degree of S. B. is not conferred.			*Columbia College is the undergraduate college for men of Columbia University. Barnard College, for women, does not have the same requirements.
Connecticut College for Women New London, Conn.	Latin—3 units Greek—none	Foreign language—first 2 years 3 hours each year	Latin—3 years, other foreign language—2 years Greek not required	Foreign language—3 units	Foreign language—first 2 years 3 hours each year	Foreign language—5 years Neither Latin nor Greek required	

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Cornell University Ithaca, New York	Greek, Latin, French, German, Spanish, Italian one language — 3 units 2nd language — 2 units	Foreign language —1 year, 3 hours	Foreign language —6 years, 4 years of one and 2 years of a 2nd or 3 years of each of two or 3 years of one, 2 years of a second and 1 year of a third Neither Latin nor Greek required	1 Foreign language—3 units	Latin—none Greek—none	Foreignlanguage —3 years Neither Latin nor Greek required	The degree of A.B. is conferred by the College of Arts and Sciences. The S.B. degree is conferred by the College of Agriculture.
Dartmouth College Dartmouth, N. H.	Latin—4 units Other foreign language—2 units	Latin—1st year, 3 hours Language presented for entrance—1 year, 3 hours	Latin—5 years Other foreign language—3 years. Greek not required	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	
Delaware College Newark, Delaware	Latin—4 units or Greek—4 units	Latin—none Greek—none	Latin—4 years* or Greek—4 years	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*Two years may, however, be taken in high school and two years in college.
Franklin College Franklin, Indiana	Foreign language —2 units	Foreign language —2 years, 5 hours each year	Foreign language —4 years Neither Latin nor Greek required	Foreign language —2 units	Foreign language —2 years, 5 hours each year	Foreign language —4 years Neither Latin nor Greek required	
Goucher College Baltimore, Maryland	No language requirements	Latin—none Greek—none French and German equivalent of elementary requirement	Latin—none Greek—none	The degree of S. B. is not conferred.			
Grinnell College Grinnell, Iowa	*By certificate* Foreign language —4 units, no less than 2 units of any one *By recommendation* No absolute requirement	Foreign language —2 years, 5 hours each year One-half of this must be of half-major grade.	Foreign language —6 years or 2 years. Neither Latin nor Greek required	The degree of S. B. is not conferred			

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Harvard University Cambridge, Mass.	Latin—3 units or Greek—2 units	Latin—none Greek—none	Latin—3 years or Greek—2 years	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	
Haverford College Haverford, Pa.	Latin — 4 units plus {Greek—3 units or French or German—2 units}	Latin or Greek—1st 2 years, 4 hours each year plus Greek, Latin, French or German— 1 year, 4 hours	Latin — 1 to 6 years with Greek and modern languages depending on amounts of Latin and Greek offered	2 Foreign languages—2 units of each	Latin—none Greek—none	2 Foreign languages—2 to 4 years of each depending upon the combinations made. Latin and Greek optional but not required	
Hendrix College Conway, Arkansas	Latin—3 units	Latin—½ year (one semester) 5 hours a week*	Latin—4 years, Greek not required	1 Foreign language—3 units or 2 foreign languages — 2 units each	Latin—none Greek—none	Neither Latin nor Greek required	*In terms of the yearly hour used throughout this table, this would be 2½ hours for 1 year. While the time spent on college Latin is only one semester it represents a full year's work and should be counted as such.
Indiana University Bloomington, Indiana	1 Foreign language — 2 units	Foreign language —2 years, 5 hours each year	Foreign language —4 years Neither Latin nor Greek required	1 Foreign language—2 units	7 hours language, preferably modern	Neither Latin nor Greek required	The S. B. degree is conferred upon students who complete the prescribed two years' Pre-Medical Course and the first two years of the four years' Medical Course.
Johns Hopkins Univ. Baltimore, Maryland	Latin—4 units Greek, French, German, Spanish—2 units each of two or 3 units of one	Latin, Greek, Mathematics, Physics—1 year of two, 4 hours each	Latin—4 years	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	The S.B. degree is usually conferred in Education, but not exclusively. Not open to students of undergraduate age.

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Knox College Galesburg, Illinois	Latin—2 units 3 or 4 units accepted	Latin or Greek or Latin and Greek combined—1 to 3 years (5—11 hours), according to the number of units (2—4) presented for entrance *In addition* German, French, Latin or Greek —2 years, 3 hours each year	Latin or Latin and Greek combined— 5 years plus German, French, Latin or Greek —2 years	Foreign language —2 units, 3 or 4 units accepted	Foreign language —1 to 3 years according to number of units presented for entrance No less than 2 years of any one language will be accepted	Foreign language —5 years	
Leland Stanford Junior University Stanford University, California	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	The degree S.B. is not conferred			The University as such does not prescribe any particular subject or subjects for the A.B. degree. Departments prescribe, advise and supervise curricula of the individual students.
Miami University Oxford, Ohio	see total	see total	At least six years of foreign language in high school and college. Of this, at least 2 years must be taken in college. Not less than two years, nor more than four years, will be accepted in any one language. Neither Latin nor Greek required.	The degree of S. B. is granted in Education, eight different courses of study leading to this degree. *Course A (English and History)* Two years of foreign language except in the case of students who have had four years of foreign language in high school *Course B (Latin and English)* Latin—4 years *Course D (Modern Language and English)* Modern language —4 years The other five courses do not require foreign language at all			

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Middlebury College Middlebury, Vermont	Latin—4 units Greek—none	Latin or Greek—2 years, 3 hours each year, 1st 2 years	Latin—6 years or Latin—4 years Greek—2 years	Latin, French or German—2 units	Latin—none Greek—none	Latin, French or German—optional 2 years Neither Latin nor Greek required	
Mount Holyoke College South Hadley, Mass.	Latin—4 units Greek, French or German—2 or 3 units of one or 2 units each of two	Latin or Greek—3 hours, 1st year Greek, French or German—1 year, 3 hours, any year	Latin—5 years or Latin—4 years Greek—1 year plus Greek, German or French—1 year in addition to Greek or modern language offered for entrance	The degree of S. B. is not conferred.			
Northwestern Univ. Evanston, Illinois	Latin—3 units or Latin—2 units Greek, French or German—2 units or Greek—2 units French or German—2 units	Latin—2 years, 3 hours each year Greek, French or German—1 year, 3 hours 1st year or Greek—1 year, 3 hours 1st year German or French—1 year, 3 hours 1st year	Latin—5 years or Greek—3 years	Latin, Greek, French or German—3 units of one or 2 units each of two	Latin—none Greek—none	Foreign language—3 or 4 years Neither Latin nor Greek required	
Oberlin College Oberlin, Ohio	Latin—2 units or Greek—2 units plus Latin, Greek or any other foreign language—2 units	Latin, Greek or mathematics—1 year, 3 hours 1st year	Latin or Greek—2 years 5 years are optional	The degree of S. B. is not conferred.			

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Ohio State University Columbus, Ohio	Foreign language —4 units*	Foreign language —2 years, 4 hours each year, if 4 units are presented for entrance	2 foreign languages—6 years No less than one year of any language Neither Latin nor Greek required	Foreign language —4 units*	Foreign language —2 years, 4 hours each year, if 4 units are presented for entrance	2 foreign languages—6 years No less than one year of any language. Neither Latin nor Greek required	*This arrangement is advised, but a student may enter college with less than four years of foreign language, taking the amount required at college. The degree of S.B. is also conferred in Agriculture, Education, Pharmacy and at the end of the second year of the Medical course when the Medical course is begun at the end of the second year at college.
Ohio University Athens, Ohio	Latin—none Greek—none	2 foreign languages—6 years, total of 16 hours. Credit is given, however, for any language taken at high school and offered for entrance	2 foreign languages—6 years Neither Latin nor Greek is required	The only degree now given by the College of Arts is the degree of A. B. The degree of S. B. in Education is given by the State Normal College, an allied college.			
Pomona College Claremont, California	Foreign language —2 units	Latin—none Greek—none	Neither Latin nor Greek required 2 years only optional	The degree of S. B. is not conferred			
Princeton University Princeton, N. J.	Latin—4 units Greek—3 units	Latin—1½ years 4 hours, 1st year; 1½ hours 2nd year, i.e., 3 hours 2nd semester of 2nd year Greek—1½ years 4 hours, 1st year; 1½ hours, 2nd year, i.e., 3 hours a week, 1st semester of 2nd year	Latin—5½ years Greek—4½ years	Latin—4 units Greek—none	Latin—1st year 4 hours Choice of two of the following 2nd year: Latin, Mathematics— 3 hours Chemistry, Physics—4 hours	Latin— 5 or 6 years (6th year optional) Greek—none	The language requirements for the Litt.B. degree are the same as those for the S.B. degree.
Randolph-Macon Woman's College Lynchburg, Virginia	Latin—4 units	Latin—1st year 3 hours Greek, French or German—1 year 3 hours, 1st or 2nd year	Latin—5 years Greek not required, optional 1 year	The degree of S. B. is not conferred			

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Reed College Portland, Oregon	Latin, Greek, German or French—4 units recommended but not required	Latin—none Greek—none	Neither Latin nor Greek required	The degree of S. B. is not conferred.			
Ripon College Ripon, Wisconsin	Foreign language—2 units	Foreign language—12 hours If 4 units are presented for entrance only 8 hours required at college	Foreign languages—16 hours Neither Latin nor Greek required	Degree of S.B. is not conferred. Last June the faculty of Ripon College voted to confer the degree of Ph.B. as well as the degree of A.B. For this degree no language is required, either for entrance or for graduation.			
Smith College Northampton, Mass.	Latin—4 units or Greek—3 or 4 units	Latin—1st year, 3 hours or Greek—1st year, 3 hours*	Latin—5 years or Greek—4 or 5 years	The degree of S. B. is not conferred			*If a total of 6 units in the two ancient languages is offered for entrance, the 1 year of ancient language at college is not required.
State University of Iowa Iowa City, Iowa	Latin, Greek, French, German, Spanish, Italian, Norse or Swedish—2 units	Foreign language—2 years, equivalent to 5 hours each year during 1st and 2nd years At least 7 hours must be in one language. This requirement may be completed during third year	Foreign language—4 years equivalent to 5 hours each year Neither Latin nor Greek required	Foreign language—2 units	Latin—none Greek—none	Neither Latin nor Greek required; except in the case of the combined course in Arts and Medicine when 1 year of Latin is required	The S.B. degree is conferred in Chemistry and General Engineering. It is also conferred after two full years of a college course in liberal arts and the regular first two years of the four-year course in Medicine. The requirements for the S.B. in Medicine are therefore the same as for the A.B. degree.
Swarthmore College Swarthmore, Pa.	Choice of the following to aggregate 7 units*: French—2, 3 or 4 German—2, 3 or 4 Greek—3 Latin—2 or 4 Elementary Science—2 Solid geom.—½ Trigonometry—½	One or two of the following to aggregate 6 yearly hours, either 3 hours each year, 1st and 2nd years, or 6 hours 1st yr.: Greek, Latin, French or German	Foreign language—6 years Neither Latin nor Greek required	The degree of S. B. is not conferred.			*According to this plan 3 units may be chosen in science and mathematics, leaving only 4 units in foreign language or all 7 units may be chosen in foreign language.

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A.B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S.B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Trinity College Hartford, Conn.	Latin—4 units or Greek—3 units	Latin—3 years 3 hours each year or Greek—3 years 3 hours each year *plus* Latin, Greek, French or German—4 years, 3 hours each year. Most of this may be taken at high school	Latin—7 years or Greek—6 years *plus* Foreign language—4 years	Foreign language—3 units	Latin—none Greek—none	Neither Latin nor Greek required Optional 4 or more years	
Trinity College Durham, N. C.	*Group A* Latin—4 units Greek—2 units *Groups B & C* Latin—4 units or French—2 units and German—2 units	*Group A* Latin—1st year Greek—1st year 3 hours each Latin—2nd year Greek—2nd year Math.—2nd year 3 hours each of two or three, total of 6 or 9 hours *Group B* Latin—2 years French—2 years German—2 years Choice of two, 6 hours each, 1st and 2nd years* *Group C* Latin—none Greek—none French or German—1 year**	*Group A* Latin—5 years Greek—3 years *plus* Latin or Greek or both—1 year *Group B* Foreign language—8 years 4 years of Latin optional, but neither Latin nor Greek required *Group C* Foreign language—5 years 4 years of Latin optional, but neither Latin nor Greek required	The degree of S. B. is not conferred.			*If Latin is presented for entrance it must be continued at least through the freshman year. The same is true of French and German. **Whichever language was not presented for entrance.

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Union College Schenectady, N. Y.	*Group A* Latin—4 units Greek—3 units	Latin—2 years 4 hours 1st year, 3 hours 2nd year Greek—2 years 5 hours 1st year, 4 hours 2nd year	Latin—6 years Greek—5 years	*Degree of S. B.* Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	For admission to S. B. course 4 years of Latin are accepted in place of a modern language. In that case Latin is taken 4 hours in freshman year and followed by 5 hours French or German in sophomore year.
	Group B Latin—4 units Greek—none	Latin—2 years 4 hours 1st year, 3 hours 2nd year Greek—2 years 5 hours 1st year, 4 hours 2nd year	Latin—6 years Greek—2 years	*Degree of Ph. B.* Latin—4 units Greek—none	Latin—2 years 4 hours 1st year, 3 hours 2nd year Greek—none	Latin—6 years Greek—none	
University of Alabama University, Alabama	Latin—3 units Greek—none	Latin—2 years 3 hours each year or Greek—2 years 3 hours each year	Latin—6 years* or Latin—3 years Greek—2 years**	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*Applicants who present only three units of Latin must take a preparatory course of three additional hours in Latin, for one year, if they elect Latin instead of Greek at college, which counts towards graduation. **2 years, 6 hours, of modern language are also required, but 2 years of Greek may be substituted.
University of Arkansas Fayetteville, Arkansas	Latin, Greek, French, German or Spanish—3 units, at least 2 units being in one language	Foreign language—1st year, 4 hours*	One foreign language—4 years Neither Latin nor Greek required	Latin—none** Greek—none	Latin—none Greek—none	Latin—none Greek—none	*If a student continues a language at college in which he presented only 2 units at entrance he will be required to take another year at college in order to meet the requirement of 4 years of *one* foreign language. **The degree of S.B. is granted in Chemistry, Education and Agriculture.
University of California Berkeley, California	Foreign language—2 units*	Foreign language—1 year, 3 hours	Foreign language—3 years. Neither Latin nor Greek required	The Degree of Bachelor of Science is given in the curricula of applied sciences—such as Engineering, Commerce, Agriculture. The Degree of Bachelor of Arts is conferred upon those who complete the curriculum of the College of Letters and Science.			*This is the minimum foreign language requirement. More is required unless a substantial equivalent in mathematics and laboratory science is offered. The A. B. course is made a little more difficult for those who do not offer about four years of credit in high school Latin or in Latin and Greek combined. They are required to do more work in mathematics and science.

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
University of Chicago Chicago, Illinois	Latin—2 units Greek—none	Latin—2½ years 5 hours a week* Greek—2½ years 5 hours a week	Latin—4½ years or 5 years if 4 units are offered for admission Greek—2½ years	Latin—none** Greek—none	Foreign language—1½ years unless 2 units are presented for entrance	Foreign language—1½ years (This minimum must be offered in a single language)	*The University year is divided into quarters, the summer quarter beginning about June 15 and ending September 1. Since this period is not counted a part of the college year at most colleges and universities it has been omitted here and the balance of the year has been considered divided into thirds, since all courses at the University are arranged on this quarter basis. **The requirements for the degree of Ph.B. as far as language is concerned are the same as for the S.B.
University of Colorado Boulder, Colorado	Latin, Greek, French or German—4 units*	Classics, Science or Mathematics—1st year 5 hours, 2nd year 2½ hours of one alternative	Foreign language—4 years Neither Latin nor Greek required	*Engineering* Foreign language—2 units *Pharmacy* Latin—1 unit Greek—none	Latin—none Greek—none	*Engineering* Foreign language—2 years Neither Latin nor Greek required *Pharmacy* Latin—1 year	*4 units of Latin are preferred, 2 units advised. The degree of S.B. conferred in Engineering and Pharmacy.
University of Georgia Athens, Georgia	Latin—3 units plus (Greek—1.75 units or French, German or Spanish—2 units)	Latin—2 years Greek—2 years* 4 hours of each 1st year 3 hours of each 2nd year English language, French, German, Latin or Greek—3rd and 4th years 3 hours each year	Latin—5 years plus (Greek—4 years or French or German—6 years)	Latin—none Greek—none	Latin**, French or German—2 years, 3 hours each year 1st two years Another language—3rd and 4th years, 3 hours each year	Neither Latin nor Greek required	*Both French and German may be substituted for 7 hours of Greek, in which case 6 hours of German and 6 hours of French are required. This also satisfies the language requirement of the 3rd and 4th years. **If Latin is taken at college, 3 units must be offered for admission.
University of Illinois Urbana, Illinois	Latin, Greek, French, German or Spanish—2 units	Foreign language—2 years, 4 hours each year* **	Foreign language—4 years Neither Latin nor Greek required	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*During which years to be taken not specified. **If 3 or more units of foreign language are offered for entrance only 1 year, 4 hours, is required at college.
University of Kansas Lawrence, Kansas	Latin—none* Greek—none	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*Under a recently enacted state statute all graduates of four-year high schools which have been accredited by the State Board of Education are admitted without examination and without specific credits. The State Board is now accrediting high schools maintaining curricula which include no foreign language studies whatever. It will therefore be possible hereafter for graduates of such high schools to enter this institution although they have had no language other than three years of English.

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
University of Maine Orono, Maine	Latin, Greek, French, German or Spanish—4 units	Foreign language—1 year, 10 hours*	Foreign language—5 years Neither Latin nor Greek required	Latin, Greek, French, German or Spanish—2 units	Latin—none Greek—none	Latin or Greek optional for 2 years, but not required	*If more than 4 units are presented for entrance only 6 hours of language are required at college. The degree of S.B. is conferred in Chemical Engineering, Pharmacy, Chemistry, Civil Engineering, Electrical Engineering, Home Economics, Agriculture and allied branches, Forestry.
University of Michigan Ann Arbor, Michigan	Latin, Greek, French, German or Spanish—2 units*	6 hours in a language and literature group which includes English language, rhetoric and the foreign languages	Foreign language—2 years Neither Latin nor Greek required	Latin, Greek, French, German or Spanish—2 units*	6 hours in a language and literature group which includes English language, rhetoric and the foreign languages	Foreign language—2 years Neither Latin nor Greek required	*Students entering from any of the accredited schools on the list of the North Central Association need not fulfil this, or any, specific requirement so long as they present a total of 15 units, of which not more than 3 may be of the vocational group. The S.B. degree is also granted in Chemistry, Forestry and Medicine.
University of Minnesota Minneapolis, Minn.	English—4 units or {English—3 units, Foreign language—4 units} or {English—3 units, Foreign language—2 units of each of two languages}	Latin—none Greek—none	Neither Latin nor Greek required	The College of Science, Literature and the Arts grants the A.B. degree ordinarily; the S. B. degree only to students taking the seven-year course in Science and Medicine. For this course two units of Latin are required.			
University of Miss. University, Miss.	Latin—3 units Greek—2 units*	Latin—2 years, 3 hours each year Greek—2 years, 3 hours each year	Latin—5 years Greek—4 years	Latin—none Greek—none	Foreign language—2 years, 6 hours, in two departments but at least one must be modern	Neither Latin nor Greek required	*Students may enter without Greek, in which case they are required to take three years of Greek at college, making a total of 11 hours. In this case the total number of years of Greek required would be only 3.
University of Missouri Columbia, Missouri	Latin—none Greek—none	Latin—1st year or Greek—1st year 5 semester hours, unless four units of either were offered for entrance	Latin—1 year or Greek—1 year	The S. B. degree is not conferred by the College of Arts and Science, but only by the various professional schools, such as Engineering, Agriculture, etc.			

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
University of Nebraska Lincoln, Nebraska	Foreign language —3 units*	Foreign language —5 hours, to be taken before end of junior year**	Neither Latin nor Greek required	Foreign language —3 units*	Foreign language —5 hours, to be taken before end of junior year**	Neither Latin nor Greek required	*If 3 units of mathematics are presented only 2 units of foreign language are required. **The number of years of foreign language to be taken are not specified.
University of North Carolina Chapel Hill, N. C.	*Group I* Latin—3.7 units*** Greek—2 units	Latin—2 years; 4 hours 1st year, 3 hours 2nd year Greek—1 year, 4 hours or Latin—1 year, 4 hours Greek—2 years, 4 hours 1st year, 3 hours 2nd year *plus* Latin, Greek, French or German—1 year, 3 hours during 1st 2 years	Latin—6 years Greek—3 years plus additional language — 1 year or Latin—5 years Greek—4 years plus additional language—1 year	**Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*According to this group system neither Latin nor Greek is required for the A.B. degree. **The degree of S.B. is conferred by the School of Applied Science in Chemical Engineering, Electrical Engineering, Civil and Highway Engineering, Soil Investigation and Medicine. ***Greek may be substituted for Latin and be carried on the same terms.
	Group II Latin—3.7 units Greek—none***	Latin—1 year, 4 hours or Greek—2 years, 8 hours plus Latin, Greek, French or German—2 years of one or 1 year each of two languages, to be taken during first 2 years	Latin—5 years or Latin—4 years Greek—2 years plus additional language—2 years				
	Group III Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none				
University of Oregon Eugene, Oregon	Foreign language —2 units	Latin—none Greek—none	Foreign language —2 years Neither Latin nor Greek required				

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
University of Pennsylvania Philadelphia, Pa.	Latin—4 units or Greek, French, German or Spanish—3 units or 2 units each of two languages	Foreign language—3 years, 3 hours each year* 1 year of ancient language and 1 year of modern language required	Foreign language—7 or 6 years of which 1 year Latin or Greek is required	The degree of S. B. is not conferred.			*More than one language may be taken during one year, but the requirement of 3 one-year courses, of 3 hours each, must be met.
University of South Carolina Columbia, S. C.	Latin—2 units or Any other foreign language—1 unit	Latin—2 years 3 hours each year or Any other foreign language—2 years, 3 hours each year	Latin—4 years or Other foreign language—3 years Neither Latin nor Greek required	Latin—2 units or Any other foreign language—1 unit	Latin—2 years 3 hours each year or Any other foreign language—2 years, 3 hours each year	Latin—4 years or Other foreign language—3 years Neither Latin nor Greek required	Degree of S.B. also conferred in Civil Engineering.
University of Tennessee Knoxville, Tennessee	Foreign language—4 units	Foreign language—2 years, 3 hours each year, 1st two years	Foreign language—6 years Neither Latin nor Greek required	The degree of S.B. is not conferred by the College of Liberal Arts but by the various professional schools, Engineering, Medicine and Agriculture, each having different requirements			
University of Texas Austin, Texas	Foreign language—3 units	Foreign language—3 hours each year, usually 1st two years*	Foreign language—5 years Neither Latin nor Greek required	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*If a modern language is begun in the university 3 years, 3 hours each year are required. The degree of S.B. is also conferred by the Medical and Engineering departments.
University of Vermont Burlington, Vermont	*Classical* Latin—4 units Greek—3 units*	Latin—1st year 3 hours. Greek—1st year, 3 hours Latin or Greek—2nd year, 3 hours	Latin—6 or 5 years Greek—4 or 5 years	Foreign language—2 units	Latin—none Greek—none	Foreign language—2 units Neither Latin nor Greek required	The degree of S.B. is also conferred in Commerce and Economics, Home Economics, Education, Chemistry, Engineering and Agriculture. *Greek may be begun in college and continued 2nd year.
	Literary-Scientific Latin—4 units {Greek—3 units or Modern language—2 units}	Latin—1st year 3 hours Greek—none	Latin—5 years {Greek—3 years or Modern language—2 years}				
University of Virginia University, Virginia	Latin—4 units or Greek—2 units	Latin—2 years or Greek—2 years 3 hours each year	Latin—6 years or Greek—4 years	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	Degree of S.B. also conferred in special subjects and Medicine.

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
University of Washington Seattle, Washington	Foreign language —2 units	Latin, Greek, or Greek and Roman Literature or Civilization for those who have not had 3 years of Latin in high school Modern language required	Foreign language —4 years Neither Latin nor Greek required	Foreign language —2 units	Latin, Greek, or Greek and Roman Literature or Civilization for those who have not had 3 years of Latin in high school Modern language required	Foreign language —4 years Neither Latin nor Greek required	
University of Wisconsin Madison, Wisconsin	Latin, French or German—2 units	Greek, Latin, French or German—3 years of two languages, 4 hours each year, but to be taken during 1st two years.*	Foreign language —5 or 6 years Neither Latin nor Greek required	Degree of S. B. conferred only for professional and technical courses			*If 4 units of foreign language are offered for entrance only 2 years need be taken at college, 4 hours each year.
Vanderbilt University Nashville, Tennessee	Latin—4 units Greek—2 or 3 units	Latin—1st year Greek—1st year 3 hours each	Latin—5 years Greek—3 or 4 years	Latin, Greek, French, German or Spanish—4 or 6 units, but no less than 2 units of any one	Latin—1st year 3 hours if offered for entrance	Latin, if offered for entrance—5 years Neither Latin nor Greek required	
Vassar College Poughkeepsie, N. Y.	Latin—4 units Greek, French or German—3 units	Latin—1st year or Greek—1st year 3 hours*	Latin—5 years Greek, French or German—3 years or Latin—4 years Greek—1 or 4 years Greek not required	The degree of S. B. is not conferred			*A year of elementary Greek may take the place of Freshman Latin provided the student continues the study of French or German offered as the 3-unit language for entrance. Vassar offers other choices that cannot be easily tabulated.
Washington and Lee University Lexington, Virginia	Foreign language —2 units	Latin, Greek, French, German, Spanish, Anglo-Saxon—5 years total of 15 hours, 3 hours a yearly course, 3 hours of which may be in Anglo-Saxon	Foreign language —7 years Neither Latin nor Greek required	Foreign language —2 units	Modern language—2 years	Foreign language —4 years Latin and Greek optional for 2 years, but not required	

TABLE I—*Continued*

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.			NOTES
	ENTRANCE	COLLEGE	TOTAL	ENTRANCE	COLLEGE	TOTAL	
Washington University St. Louis, Missouri	Foreign language—3 units from the following group: Latin—3 or 4 Greek—3 or 4 French—2, 3, or 4 German—2, 3, or 4 Spanish—2	Foreign language—3 years 3 hours each year 1st three years*	Foreign language—6 or 7 years Neither Latin nor Greek required	The degree of S. B. is conferred by the Department of Arts and Sciences at the end of the second year of college work and second year of the Department of Medicine. The requirements in language are therefore the same as for the A. B. degree. The degree of S. B. is also conferred by the School of Engineering.			*Students offering 5 units of foreign language for entrance are required to take 2 years only at college.
Wellesley College Wellesley, Mass.	Latin—4 units *plus* Greek, French or German—3 units and 1 unit elective, or 2 units each of two, or 2 units of one and 2 units elective	Foreign language—1st year, 3 hours* or Natural science—1st year, 3 hours** If neither has been presented for entrance both must be taken 1st year	Latin—4 years 2 other languages—4 years Greek not required	The degree of S. B. is not conferred.			*Not required if a third language has been offered for entrance. **Not required if offered for entrance.
Wells College Aurora, New York	Latin—4 units Greek, French or German—2 units	Latin—1st year, 3 hours Greek, French or German—1st year, 3 hours	Latin—5 years Greek not required	The degree of S. B. is not conferred.			
Wesleyan University Middletown, Conn.	Latin—4 units or Greek—3 units*	Latin—1st year, 3 hours or Greek—1st year, 3 hours plus Latin, Greek, modern language or mathematics—1st year, 3 hours	Latin—5 years or Greek—4 years	Latin—none Greek—none	Latin—none Greek—none	Latin—none Greek—none	*Unless both Latin and Greek are offered, candidates must present an elementary modern language or take a corresponding course in college. By taking beginners' Greek in college, a student can meet the requirement in two years instead of four.

NAME OF COLLEGE OR UNIVERSITY	LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF A. B.			LATIN AND GREEK REQUIREMENTS FOR THE DEGREE OF S. B.	NOTES
	ENTRANCE	COLLEGE	TOTAL		
Western Reserve University Cleveland, Ohio (Adelbert College)	Foreign language —4 units No less than 2 units in any one language	Chemistry, modern language, ancient language, history —1st year: three of these subjects, 3 hours of each	Foreign language —"satisfactory knowledge"* Neither Latin nor Greek required	The degree of S. B. is not conferred by Adelbert College (the Men's College of Arts and Sciences)	*Every student shall give evidence before the beginning of his senior year of a satisfactory knowledge of a modern foreign language. As evidence either two years of further work in college or examination is accepted.
West Virginia Univ. Morgantown, W. Va.	Foreign language —2 units of one language	Foreign language —2 or 3 years, total of 10 hours	Foreign language —4 or 5 years Neither Latin nor Greek required	Degree of S. B. is conferred only as a first degree upon candidates who are pursuing either the combined Science and Agriculture course, the combined Science and Medical course, or the combined Science and Engineering course	
Williams College Williamstown, Mass.	*Group I*				
	Latin—4 units Greek—3 units	Latin—1st year, 3 hours Greek—1st year, 4 hours Latin or Greek —2nd year, 4 hours or French or German—2nd year, 3 hours	Latin—5 years Greek—4 years plus additional year foreign language		
	Group II-V				
	Latin—4 units	Latin—1st year 3 hours Latin or Greek—2nd year, 4 hours or French or German — 2nd year, 4 hours	Latin—5 years plus additional year foreign language Greek not required	The degree of S. B. is not conferred.	
Yale University New Haven, Conn.	Latin—4 units French or German—2 units	Foreign language —2 years*	Foreign language —8 years of which 4 years of Latin are required	Degree of S. B. is not conferred by Yale College (College of Liberal Arts) but the degree of Ph.B. is conferred by the Sheffield Scientific School	*Number of hours per week not stated.

Table II.— Showing Number and Percentage of Students Electing Latin in the Freshman Year in Certain Institutions Requiring Latin for Entrance (A. B. Degree)

NAME OF COLLEGE OR UNIVERSITY	YEAR	TOTAL NUMBER OF FRESHMAN MATRICULATES	ELECTING LATIN FRESHMAN YEAR	
			NUMBER	PER CENT.
Bowdoin College	1912–13	83	67	81
	1913–14	78	59	76
	1914–15	87	67	77
	1915–16	81	69	85
	1916–17	88	64	73
Colorado College	1912–13	176	49	28
	1913–14	171	40	23
	1914–15	204	34	17
	1915–16	235	50	21
	1916–17	245	54	22
Connecticut College for Women	1912–13	...	..	..
	1913–14	...	..	..
	1914–15	...	..	..
	1915–16	98	11	11
	1916–17	98	5	5
Delaware College	1912–13	14	7	50
	1913–14	9	3	33
	1914–15	26	10	38
	1915–16	19	12	63
	1916–17	23	4	17
Harvard College	1912–13	542	79	15
	1913–14	505	85	17
	1914–15	597	106	18
	1915–16	580	85	15
	1916–17	569	95	17
Johns Hopkins University	1911–12	44	18	41
	1912–13	43	13	30
	1913–14	55	25	45
	1914–15	55	27	49
	1915–16	58	21	36
Wellesley College	1912–13	402	95	24
	1913–14	414	92	22
	1914–15	410	90	22
	1915–16	414	77	19
	1916–17	456	80	18
Yale College	1912–13	385	284	74
	1913–14	394	294	75
	1914–15	392	297	76
	1915–16	395	308	78
	1916–17	403	283	70

Table III *—Showing Number and Percentage of Students Offering Latin for Entrance and Electing Latin in the Freshman Year in Certain Institutions Requiring no Latin for Entrance or in College.

NAME OF COLLEGE OR UNIVERSITY	YEAR	TOTAL NUMBER OF FRESHMAN MATRICULATES	OFFERING LATIN FOR ENTRANCE		ELECTING LATIN FRESHMAN YEAR		
			NUMBER	PER CENT.	NUMBER	PER CENT. OF THOSE OFFERING LATIN	PER CENT. OF TOTAL MATRICULATES
Beloit College	1912–13	137	97	71	14	14	10
	1913–14	137	100	73	19	19	14
	1914–15	140	101	72	16	16	11
	1915–16	161	126	78	13	10	8
	1916–17	142	94	66	12	13	8
Cornell University	1912–13	304	274	90	62	23	20
	1913–14	291	264	91	57	22	20
	1914–15	322	294	91	69	23	21
	1915–16	356	328	92	66	20	19
	1916–17	349	315	90	58	18	17
Franklin College	1912–13	75	69	92	9	13	12
	1913–14	60	57	95	9	16	15
	1914–15	73	68	93	7	10	10
	1915–16	98	91	93	13	14	13
	1916–17	104	89	86	12	13	12
Goucher College	1912–13	105	105	100	27	26	26
	1913–14	122	122	100	23	19	19
	1914–15	121	121	100	17	14	14
	1915–16[1]	191	182	95	33	18	17
	1916–17	219	210	96	25[2]	11	11
Pomona College	1912–13	152	137	90	10	7	7
	1913–14	195	167	86	17	10	9
	1914–15	204	173	85	16	9	8
	1915–16	226	185	82	23	12	10
	1916–17	194	145	75	8	6	4
Reed College	1912–13	73	61	84	18	30	25
	1913–14	75	70	93	9	13	12
	1914–15	86	72	84	11	15	13
	1915–16	99	92	93	14	15	15
	1916–17	100	92	92	16	17	16

[1] Latin was required for entrance until the year 1915-1916.

[2] Includes one student who did not offer Latin for entrance.

*This table does not include all the colleges mentioned on page 4, as many were unable to supply the figures in time for this publication, or in the form required.

TABLE III—*Continued*

NAME OF COLLEGE OR UNIVERSITY	YEAR	TOTAL NUMBER OF FRESHMAN MATRICULATES	OFFERING LATIN FOR ENTRANCE		ELECTING LATIN FRESHMAN YEAR		
			NUMBER	PER CENT.	NUMBER	PER CENT. OF THOSE OFFERING LATIN	PER CENT. OF TOTAL MATRICULATES
Ripon College	1912–13	68	22	32	7	32	10
	1913–14	59	23	39	6	26	10
	1914–15	74	24	32	14	58	19
	1915–16	102	34	33	17	50	17
	1916–17	115	29	25	25	86	22
Swarthmore College	1912–13	120	116	97	26	22	22
	1913–14	134	120	90	25	21	19
	1914–15	128	121	95	26	21	20
	1915–16	157	152	97	15	10	10
	1916–17	117	...	..	15	..	13
University of Illinois	1912–13	1,002	721	72	35	5	3
	1913–14	1,034	838	81	33	4	3
	1914–15	1,153	1,010	88	29	3	3
	1915–16	1,384	930	67	40	4	3
	1916–17	1,393	1,043	75	48	5	3
University of Maine	1912–13	261	...	..	8	..	3
	1913–14	322	242	75	6	2	2
	1914–15	352	255	72	14	5	4
	1915–16	406	280	69	8	3	2
	1916–17	389	235	60	16	7	4
University of Michigan	1912–13	688	573	83	96	17	14
	1913–14	836	641	77	84	13	10
	1914–15	851	682	80	93	14	11
	1915–16	912	731	80	78	11	9
	1916–17	974	755	78	96	13	10
University of Minnesota	1912–13	544	303	56	65	21	12
	1913–14	512	284	55	61[1]	20	12
	1914–15	707	376	53	54	14	8
	1915–16	884	346	39	26	8	3
	1916–17	997	434	44	53	12	5
University of North Carolina	1912–13	222	204	92	164	80	74
	1913–14	240	222	93	178	80	74
	1914–15	248	217	88	169	78	68
	1915–16	271	233	86	177	76	65
	1916–17	299	258	86	144	56	48

[1] Includes five students who did not offer Latin for entrance.

TABLE III—*Continued*

NAME OF COLLEGE OR UNIVERSITY	YEAR	TOTAL NUMBER OF FRESHMAN MATRICULATES	OFFERING LATIN FOR ENTRANCE		ELECTING LATIN FRESHMAN YEAR		
			NUMBER	PER CENT.	NUMBER	PER CENT. OF THOSE OFFERING LATIN	PER CENT. OF TOTAL MATRICULATES
Washington and Lee University	1912–13	82	79	96	26	33	32
	1913–14	119	110	92	31	28	26
	1914–15	124	115	93	21	18	17
	1915–16	122	112	92	22	20	18
	1916–17	107	95	89	16	17	15
Western Reserve University[3] (Adelbert College only)	1912–13	189	[1]172 ¦ [2]71	[1]91 ¦ [2]38	23	[1]13 ¦ [2]32	12
	1913–14	168	161 ¦ 77	96 ¦ 46	23	14 ¦ 30	14
	1914–15	155	136 ¦ 64	88 ¦ 41	35	26 ¦ 55	23
	1915–16	153	136 ¦ 85	89 ¦ 56	28	21 ¦ 33	18
	1916–17	157	137 ¦ 67	87 ¦ 43	31	23 ¦ 46	20

[1] Total number of students offering either 1, 2, 3, or 4 years of Latin.

[2] Students offering 4 years of Latin.

[3] While students may enter without Latin or less than 4 units, only those entering with 4 units may elect Latin at college.

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The Worth of Ancient Literature to the Modern World

BY
VISCOUNT BRYCE, O. M.

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THE WORTH OF ANCIENT LITERATURE TO THE MODERN WORLD*

THAT the study of the Greek and Latin languages should be now disparaged need cause no surprise, for a reaction against the undue predominance they enjoyed in education a century ago was long overdue. What is remarkable is that the disposition to disparage them and exalt another class of subjects has laid hold of certain sections of the population which were not wont to interest themselves in educational matters, but used to take submissively whatever instruction was given them. It is a remarkable fact; but though remarkable, it is not hard to explain. The most striking feature in the economic changes of the last eighty years has been the immense development of industrial production by the application thereto of discoveries in the sphere of natural science. Employment has been provided for an enormous number of workers, and enormous fortunes have been accumulated by those employers who had the foresight or the luck to embark capital in the new forms of manufacture. Thus there has been created in the popular mind an association, now pretty deeply rooted, between the knowledge of applied science and material prosperity. It is this association of ideas, rather than any pride in the achievements of the human intellect by the unveiling of the secrets of Nature and the setting of her forces at work in the service of man, that has made a knowledge of physical science seem so supremely important to large classes that never before thought about education or tried to estimate the respective value of the various studies needed to train the intelligence and form the character.

To put the point in the crudest way, the average man sees,

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or thinks he sees, that the diffusion of a knowledge of languages, literature, and history does not seem to promise an increase of riches either to the nation or to the persons who possess that knowledge, while he does see, or thinks he sees, that from a knowledge of mechanics or chemistry or electricity such an increase may be expected both to the community and to the persons engaged in the industries dependent on those sciences. This average man accordingly concludes that the former or the literary kinds of knowledge have, both for the individual and for the community, far less value than have the latter, *i.e.*, the scientific.

Two other arguments have weighed with persons more reflective than those whose mental attitude I have been describing; and their force must be admitted. Languages—not merely the ancient languages, but languages in general—have too often been badly taught, and the learning of them has therefore been found repulsive by many pupils. The results have accordingly been disappointing, and out of proportion to the time and labour spent. Comparatively few of those who have given from six to eight years of their boyhood mainly to the study of Greek and Latin retain a knowledge of either language sufficient to afford either use or pleasure to them through the rest of life. Of the whole number of those who yearly graduate at Oxford or at Cambridge, I doubt if at thirty years of age 15 per cent. could read at sight an easy piece of Latin, or 5 per cent. an easy piece of Greek. As this seems an obvious sort of test of the effect of the teaching, people come to the conclusion that the time spent on Greek and Latin was wasted.

Let us frankly admit these facts. Let us recognize that the despotism of a purely grammatical study of the ancient languages and authors needed to be overthrown. Let us also discard some weak arguments our predecessors have used, such as that no one can write a good English style without knowing Latin. There are too many cases to the contrary. Nothing is gained by trying to defend an untenable position. We must retire to the stronger lines of defence and entrench ourselves there. You will also agree that the time has come when every one should approach the subject not as the advocate of a cause but in an impartial spirit. We must consider education as a whole, rather than as a crowd of diverse subjects with competing claims. What is the chief aim of education? What sorts of capacities and of attainments go to

make a truly educated man, with keen and flexible faculties, ample stores of knowledge, and the power of drawing pleasure from the exercise of his faculties in turning to account the knowledge he has accumulated? How should the mental training fitted to produce such capacities begin?

First of all by teaching him how to observe and by making him enjoy the habit of observation. The attention of the child should from the earliest years be directed to external nature. His observation should be alert, and it should be exact.

Along with this he should learn how to use language, to know the precise differences between the meanings of various words apparently similar, to be able to convey accurately what he wishes to say. This goes with the habit of observation, which can be made exact only by the use in description of exact terms. In training the child to observe constantly and accurately and to use language precisely, two things are being given which are the foundation of mental vigour—curiosity, *i.e.*, the desire to know—and the habit of thinking. And in knowing how to use words one begins to learn—it is among the most important parts of knowledge—how to be the master and not the slave of words. The difference between the dull child and the intelligent child appears from very early years in the power of seeing and the power of describing: and that which at twelve years of age seems to be dullness is often due merely to neglect. The child has not been encouraged to observe or to describe or to reflect.

Once the Love of Knowledge and the enjoyment in exercising the mind have been formed, the first and most critical stage in education has been successfully passed. What remains is to supply the mind with knowledge, while further developing the desire to acquire more knowledge. And here the question arises: What sort of knowledge? The field is infinite, and it expands daily. How is a selection to be made?

One may distinguish broadly between two classes of knowledge, that of the world of nature and that of the world of man, *i.e.*, between external objects, inanimate and animate, and all the products of human thought, such as forms of speech, literature, all that belongs to the sphere of abstract ideas, and the record of what men have done or said. The former of these constitutes what we call the domain of physical science; the latter, the domain of the so-

called Humanities. Every one in whom the passion of curiosity has been duly developed will find in either far more things he desires to know than he will ever be able to know, and that which may seem the saddest but is really the best of it is that the longer he lives, the more will he desire to go on learning.

How, then, is the time available for education to be allotted between these two great departments? Setting aside the cases of those very few persons who show an altogether exceptional gift for scientific discovery, mathematical or physical, on the one hand, or for literary creation on the other, and passing by the question of the time when special training for a particular calling should begin, let us think of education as a preparation for life as a whole, so that it may fit men to draw from life the most it can give for use and for enjoyment.

The more that can be learnt in both of these great departments, the realm of external nature and the realm of man, so much the better. Plenty of knowledge in both is needed to produce a capable and highly finished mind. Those who have attained eminence in either have usually been, and are to-day, the first to recognize the value of the other, because they have come to know how full of resource and delight all true knowledge is. There is none of us who are here to-day as students of language and history that would not gladly be far more at home than he is in the sciences of Nature.

To have acquired even an elementary knowledge of such branches of natural history as, for instance, geology or botany, not only stimulates the powers of observation and imagination, but adds immensely to the interest and the value of travel and enlarges the historian's field of reflection. So, too, we all feel the fascination of those researches into the constitution of the material universe which astronomy and stellar chemistry are prosecuting within the region of the infinitely vast, while they are being also prosecuted on our own planet in the region of the infinitely minute. No man can in our days be deemed educated who has not some knowledge of the relation of the sciences to one another, and a just conception of the methods by which they respectively advance. Those of us who apply criticism to the study of ancient texts or controverted historical documents profit from whatever we know about the means whereby truth is pursued in the realm of Nature. In these and in many other ways we gladly own ourselves the debtors of our

scientific brethren, and disclaim any intention to disparage either the educational value or the intellectual pleasure to be derived from their pursuits. Between them and us there is, I hope, no conflict, no controversy. The conflict is not between Letters and Science, but between a large and philosophical conception of the aims of education and that material, narrow, or even vulgar view which looks only to immediate practical results and confounds pecuniary with educational values.

We have to remember that for a nation even commercial success and the wealth it brings are, like everything else in the long run, the result of Thought and Will. It is by these two, Thought and Will, that nations, like individuals, are great. We in England are accused, as a nation and as individuals, of being deficient in knowledge and in the passion for knowledge. There may be some other nation that surpasses us in the knowledge it has accumulated and in the industry with which it adds to the stock of its knowledge. But such a nation might show, both in literature and in action, that it does not always know how to use its knowledge. It might think hard, harder perhaps than we do, but its thought might want that quality which gives the power of using knowledge aright. Possessing knowledge, it might lack imagination and insight and sympathy, and it might therefore be in danger of seeing and judging falsely and of erring fatally. It would then be in worse plight than we; for these faults lie deep down, whereas ours can be more easily corrected. We can set ourselves to gain more knowledge, to set more store by knowledge, to apply our minds more strenuously to the problems before us. The time has come to do these things, and to do them promptly. But the power of seeing truly, by the help of imagination and sympathy, and the power of thinking justly, we may fairly claim to have as a nation generally displayed. Both are evident in our history, both are visible in our best men of science and learning, and in our greatest creative minds.

This is not, I hope, a digression, for what I desire to emphasize is the need in education of all that makes for width of knowledge and for breadth and insight and balance in thinking power. The best that education can do for a nation is to develop and strengthen the faculty of thinking intensely and soundly, and to extend from the few to the many the delights which thought and knowledge give,

saving the people from degenerating into base and corrupting pleasures by teaching them to enjoy those which are high and pure.

Now we may ask: What place in education is due to literary and historical studies in respect of the service they render to us for practical life, for mental stimulus and training, and for enjoyment?

These studies cover and bear upon the whole of human life. They are helpful for many practical avocations, indeed in a certain sense for all avocations, because in all we have to deal with other men; and whatever helps us to understand men and how to handle them is profitable for practical use. We all of us set out in life to convince, or at least to persuade (or some perhaps to delude) other men, and none of us can tell that he may not be called upon to lead or guide his fellows.

Those students also who explore organic tissues or experiment upon ions and electrons have to describe in words and persuade with words. For dealing with men in the various relations of life, the knowledge of tissues and electrons does not help. The knowledge of human nature does help, and to that knowledge letters and history contribute. The whole world of emotion—friendship, love, all the sources of enjoyment except those which spring from the intellectual achievements of discovery—belong to the human field, even when drawn from the love of nature. To understand sines and logarithms, to know how cells unite into tissues, and of what gaseous elements, in what proportion, atoms are combined to form water—all these things are the foundations of branches of science, each of which has the utmost practical value. But they need to be known by those only who are engaged in promoting those sciences by research or in dealing practically with their applications. One can buy and use common salt without calling it chloride of sodium. A blackberry gathered on a hedge tastes no better to the man who knows that it belongs to the extremely perplexing genus *Rubus* and is a sister species to the raspberry and the cloudberry, and has scarcely even a nodding acquaintance with the bilberry and the bearberry. None of these things, interesting as they are to the student, touches human life and feeling. Pericles and Julius Caesar would have been no fitter for the work they had to do if they had been physiologists or chemists. No one at a supreme crisis in his life can nerve himself to action, or comfort himself under

a stroke of fate, by reflecting that the angles at the base of an isosceles triangle are equal. It is to poetry and philosophy, and to the examples of conduct history supplies, that we must go for stimulus or consolation. How thin and pale would life be without the record of the thoughts and deeds of those who have gone before us! The pleasures of scientific discovery are intense, but they are reserved for the few; the pleasures which letters and history bestow with a lavish hand are accessible to us all.

These considerations are obvious enough, but they are so often overlooked that it is permissible to refer to them when hasty voices are heard calling upon us to transform our education by overthrowing letters and arts and history in order to make way for hydrocarbons and the anatomy of the Cephalopoda. The substitution in our secondary schools of the often unintelligent and mechanically taught study of details in such subjects has already gone far, perhaps too far for the mental width and flexibility of the next generation.

If, then, we conclude that the human subjects are an essential part, and for most persons the most essential part, of education, what place among these subjects is to be assigned to the study of the ancient classics, or, as I should prefer to say, to the study of the ancient world? This question is usually discussed as if the forms of speech only were concerned. People complain that too much is made of the languages, and discredit their study, calling them "dead languages," and asking of what use can be the grammar and vocabulary of a tongue no longer spoken among men.

But what we are really thinking of when we talk of the ancient classics is something far above grammar and the study of words, far above even inquiries so illuminative as those which belong to Comparative Philology. It is the ancient world as a whole; not the languages merely, but the writings; not their texts and style merely, but all that the books contain or suggest.

This mention of the books, however, raises a preliminary question which needs a short consideration. Is it necessary to learn Greek and Latin in order to appreciate the ancient authors and profit by their writings? What is the value of translations? Can they give us, if not all that the originals give, yet so large a part as to make the superior results attainable from the originals not worth the time and trouble spent in learning the languages? Much

of the charm of style must, of course, be lost. But is that charm so great as to warrant the expenditure of half or more out of three or four years of a boy's life?

This question is entangled with another, viz., that of the value, as a training in thought and in the power of expression, which the mastery of another language than one's own supplies. I will not, however, stop to discuss this point, content to remark that all experienced teachers recognize the value re erred to, and hold it to be greater when the other language mastered is an inflected language with a structure and syntax unlike those of modern forms of speech, such as Latin and Greek, and such as Icelandic, together with some of the Slavonic languages, almost alone among modern civilized languages, possess. Let us return to the question of the worth of translations. It is a difficult question, because ne ther those who know the originals nor those who do not are perfectly qualified judges. The former, when they read their favourite author in a translation, miss so much of the old charm that they may underestimate its worth to the English reader. The latter, knowing the translation only, cannot tell how much better the original may be. It is those who, having read an author in a translation, afterwards learn Greek (or Latin) and read him in the original, that are perhaps best entitled to offer a sound opinion.

Prose writers, of course, suffer least by being translated. Polybius and Procopius, Quintus Curtius, and Ammianus Marcellinus can give us their facts, Epictetus and the Emperor Marcus their precepts and reflections, almost as well in our tongue as in their own. Most of us find the New Testament more impressive in English, which was at its best in the early seventeenth century, than in Hellenistic Greek, which had declined so far in the first and second centuries as to be distasteful to a modern reader who is familiar with the Attic writers. The associations of childhood have also had their influence in making us feel the solemnity and dignity of the English version. Even among writers of prose there are some whose full grace or force cannot be conveyed by the best translation. Plato and Tacitus are examples, and so, among moderns, is Cervantes, some of whose delicate humour evaporates (so to speak) when the ironical stateliness of his Castilian has to be rendered in another tongue. The poets, of course, suffer far more, but in very unequal degree. Lucan or Claudian, not to speak of Apollonius

Rhodius, might be well rendered by any master of poetical rhetoric such as Dryden or Byron. But the earlier bards, and especially Pindar and Virgil, Sophocles, and Theocritus, are untranslatable. If one wants to realize how great can be the loss, think of the version Catullus produced of Sappho's ode that begins Φαίνεταί μοι κῆνος ἴσος θεοῖσιν. The translator is a great poet and he uses the same metre, but how low in the Latin version do the fire and passion of the original burn! In the greatest of the ancients the sense is so inwoven with the words and the metre with both that with the two last elements changed the charm vanishes. Whatever admiration we may give to some of the verse renderings of Homer and to some of those admirable prose renderings which our own time and country have produced, one has to say of them all much what Bentley said to Pope, "A very pretty poem, but you must not call it Homer." The want, in English, of any metre like the Greek hexameter is alone fatal.

If we are asked to formulate a conclusion on this matter, shall we not say that whoever wishes to draw from the great ancients the best they have to give must begin by acquiring a working acquaintance with, though not necessarily a complete grammatical mastery of, the languages in which they wrote? Those who cannot find time to do this will have recourse to such translations, now readily obtainable, as convey accurately the substance of the classical writers. Style and the more subtle refinements of expression will be lost, but the facts, and great part of the thoughts, will remain. The facts and the thoughts are well worth having. But that real value and that full delight which, as I shall try to indicate, the best ancient authors can be made to yield to us can be gained only by reading them in the very words they used.

This would be the place for an examination of the claims of modern languages. Both the practical utility of these languages, and especially of Spanish, hitherto far too much neglected, and their value as gateways to noble literatures, are too plain to need discussion. The question for us here to-day is this: Are these values such as to enable us to dispense with the study of the ancient world? I venture to believe that they do not, and shall try in the concluding part of this address to show why that study is still an essential part of a complete education.

But before entering on the claims of the classics, a word must

be said on a practical aspect of the matter as it affects the curricula of schools and universities. I do not contend that the study of the ancients is to be imposed on all, or even on the bulk, of those who remain at school till eighteen, or on most of those who enter a university. It is generally admitted that at the universities the present system cannot be maintained. Even of those who enter Oxford or Cambridge, many have not the capacity or the taste to make it worth while for them to devote much time there to Greek and Latin. The real practical problem for all our universities is this: How are we to find means by which the study, while dropped for those who will never make much of it, may be retained, and forever securely maintained, for that percentage of our youth, be it 20 or 30 per cent. or be it more, who will draw sufficient mental nourishment and stimulus from the study to make it an effective factor in their intellectual growth and an unceasing spring of enjoyment through the rest of life? This part of our youth has an importance for the nation not to be measured by its numbers. It is on the best minds that the strength of a nation depends, and more than half of these will find their proper province in letters and history. It is by the best minds that nations win and retain leadership. No pains can be too great that are spent on developing such minds to the finest point of efficiency.

We shall effect a saving if we drop that study of the ancient languages in the case of those who, after a trial, show no aptitude for them. But means must be devised whereby that study shall, while made more profitable through better methods, be placed in a position of such honour and importance as will secure its being prosecuted by those who are capable of receiving from it the benefits it is fitted to confer.

For the schools the problem is how to discover among the boys and girls those who have the kind of gift which makes it worth while to take them out of the mass and give them due facilities for pursuing these studies at the higher secondary schools, so that they may proceed thence to the universities and further prosecute them there. Many of you, as teachers, know better than I how this problem may be solved. Solved it must be, if the whole community is not to lose the benefit of our system of graded schools.

Returning to the question of what benefits we receive from the study of the ancient world as it speaks to us through its great

writers, I will venture to classify those benefits under four heads.

I. Greece and Rome are the well-springs of the intellectual life of all civilized modern peoples. From them descend to us poetry and philosophy, oratory, and history, sculpture and architecture, even (through East Roman or so-called "Byzantine" patterns) painting. Geometry, and the rudiments of the sciences of observation, grammar, logic, politics, law, almost everything in the sphere of the humanistic subjects, except religion and poetry inspired by religion, are part of their heritage. One cannot explore the first beginnings of any of these sciences and arts without tracing it back either to a Greek or to a Roman source. All the forms poetical literature has taken, the epic, the lyric, the dramatic, the pastoral, the didactic, the satiric, the epigrammatic, were of their inventing; and in all they have produced examples of excellence scarcely ever surpassed, and fit to be still admired and followed by whoever seeks.

To the ancients, and especially to the poets, artists, and philosophers, every mediæval writer and thinker owed all he knew, and from their lamps kindled his own. We moderns have received the teaching and the stimulus more largely in an indirect way through our mediæval and older modern predecessors, but the ultimate source is the same. Whoever will understand the forms which literature took when thought and feeling first began to enjoy their own expression with force and grace, appreciating the beauty and the music words may have, will recur to the poetry of the Greeks as that in which this phenomenon—the truest harbinger of civilisation—dawned upon mankind. The influences of the epic in the Homeric age, of the lyric in the great days that begin from Archilochus, of the drama from Aeschylus onwards—these are still living influences, this is a fountain that flows to-day for those who will draw near to quaff its crystal waters. In some instances the theme itself has survived, taking new shapes in the succession of the ages. One of such instances may be worth citing. The noblest part of the greatest poem of the Roman world is the sixth book of the *Aeneid* which describes the descent of the Trojan hero to the nether world. It was directly suggested to Virgil by the eleventh book of the *Odyssey*, called by the Greeks the Nekuia, in which Odysseus seeks out the long-dead prophet Tiresias to learn from him how he shall contrive his return to his home in Ithaca. The noblest poem of the Middle Ages, one of the highest efforts of human genius,

is that in which Dante describes his own journey down through Hell and up through Purgatory and Paradise till at last he approaches the region where the direct vision of God is vouchsafed to the ever blessed saints. The idea and many of the details of the *Divina Commedia* were suggested to Dante by the sixth *Aeneid*.* The Florentine poet who addresses Virgil as his father is thus himself the grandchild of Homer, though no line of Greek was ever read by him. In each of these three Nekuiai the motive and occasion for the journey is the same. Something is to be learnt in the world of spirits which the world of the living cannot give. In the first it is to be learnt by a single hero for his own personal ends. In the second Aeneas is the representative of the coming Rome, its achievements and its spirit. In the third the lesson is to be taught to the human soul, and the message is one to all mankind. The scene widens at each stage, and the vision expands. The historical import of the second vision passes under the light of a new religion into a revelation of the meaning and purpose of the universe. How typical is each of its own time and of the upward march of human imagination! Odysseus crosses the deep stream of gently-flowing Ocean past a Kimmerian land, always shadowed by clouds and mists, to the dwelling of the dead, and finds their pale ghosts, unsubstantial images of their former selves, knowing nothing of the Present, but with the useless gift of foresight, saddened by the recollection of the life they had once in the upper air—a hopeless sadness that would be intense were their feeble souls capable of anything intense. The weird mystery of this home of the departed is heightened by the vagueness with which everything is told. That which is real is the dimness, the atmosphere of gloom, a darkness visible which enshrouds the dwellers and their dwelling-place.

The Hades of Virgil is more varied and more majestic. In it the monstrous figures of Hellenic mythology are mingled with personifications of human passions. We find ourselves in a world created by philosophic thought, far removed from the childlike

*It is perhaps not too fanciful to suggest that the part played by Circe in the *Odyssey* suggests that played by the Cumaean Sibyl in the *Aeneid* and the latter the appearance of his Guide to Dante. So the line of hapless heroines whom Odysseus sees (Book xi. ll. 225-332) reappears with variations in *Aeneid* vi. 445, introducing the touching episode of the address of Aeneas to Dido; and among the sorrowful figures whom Dante meets none are touched more tenderly than Francesca in the Inferno and la Pia in the Purgatorio.

simplicity of the *Odyssey*. There are Elysian fields of peace, with a sun and stars of their own, yet melancholy broods over the scene, the soft melancholy of a late summer evening, when colours are fading from the landscape.

In the *Divine Comedy* we return to something between the primitive realism of early Greece and the allegorical philosophy of Virgil. Dante is quite as realistic as Homer, but far more vivid; he is as solemn as Virgil, but more sublime. The unseen world becomes as actual as the world above. Everything stands out sharp and clear. The Spirits are keenly interested in the Past and the Future, though knowing nothing (just as in Homer) of the Present. Ghosts though they be, they are instinct with life and passion, till a region is reached in highest heaven of which neither Homer nor Virgil ever dreamed, because its glory and its joys transcend all human experience. Three phases of thought and emotion, three views of life and what is beyond life, of the Universe and the laws and powers that rule it, find their most concentrated poetical expression in these three visions of that Place of Spirits, which has always been present to the thoughts of mankind as the undiscovered background to their little life beneath the sun.

II. Secondly. Ancient classical literature is the common possession, and, with the exception of the Bible and a very few mediæval writings, the only common possession, of all civilised peoples. Every well-educated man in every educated country is expected to have some knowledge of it, to have read the greatest books, to remember the leading characters, to have imbibed the fundamental ideas. It is the one ground on which they all meet. It is therefore a living tie between the great modern nations. However little they may know of one another's literature, they find this field equally open to them all, and equally familiar. Down till the seventeenth century the learned all over Europe used Latin as their means of communication and the vehicle of expression for their more serious work in prose. Ever since the Renaissance gave Greek literature back to Western and Central Europe and turned the critical labours of scholars upon ancient writings, scholars in all countries have vied with one another in the purifying of the texts and elucidation of the meaning of those writings; and this work has given occasion for constant intercourse by visits and correspondence between the learned men of England, Scotland, France, Ger-

many, Italy, Holland, Denmark. Thus was maintained, even after the great ecclesiastical schism of the sixteenth century, the notion of an international polity of thought, a Republic of Letters. The sense that all were working together for a common purpose has been down to our own days, despite international jealousies (now, alas! more bitter than ever before), a bond of sympathy and union.

III. Thirdly. Ancient History is the key to all history, not to political history only, but to the record also of the changing thoughts and beliefs of races and peoples. Before the sixth century B. C. we have only patriarchal or military monarchies. It is with the Greek cities that political institutions begin, that different forms of government take shape, that the conception of responsible citizenship strikes root, that both ideas and institutions germinate and blossom and ripen and decay, the institutions overthrown by intestine seditions, and finally by external power, the ideas unable to maintain themselves against material forces, and at last dying out because the very discussion of them, much less their realization, seemed hopeless, and it only remained to turn to metaphysical speculation and ethical discourse. But the ideas and the practice, during the too brief centuries of freedom, had found their record in histories and speeches and treatises. These ideas bided their time. These give enlightenment to-day, for though environments change, human nature persists. That which makes Greek history so specially instructive and gives it a peculiar charm is that it sets before us a host of striking characters in the fields of thought and imaginative creation as well as in the field of political strife, the abstract and the concrete always in the closest touch with one another. The poets and the philosophers are, so to speak, a sort of chorus to the action carried forward on the stage by soldiers, statesmen, and orators. In no other history is the contact and interworking of all these types and forces made so manifest. We see and understand each through the other, and obtain a perfect picture of the whole.

So also are the annals of the Imperial City a key to history, but in a different sense. The tale of the doings of the Roman people is less rich in ideas, but it is of even higher import in its influence on all that came after it. As Thought and Imagination are the notes of the Hellenic mind, so Will and Force are the notes of the Roman—Force with the conceptions of Order, Law, and System. It has a more persistent and insistent volition, a greater gift for

organization. Roman institutions are almost as fertile by their example as the Greek mind was by its ideas. Complicated and cumbrous as was the constitution of the Roman Republic, we see in it almost as wonderful a product of fresh contrivances devised from one age to another to meet fresh exigencies as is the English Constitution itself, and it deserves a scarcely less attentive study. But high as is this permanent value for the student of politics, still higher is its importance as the starting-point for the history of the European nations, some of whom it had ruled, all of whom it taught. It created a body of law and schemes of provincial and municipal administration, which, modified as all these have been by mediæval feudalism, became the basis of the governmental systems of modern States. Still more distinctly was the Roman Empire in West and East the foundation on which the vast fabric of church government has been raised. As the religious beliefs and superstitions and usages of the Romano-Hellenic world affected early Christianity, so did the organization of the Empire serve as a model for the organization of the Christian Church. Without a knowledge of these things it is impossible to understand ecclesiastical history. The riddles of the Middle Ages—and they are many—would be insoluble without a reference back to what went before; nor need I remind you how much of the Middle Ages has lasted down into our own days, nor how in the fifteenth century the long-silent voices of ancient Greece awoke to vivify and refine the thought and the imagination of Europe.

IV. Lastly, the ancient writers set before us a world superficially most unlike our own. All the appliances, all the paraphernalia of civilisation were different. Most of those appliances were indeed wanting. The Athenians in their brightest days had few luxuries and not many comforts. They knew scarcely anything about the forces of Nature, and still less did they know how to turn them to the service of man. Their world was small. The chariot of their sun took less than five hours to traverse the space between the Euphrates and the Pillars of Hercules, and many parts within that space were unknown to them. Civilised indeed they were, but theirs was a civilisation which consisted not in things material, but in art and the love of beauty, in poetry and the love of poetry, in music and a sensibility to music, in a profusion of intelligence active. versatile, refined, expressing its thoughts through wonderfully rich

and flexible forms of speech. There was little wealth and little poverty, some inequality in rank but not much in social relations: women were secluded, slavery was the basis of industry. Yet it was a complete and perfect world, perfect in almost everything except religion and those new virtues, as one may call them, which the Gospel has brought in its train. Human nature was, in essentials, what it is now. But it was a youthful world, and human nature appeared in its simplest guise. Nature was all alive to it. It looked out on everything around it with the fresh curiosity of wide-open youthful eyes. As the Egyptian priest said to Solon, with a deeper wisdom than perhaps he knew, the Greeks were children. Like children, they saw things together which moderns have learnt to distinguish and to keep apart. Their speculations on ethics and politics were blent with guesses at the phenomena of external nature, religion was blent with mythology, poetry with history, gods with men. It is good for us, in the midst of our complex and artificial civilisation, good for us in whom the sense of beauty is less spontaneous, whose creative power is clogged by a weariness of the past, and who are haunted by doubts of all that cannot be established by the methods of science, to turn back to these simpler days, and see things again in their simplicity, as the men of Athens saw them in the clear light of a Mediterranean dawn. The dawn is the loveliest moment of the day, and there are truths best seen in the innocent freshness of morning.

The poets of the early world did not need to strain after effect. They spoke with that directness which makes words go, like arrows, straight to their mark. Strength came to them without effort. As no prose narratives have ever surpassed the description in the seventh book of Thucydides of the Athenian army's retreat from Syracuse, so no narratives, in prose or poetry, except perhaps some few in the earlier books of the Old Testament and in the Icelandic sagas, have ever equalled the telling of the tales contained in the *Odyssey*, such as that in which Eumaeus recounts to Odysseus how he was brought in childhood from his native home to Ithaca. Even among the later classic poets this gift of directness remains. It is one of the glories of Lucretius. What can be more impressive in simple force than the lament of Moschus over Bion, or the lines of Catullus that begin with "Vivamus, mea Lesbia, atque amemus"?

However, I return to that which the study of the ancient world

can do for our comprehension of the progress and life of mankind as a whole. It is the constant aim, not only of the historian, but of whosoever desires to have a just view of that progress, distinguishing the essential and permanent from the accidental and transitory, and noting the great undercurrents of which events are only the results and symptoms—it is and must be his aim to place before his eyes pictures of what man was at various points in his onward march, seeing not only how institutions and beliefs grow and decay, but also how tastes and gifts, aptitudes and virtues, rise and decline and rise again in new shapes, just as the aspects of a landscape change when clouds flit over it, or when shafts of light strike it from east or south or west. For this purpose it is of the utmost value to know human societies in the forms they took when civilised society first came into being. How fruitful for such a study are the successive epochs of the Greco-Roman world! Take, for example, the latest age of the Roman Republic as we see it depicted by Sallust and Catullus, Appian and Plutarch, and best of all in Cicero's speeches and letters. The Republic was tottering to its fall: dangers were gathering from within and without. Caesar's conquests were bringing Gaul under Roman dominion and Britain into the knowledge of civilised men. Lucretius was presenting the doctrines of Epicurus as a remedy against superstition: Cicero and his friends were trying, like Boethius five centuries later, to find consolations in philosophy. But no one could divine the future, no one foresaw the Empire or the advent of a new religion.

Or take the epoch of Periclean Athens. The memory of Salamis, where Aeschylus and his brother had fought, was still fresh. Thucydides, not yet a historian, was sailing to and fro to his gold-mines in Thrace opposite Thasos. Herodotus was reciting the tale of his travels in the cities. Socrates was beginning his quest for wisdom by interrogating men in the market-place. Athenian fleets held the sea, but the Peloponnesians were already devastating Attica. Phidias and his pupils were finishing the frieze of the Parthenon, Cleon was rising into note by the vehemence of his harangues. The same crowd that applauded Cleon in the Pnyx listened with enjoyment to the *Philoctetes* of Sophocles, a drama in which there is no action save the taking away and giving back of a bow, all the rest being the play of emotions in three men's breasts, set forth in exquisite verse.

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Or go back to the stirring times of Alcaeus and Sappho, when Aeolian and Ionian cities along the coasts of the Aegean were full of song and lyre, and their citizens went hither and thither in ships fighting, and trading, and worshipping at the famous shrines where Hellenic and Asiatic religions had begun to intermingle, before the barbaric hosts of Persia had descended upon those pleasant countries.

Or ascend the stream of time still further to find, some centuries earlier, the most perfect picture of the whole of human life that was ever given in two poems, each of them short enough to be read through in a summer day. Think in particular of one passage of 130 lines, the description of the Shield of Achilles in the eighteenth book of the *Iliad*, where many scenes of peace and war, of labour and rejoicing, are presented with incomparable vigour and fidelity. Each vignette has been completed with few strokes of the brush, but every stroke is instinct with life and dazzling with colour. We see one city at peace, with a wedding procession in the street and a lawsuit in the market-place, and another city besieged, with a battle raging on the banks of the river. We see a ploughing, and a harvest, and a vintage, and a herd attacked by lions, and a fair pasture with fleecy sheep, and, last of all, a mazy dance of youths and maidens, "such as once in Crete Daedalus devised for the fair-tressed Ariadne." Above these the divine craftsman had set the unwearied sun and the full-orbed moon and the other marvels wherewith heaven is crowned, and round the rim of the shield rolls the mighty strength of the stream of Ocean.

To carry in our minds such pictures of a long-past world and turn back to them from the anxieties of our own time gives a refreshment of spirit as well as a wider view of what man has been, and is, and may be hereafter. To have immortal verse rise every day into memory, to recall the sombre grandeur of Aeschylus and the pathetic grandeur of Virgil, to gaze at the soaring flight and many-coloured radiance of Pindar, to be soothed by the sweetly flowing rhythms of Theocritus, what an unfailing delight there is in this! Must not we who have known it wish to hand it on and preserve it for those who will come after us?

PUBLICATIONS OF
THE GENERAL EDUCATION BOARD

OCCASIONAL PAPERS, No. 7

TEACHERS' SALARIES IN CERTAIN ENDOWED COLLEGES AND UNIVERSITIES IN THE UNITED STATES

BY
TREVOR ARNETT

GENERAL EDUCATION BOARD
61 BROADWAY NEW YORK CITY
1921

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TEACHERS' SALARIES IN CERTAIN ENDOWED COLLEGES AND UNIVERSITIES IN THE UNITED STATES

IN DECEMBER 1919, Mr. John D. Rockefeller, in presenting to the General Education Board securities valued at about $50,000,000, addressed to it the following communication:

December 18, 1919.

General Education Board,
61 Broadway,
New York City.

GENTLEMEN:

The attention of the American public has recently been drawn to the urgent and immediate necessity of providing more adequate salaries to members of the teaching profession. It is of the highest importance that those entrusted with the education of youth and the increase of knowledge should not be led to abandon their calling by reason of financial pressure or to cling to it amid discouragements due to financial limitations. It is of equal importance to our future welfare and progress that able and aspiring young men and women should not for similar reasons be deterred from devoting their lives to teaching.

Moved by these considerations, I herewith give to the General Education Board the securities set forth in the accompanying schedule. While this gift is made for the general corporate purposes of the Board, I should cordially endorse a decision to use the principal as well as the income as promptly and largely as may seem wise for the purpose of coöperating with the higher institutions of learning in raising sums specifically devoted to the increase of teachers' salaries.

Very truly yours,
(Signed) JOHN D. ROCKEFELLER.

Purpose

Before the General Education Board could take intelligent action with regard to the use of the gift, it was necessary to ascertain the present situation respecting teachers' salaries in the higher institutions of learning; how it compares with that which existed in 1914-1915, before the war; what steps, if any, have been taken by the institutions themselves to increase salaries to meet the increase in the cost of living; what further steps institutions may contemplate looking to that end, in case measures thus far taken are not yet entirely adequate.[1]

Nature of survey

In order to obtain the data needed for the study, two questionnaires were sent to colleges and universities supposed to be eligible

[1] The survey reports conditions as of April, 1920.

for aid. Replies were received from 249 institutions—more than 96 per cent. of the list. As a general rule, the questions asked were clearly answered, especially by the larger and older established institutions, but there is no doubt that some of the replies are not entirely accurate and reliable, and, in a few cases, cannot be used because of their inaccuracies. However, for the purpose which was contemplated, the data obtained are adequate, and the amount of error will not materially modify conclusions which may be formed as to the general situation.

Kinds of data sought

The first questionnaire sought the following information for the years 1914-1915 and 1919-1920:

1. Regarding the instructional staff—the number employed, the rank, and the salaries paid.
2. The salary scale in effect and the budget income and expenditures under eight headings.
3. The percentage which each class of income or expenditures is of the total.
4. The attendance, tuition fees paid, and balance sheet.

The object of this questionnaire was to find out the facts in the present situation and their variance from the situation existing in 1914-1915.

The second questionnaire asked what increases in salaries had been authorized, either for the present year or for the future; what further increases were under consideration; what financial provisions had been made or contemplated to care for the increases; how far the resources of the institutions are adequate to provide for the increases authorized and planned, and what amount, if any, must be obtained from outside sources.

Compilation of data

The material obtained has been edited and tabulated, and certain general and specific facts have been secured which will be shown in separate tables.

Method of classification

The country was divided into five geographical divisions, as follows, because it was thought that the cost of living in the same division would be affected by approximately the same set of conditions:

1. New England States—comprising

Connecticut	New Hampshire
Maine	Rhode Island
Massachusetts	Vermont

2. Middle Atlantic States—comprising

New Jersey
New York
Pennsylvania

3. Southern States—comprising

Alabama
Arkansas
Delaware
District of Columbia
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia

4. Middle Western States—comprising

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

5. Western States—comprising

Arizona
California
Colorado
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

The institutions were then divided into three groups:

1. Men's and Coeducational Colleges and Universities
2. Women's Colleges
3. Colleges for Negroes

A further classification was made on the basis of attendance, since the size of the faculty is dependent upon the size of the student body; and since, for the subject under review, this basis of classification seemed sounder than one built upon the resources, or scale of salaries paid. The classes are as follows:

CLASS A—institutions having an attendance of 1,000 and over
CLASS B—institutions whose attendance ranges between 500 and 1,000
CLASS C—institutions having fewer than 500 students

The following table shows the number of institutions to which the questionnaires were sent listed under the five geographical divisions according to their classes:

CLASSES	TOTAL	NEW ENGLAND STATES	MIDDLE ATLANTIC STATES	SOUTH-ERN STATES	MIDDLE WESTERN STATES	WESTERN STATES
Men's and Coeducational Colleges						
Class A	36	6	8	6	13	3
Class B	41	3	9	9	18	2
Class C	131	10	14	42	53	12
	208	19	31	57	84	17
Women's Colleges						
Class A	4	3	1			
Class B	8	2	2	4		
Class C	24	2	3	12	6	1
	36	7	6	16	6	1
Colleges for Negroes						
Class B	10			10		
Class C	5		1	4		
	15		1	14		
Grand Totals	259	26	38	87	90	18

The material received has been compiled under the above geographical divisions, groups and classes and the conditions prevailing therein have been set forth, first in separate detail and later in summaries.[1] It is with the latter that we are now chiefly concerned. The most complete information was furnished for the colleges of arts, literature and science; the officers of institutions for the most part assumed that Mr. Rockefeller's gift would be used exclusively for colleges of arts, literature and science, and only occasionally did they furnish complete details for the professional schools as well. However, such data, wherever supplied, have been tabulated and edited separately.

The summaries for the colleges of arts, literature and science show that, comparing the present year 1919-1920 with 1914-1915, there have been the percentages of increase in salaries shown in the following table. It will be noted that the table includes data regarding "assistants" and "others". Conditions with reference

[1]The number of institutions reporting in answer to different queries varied slightly as inspection of the tables will show. But the variations do not affect perceptibly either the statistics or deductions.

RANKS	MEN'S AND COEDUCATIONAL INSTITUTIONS										WOMEN'S COLLEGES									
	NEW ENGLAND STATES		MIDDLE ATLANTIC STATES		SOUTHERN STATES		MIDDLE WESTERN STATES		WESTERN STATES		NEW ENGLAND STATES		MIDDLE ATLANTIC STATES		SOUTHERN STATES		MIDDLE WESTERN STATES		WESTERN STATES	
	NO.[1]	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.	NO.	PER CENT.
PROFESSORS:																				
In Class A Inst....	5	23.5	5	32.8	5	12.2	9	27.3	3	26.8	3	10.4	1	11.8	—	—	—	—	—	—
In Class B Inst....	2	17.3	6	21.6	9	24.1	20	33.5	2	35.9	1	47.5	2	23.5	3	18.0	—	—	—	—
In Class C Inst....	10	18.8	12	22.9	38	28.3	51	32.0	10	29.6	2	20.6	3	9.3	11	40.8	5	35.6	1	18.3
ASSOCIATE PROFESSORS																				
In Class A Inst....	1	7.9	2	48.1	3	19.9	9	35.5	2	31.9	3	11.1	1	9.7	—	—	—	—	—	—
In Class B Inst....	1	8.0	3	32.2	5	16.5	10	36.5	2	35.3	1	21.2	1	30.9	3	24.0	—	—	—	—
In Class C Inst....	4	16.0	8	13.0	11	44.2	16	27.5	4	51.1	—	—	3	15.2	7	33.6	3	24.5	—	—
ASSISTANT PROFESSORS																				
In Class A Inst....	5	12.9	5	17.9	4	44.6	9	28.5	2	21.0	3	10.0	1	12.0	—	—	—	—	—	—
In Class B Inst....	2	28.1	6	32.3	5	16.7	17	37.8	2	71.2	—	—	2	82.5	3	28.2	—	—	—	—
In Class C Inst....	8	15.1	7	24.1	21	35.2	31	29.7	6	*2.6	2	63.9	3	.7	8	66.1	—	—	1	23.2
INSTRUCTORS:																				
In Class A Inst....	5	29.3	5	29.7	5	69.6	9	36.9	3	21.9	3	19.4	1	10.4	—	—	—	—	—	—
In Class B Inst....	2	30.8	6	26.5	8	35.5	19	29.9	2	20.0	1	23.6	2	20.9	3	29.3	—	—	—	—
In Class C Inst....	10	33.7	11	43.1	22	51.4	40	39.3	6	2.8	2	32.3	3	52.4	8	22.2	5	34.3	1	5.0
ASSISTANTS:																				
In Class A Inst....	4	30.9	5	1.1	4	17.3	8	28.2	1	56.0	3	18.9	1	21.8	—	—	—	—	—	—
In Class B Inst....	1	18.3	5	10.6	4	*18.3	8	*60.1	1	114.2	1	46.4	1	16.7	3	43.8	—	—	—	—
In Class C Inst....	8	18.5	7	23.7	9	59.6	17	42.2	3	77.3	—	—	1	*13.4	8	*14.6	3	58.4	—	—
OTHERS:																				
In Class A Inst....	2	40.7	1	32.9	—	—	1	*5.1	—	—	3	44.6	—	—	—	—	—	—	—	—
In Class B Inst....	2	5.2	1	—	—	—	—	—	—	—	1	2.1	—	—	2	*23.0	—	—	—	—
In Class C Inst....	4	27.2	3	20.7	3	*12.3	1	26.3	—	—	1	42.2	1	*15.3	—	—	—	—	—	—

[1]The figures given in the columns headed "No." indicate the number of institutions.
*Decrease.

to teachers in these ranks vary greatly in different institutions so that the data are not on a comparable basis. The first four ranks given in the table comprise the regular faculty of the institutions.

Cost of living

The question next arises, how far do the increases of salaries shown before meet the increased cost of living? According to investigations made by Royal Meeker, Commissioner of Labor, and published in the *Monthly Labor Review*, Vol. X, No. 2, page 83, the cost of 22 food products entering into the average family expenditure for a year increased from 1913 to December, 1919, as follows:

In New England States	93 per cent.
Middle Atlantic States	97 per cent.
Southern States	98 per cent.
Middle Western States	101 per cent.
Western States	83 per cent.

It was further learned, from a reprint of a report published in the *Monthly Labor Review*, September, 1919, pp. 50-52, that from December, 1914, to June, 1919, the per cent. of increase in cost of living in a selected list of cities for an average family—food, clothing, housing, fuel and light, furniture and furnishings, and miscellaneous—was as follows:

In New England States	73.52
Middle Atlantic States	79.89
Southern States	80.85
Middle Western States	78.69
Western States	68.45

The figures in the articles referred to were given under various cities in alphabetical order. In order to get the results according to the above geographical divisions, they were rearranged. It must be kept in mind that the figures given apply to cities, whereas many colleges and universities are situated in rural communities. Yet one may reasonably infer that the percentage of increase in cost of living in the country would correspond with that for cities. There have been some increases in the cost of living since June and December, 1919, but most of the increase since 1913 is included in the figures here given. In Research Report No. 25 of the National Industrial Conference Board, December, 1919, page 22, the percentages of increase between July, 1914, and November, 1919, in the cost of living in average American communities, by separate budget items, are given as follows:

BUDGET ITEMS	RELATIVE IMPORTANCE IN FAMILY BUDGET PER CENT.	INCREASE IN COST BETWEEN JULY, 1914, and NOVEMBER, 1919 PER CENT.	INCREASE AS RELATED TO TOTAL BUDGET PER CENT.
All Items	100.0		82.2
Food	43.1	92	39.7
Shelter	17.7	38	6.7
Clothing	13.2	135	17.8
Fuel, heat and light	5.6	48	2.7
Sundries	20.4	75	15.3

A scrutiny of the replies to the second questionnaire develops the fact that practically all of the institutions realize that the increases of salary made for the present year (1919-1920) are inadequate, usually ranging from 20 to 35 per cent. of the increase in cost of living. The institutions have, therefore, planned or authorized increases for next year. In very few instances, however, do the increases granted plus the increases proposed even approximate the increase in the cost of living.

For the average percentage of increase in salary of teachers and average salary paid in colleges of arts, literature and science in each of the several divisions of the country, see the following table:

PERCENTAGE OF SALARY INCREASES AND AVERAGE SALARIES PAID IN MEN'S AND COEDUCATIONAL COLLEGES AND WOMEN'S COLLEGES

DIVISIONS	MEN'S AND COEDUCATIONAL		WOMEN'S		COMBINED	
	AVERAGE SALARY 1919–1920	PER CENT. OF INCREASE SINCE 1914–1915	AVERAGE SALARY 1919–1920	PER CENT. OF INCREASE SINCE 1914–1915	AVERAGE SALARY 1919–1920	PER CENT. OF INCREASE SINCE 1914–1915
New England States	$2,415	24.6	$1,791	21.3	$2,199	22.6
Middle Atlantic States	2,157	21.9	2,084	18.5	2,142	21.2
Southern States	1,894	22.9	1,444	25.0	1,775	22.7
Middle Western States	2,006	31.5	1,304	35.7	1,967	32.2
Western States	2,188	27.8	1,462	16.2	2,139	26.8
TOTALS—Country	$2,106	26.0	$1,715	22.3	$2,031	25.2

The following table gives the results of an analysis which has been made of the salaries paid to teachers in the institutions reporting to the Board and the per cent. of the total receiving the same amount per year:

NUMBER OF TEACHERS	SALARIES PAID FROM	SALARIES PAID TO	PER CENT. OF TOTAL	PER CENT. OF THE TOTAL WHICH THE AGGREGATE OF SALARIES IS UP TO AND INCLUDING ANY UNIT OF SALARY PAID
368	$ Up to	$ 600	4.3	
320	601	900	3.7	8.0
1,044	901	1,200	12.2	20.2
1,142	1,201	1,500	13.4	33.6
1,274	1,501	1,800	14.9	48.5
1,099	1,801	2,100	12.9	61.4
757	2,101	2,400	8.9	70.3
674	2,401	2,700	7.9	78.2
656	2,701	3,000	7.7	85.9
198	3,001	3,300	2.3	88.2
198	3,301	3,600	2.3	90.5
87	3,601	3,900	1.0	91.5
207	3,901	4,200	2.4	93.9
126	4,201	4,500	1.5	95.4
173	4,501	5,000	2.0	97.4
125	5,001	6,000	1.5	98.9
92	6,001	plus	1.1	100.0
Total 8,540			100.0	

NOTE: Since "assistants" and "others" are not part of the regular instructional staff, they are not included in the above statement.

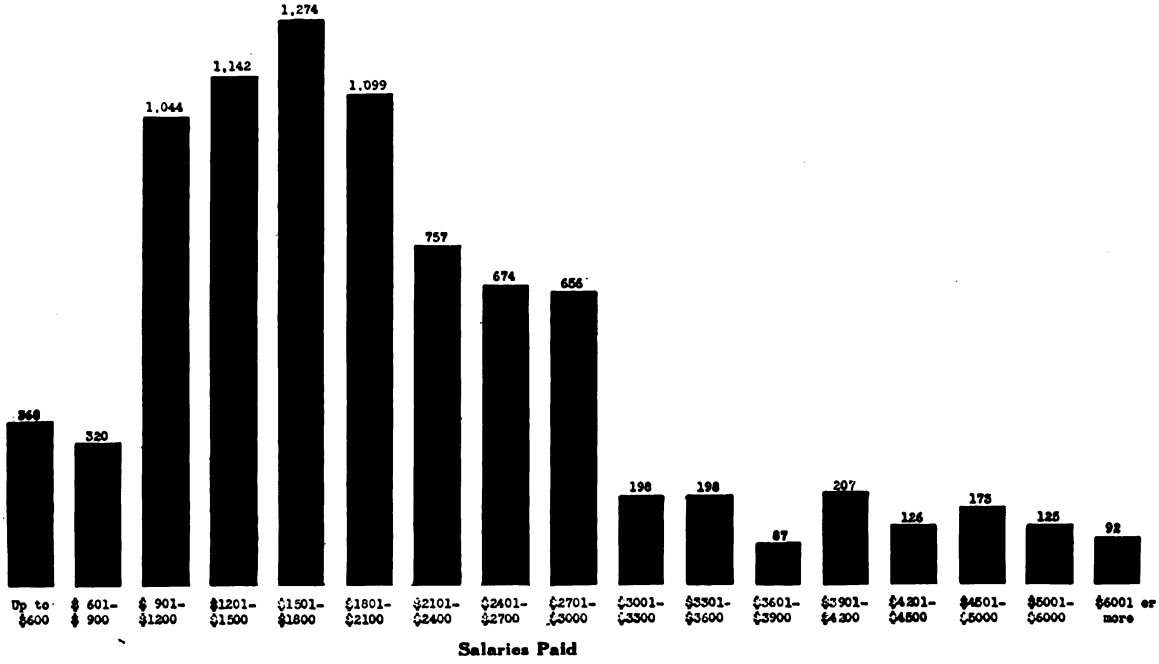
Financial provision for salary increases

As before stated, the officials of institutions recognize the necessity for increasing the salaries of the teachers, and have considered ways and means for doing so. The plans for obtaining funds for the most part follow three general lines:

1. Increase of tuition and other fees.
2. Solicitation of gifts for an emergency or sustaining fund for a few years until, it is hoped, the emergency will be past.
3. Solicitation for further endowment.

The first of the three plans is the one usually resorted to first, because it is readily available and promises prompt results.

From the replies which have been received, we find that the tuition cost to the student has increased since 1914-1915 as shown in the following table:



PERCENTAGE OF INCREASE IN TUITION COST TO STUDENT IN COLLEGES OF ARTS, LITERATURE AND SCIENCE

GROUPS AND CLASSES	NEW ENGLAND STATES	MIDDLE ATLANTIC STATES	SOUTHERN STATES	MIDDLE WESTERN STATES	WESTERN STATES
MEN'S AND COEDUCATIONAL					
Class A Inst.	20.8	34.9	17.7	35.1	*66.6
Class B Inst.	40.9	11.0	18.0	32.7	51.5
Class C Inst.	10.5	32.9	30.7	28.9	19.6
WOMEN'S COLLEGES					
Class A Inst.	9.2	100.0	—	—	—
Class B Inst.	50.4	24.6	53.6	—	—
Class C Inst.	36.8	25.5	21.6	5.0	41.0

*One institution is now charging tuition which did not heretofore.

The average increase in fees in men's and coeducational institutions for the period is 25.3 per cent., and in women's colleges 23.4 per cent.

Just as the institutions have found that the increases of salary already authorized are insufficient to meet the situation, so also do they believe that the increases in tuition and other fees are not all that students might bear of the increased operating costs. It is found that very many of them have already authorized further increases in fees for next year or are planning to do so. There is a somewhat prevalent impression that the students' fees in the aggregate should approximately equal the salary roll of the instructional staff. If this theory is accepted, it follows that both the fee and the salary should be increased pari passu. It is interesting to note how far this theory is now true in the institutions covered in this survey. The following tables give the total salaries paid for instruction and the fees paid by students in all departments of the institutions:

TEACHERS' SALARIES—ALL DEPARTMENTS

DIVISIONS	MEN'S AND COEDUCATIONAL INSTITUTIONS	WOMEN'S COLLEGES
New England States	$ 5,330,810	$ 1,002,557
Middle Atlantic States	4,988,419	684,745
Southern States	2,694,687	627,010
Middle Western States	6,584,930	178,655
Western States	1,310,518	59,495
	$20,909,364	$2,552,462

RECEIPTS FROM STUDENTS—ALL DEPARTMENTS

New England States.....	$ 4,240,318	$ 1,356,994
Middle Atlantic States...	5,138,477	821,901
Southern States.....	2,178,818	947,681
Middle Western States...	5,765,971	258,663
Western States.....	973,536	152,475
	$ 18,297,120	$ 3,537,714

In the men's and coeducational institutions it will be seen that the receipts from students comprise 87.5 per cent. of the instructional roll on the average. In the case of women's colleges, the students' fees, which include certain special charges, more than pay the instructional roll.

Many institutions very properly hesitate to increase tuition fees lest they make it impossible for students of limited means to attend college at all. In so far as the students come from the merchant and manufacturing classes, whose profits and salaries have been commensurate with the increased cost of living, there appears to be no reason why they should not pay proportionately the same amount as they paid formerly. But where they come from families of teachers, preachers and others of similar situation, whose compensation has not kept pace with the cost of living, an increase in tuition fees works hardship and may even exclude some from obtaining a college education. Since this latter class has always eagerly sought an education, and has produced many eminent men, the question may seriously be raised whether any large increase in tuition rates would not tend to create a class privileged to obtain an education, and exclude less fortunate persons.

The second recourse—solicitation of gifts for an emergency or sustaining fund—has been resorted to very generally. It is very gratifying, and augurs well for the continued support of educational ideals, to find how universally the alumni and friends have responded to the appeal. Some college administrators take the ground that asking for annual contributions for current expenses may be more productive and satisfactory than an appeal occasionally for endowment.

The third method of obtaining the necessary revenue—that of solicitation of larger endowment—has also been put in operation.

Institutions have adopted it on the apparent assumption that the present situation is not a temporary or passing one, but is likely to continue. Judging from the number of campaigns under way or contemplated, and the amounts sought, there is expectation of a generous attitude on the part of the public. There is doubtless reason for this hope because of the public appreciation of the gravity of the situation, and the educational value of campaigns already undertaken by the larger institutions. Among these campaigns one kind must be particularly mentioned, viz., the various "church drives" which are now being launched, which include among other objects the needs of the colleges of the respective denominations. In the opinion of the officials of certain institutions, the grants thus apportioned will, when and if realized, be sufficient to meet the needs of the institutions. It should be observed, however, that these funds will not be available immediately, but will be payable in annual installments for a period of four or five years. If these movements are successful, the colleges at the close of the period mentioned will be well cared for. In the meantime, however, the institutions need help in caring for their current expenses.

In addition to the plans for increasing the revenue of institutions just recited, church conferences and boards, especially those of the Methodist denomination, are educating their constituencies to make per capita annual contributions for educational purposes, which in the aggregate amount to large sums. In the Southern States this method has in many cases provided the funds needed to make the increases of salary which have been authorized.

The replies received to the questionnaires show that in very few instances has any attempt been made to curtail expenses. Where efforts have been made they have generally taken the form of reducing scholarships offered from general funds, or by combining departments whose work was somewhat similar in kind. It is highly probable that economies in expenditure could be effected if serious study were given to the problem. The result to the institution would be more beneficial than an increase of resources.

Problem of college officials

The need of increasing instructional salaries is but a part of the difficulties which confront college trustees and officers. The survey reveals the fact that instructional salaries on the average now form but 47 per cent. of the total budget expenditures, and

that the remaining expenditures have increased by leaps and bounds, especially those for the operation and maintenance of the plant, and for supplies and equipment. Moreover, the demands in these cases are much more insistent and imperious, with the result that the income derived from increased tuition fees has been devoted to these imperative needs and very little to teachers' salaries.

The total budget expenditures of the institutions reporting increased 50.1 per cent. since 1914-1915, a portion of which was due to enlargement. The expenses of operation and maintenance of plant increased 74 per cent. while the amount paid for salaries increased but 42.6 per cent. Thus it will be seen that the cost of keeping the plant in operation increased 23.9 per cent. above the average increase, while the amount paid for instruction was 7.5 per cent. below the average increase. In 1914-1915, the amount paid for instruction constituted 49.5 per cent. of the total budget expenditures, while in 1919-1920 it had gone down to 47 per cent. The amount paid for operation and maintenance of plant in 1914-1915 was 14.8 per cent. of the total budget expenditures. In the present year 1919-1920 it has risen to 17.2 per cent.

While expenses have been increasing in all directions, income from endowments, which for the most part are usually invested in long-time securities, has remained fixed, and its purchasing power has shrunk. The combined effect of all these causes has been that teachers have been the last to receive benefit. As a result, many of them have left the profession for more lucrative positions, and the situation is rendered more trying for college boards because, the supply of teachers being limited, they are forced to bid against one another to fill vacancies in their staffs. They also appoint new and inexperienced teachers at a much higher salary than their predecessors received, and higher than that received by some of the older teachers of superior rank, thus creating an intolerable situation.

The "mortality" in college faculties due to resignation or transfer to other institutions since 1914-1915 appears from the survey to be very great, in some cases as high as 85 per cent., and on the average fully 35 per cent. Just how large a part of this is due to withdrawals because of war activities, and what part to the inad-

equacy of salary, it is impossible to determine. But the effect, so far as the colleges are concerned, is identical.

Teachers' salaries paid this year (1919-1920) in the schools and colleges reporting are as follows:

Salary roll for instruction

Arts, Literature and Science:		
Men's and Coeducational Institutions	$12,057,484	
Women's Colleges	2,327,291	
		$14,384,757
Professional:		
Education	$ 799,167	
Music	406,956	
Fine Arts	208,476	
Law	461,328	
Medicine	1,198,268	
Engineering	2,434,366	
Theology	223,141	
Others	772,639	$6,504,341
Total		$20,889,116

Colleges for Negroes are not included here because in many instances their financial affairs are managed through Home Mission Boards, and special Education Boards, and it was not practicable at this time to get information from them, but possibly $350,000 more should be added to the above sum on account of institutions for Negroes.

The teachers' salaries given on page 11 include all departments of instruction and summer sessions, correspondence study, and the like, which are not included in the figures just given. Moreover, some institutions included professional schools in the total instructional salaries, but did not give the details separately.

Among many factors which have to be considered in judging the adequacy of the teacher's remuneration, perhaps no single factor is more important than the teacher's responsibility to his family. Inquiry has, therefore, been made, in order to ascertain how many of the teachers reported in the above schedule are married and how many unmarried. The following table gives this information approximately, for the several divisions of the country, for the year 1919-1920:

NUMBER OF INSTITUTIONS REPORTING		PERCENTAGES OF FACULTY	
		MARRIED	UNMARRIED
42	New England States	62	38
35	Middle Atlantic States	60	40
81	Southern States	56	44
72	Middle Western States	61	39
19	Western States	71	29
249	Totals	61	39

CONCLUSION

The data above given show clearly that our higher institutions of learning, which are supported by endowment, are seriously menaced through lack of funds to pay adequate salaries to teachers. Business economies may be effected by the introduction of more efficient methods of conducting strictly business operations, yet there is grave danger that large numbers of able men may be driven from academic life and that young men and women of ability may be deterred from entering academic careers. It is incumbent upon those who believe in the importance of endowed colleges and universities as factors in our educational development to coöperate promptly and generously in assuring their future.

APPENDIX

The appendix consists of statistical tables and statements regarding teachers' salaries in certain colleges and universities, arranged geographically, by groups and classes with reference to:

1. Number of teachers by ranks in 1914-1915 and 1919-1920;
2. Total salaries paid, by ranks, in 1914-1915 and 1919-1920;
3. Average salaries paid, by ranks, in 1914-1915 and 1919-1920;
4. Per cent. of increase in salaries since 1914-1915, by ranks.

The statements give the information regarding Colleges of Arts, Literature and Science, and also for the several professional schools whenever it was furnished for the latter.

The data are arranged in the following manner:

1. For Men's and Coeducational Institutions;
2. For Women's Colleges;
3. For Colleges for Negroes.

In the case of the professional schools, the several ranks of teachers are not given separately because of the many statements required for that purpose and because the essential facts are shown by the present arrangement.

Data are given, also, regarding:—

1. The attendance, the tuition fees paid, the average tuition fee per student, and per cent. of increase;
2. Percentages which the amount paid for instruction and cost of operation of buildings and grounds are of total budget expenditures.

All of the above data are arranged geographically by the respective groups, classes and divisions.

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

Summary

DIVISIONS AND CLASSES	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	19–06 12	1914–15	1919–20	
I. New England States							
Class A	617.7	643.0	1,163,275	1,561,809	1,883	2,429	29.0
B	89.9	96.0	180,856	223,790	2,012	2,331	15.9
C	302.4	327.9	612,076	790,977	2,024	2,412	19.2
	1,010.0	1,066.9	1,956,207	2,576,576	1,937	2,415	24.6
II. Middle Atlantic States							
Class A	516.7	571.1	933,387	1,227,436	1,806	2,149	19.0
B	171.9	207.4	281,948	427,521	1,640	2,061	25.7
C	308.5	345.1	549,855	768,450	1,782	2,227	25.0
	997.1	1,123.6	1,765,190	2,423,407	1,770	2,157	21.9
III. Southern States							
Class A	164.7	181.2	335,570	438,815	2,037	2,421	18.8
B	180.8	234.6	285,387	440,715	1,578	1,879	19.1
C	454.0	527.5	611,569	907,294	1,347	1,719	27.6
	799.5	943.3	1,232,526	1,786,824	1,541	1,894	22.9
IV. Middle Western States							
Class A	678.6	788.1	1,318,905	1,991,374	1,943	2,526	30.0
B	440.9	544.7	584,769	938,917	1,326	1,723	29.9
C	766.6	847.8	973,433	1,443,389	1,269	1,702	34.1
	1,886.1	2,180.6	2,877,107	4,373,680	1,525	2,006	31.5
V. Western States							
Class A	160.8	186.5	348,555	507,256	2,168	2,720	25.4
B	65.0	73.2	93,963	150,596	1,446	2,057	42.3
C	130.2	150.3	166,990	239,145	1,283	1,591	24.0
	356.0	410.0	609.508	896,997	1,712	2,188	27.8
Totals							
Class A	2,138.5	2,369.9	4,099,692	5,726,690	1,917	2,416	26.0
B	948.5	1,155.9	1,426,923	2,181,539	1,504	1,887	25.4
C	1,961.7	2,198.6	2,913,923	4,149,255	1,485	1,887	27.1
	5,048.7	5,724.4	8,440,538	12,057,484	1,672	2,106	26.0

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

Summary

DIVISIONS AND CLASSES	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
I. New England States							
Class A	330.5	405.4	509,263	738,907	1,540	1,822	18.3
B	85.5	92.7	110,040	162,648	1,287	1,755	36.4
C	37.5	63.2	50,110	103,523	1,336	1,638	22.6
	453.5	561.3	669,413	1,005,078	1,476	1,791	21.3
II. Middle Atlantic States							
Class A	93.1	107.0	156,134	201,680	1,677	1,885	12.4
B	64.0	73.0	131,000	195,050	2,046	2,672	30.6
C	103.5	117.5	171,273	223,350	1,655	1,900	14.8
	260.6	297.5	458,407	620,080	1,759	2,084	18.5
III. Southern States							
Class A							
B	106.0	148.7	154,711	251,532	1,459	1,691	15.9
C	154.7	192.7	146,515	241,366	947	1,252	32.2
	260.7	341.4	301,226	492,898	1,155	1,444	25.0
IV. Middle Western States							
Class A							
B							
C	133.2	127.4	127,982	166,095	961	1,304	35.7
	133.2	127.4	127,982	166,095	961	1,304	35.7
V. Western States							
Class A							
B							
C	21.5	29.5	27,050	43,140	1,258	1,462	16.2
	21.5	29.5	27,050	43,140	1,258	1,462	16.2
Totals							
Class A	423.6	512.4	665,397	940,587	1,571	1,835	16.8
B	255.5	314.4	395,751	609,230	1,549	1,938	25.1
C	450.4	530.3	522,930	777,474	1,161	1,466	26.3
Grand Totals	1,129.5	1,357.1	1,584,078	2,327,291	1,402	1,715	22.3

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

NEW ENGLAND STATES — CLASS A — NUMBER INCLUDED 5

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	164.1	178.7	614,763	826,927	3,746	4,627	23.5
2. Associate Professors	5.0	7.0	18,000	27,200	3,600	3,886	7.9
3. Assistant Professors	103.8	118.8	268,543	347,271	2,587	2,923	12.9
4. Instructors.....	183.2	192.5	182,347	248,299	998	1,290	29.3
5. Assistants	136.0	110.6	47,489	50,508	349	457	30.9
6. Others...	25.6	35.4	31,633	61,604	1,236	1,740	40.7
Totals...	617.7	643.0	1,163,275	1,561,809	1,883	2,429	29.0

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

NEW ENGLAND STATES — CLASS B — NUMBER INCLUDED 2

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	38.4	38.0	104,445	121,206	2,720	3,190	17.3
2. Associate Professors	14.0	14.0	30,650	31,550	2,189	2,254	3.0
3. Assistant Professors	16.0	21.9	24,449	42,890	1,528	1,958	28.1
4. Instructors.....	15.9	16.2	15,912	21,211	1,001	1,309	30.8
5. Assistants	4.9	4.8	4,050	4,700	827	979	18.3
6. Others...	.7	1.1	1,350	2,233	1,929	2,030	5.2
Totals.	89.9	96.0	180,856	223,790	2,012	2,331	15.9

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

NEW ENGLAND STATES — CLASS C — NUMBER INCLUDED 10

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	154.5	165.8	409,158	521,695	2,648	3,147	18.8
2. Associate Professors	28.0	26.8	52,350	58,150	1,870	2,170	16.0
3. Assistant Professors	44.3	45.7	70,233	83,350	1,585	1,824	15.1
4. Instructors.....	53.1	50.6	58,645	74,700	1,104	1,476	33.7
5. Assistants	15.5	16.0	12,710	15,552	820	972	18.5
6. Others...	7.0	23.0	8,980	37,530	1,283	1,632	27.2
Totals.	302.4	327.9	612,076	790,977	2,024	2,412	19.2

MEN'S AND COEDUCATIONAL INSTITUTIONS.

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS A — NUMBER INCLUDED 5

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	176.4	207.1	516,548	686,355	2,928	3,891	32.8
2. Associate Professors	12.0	14.0	17,800	30,750	1,483	2,196	48.1
3. Assistant Professors	102.8	109.0	180,748	225,850	1,758	2,072	17.9
4. Instructors.....	166.5	169.2	171,873	226,510	1,032	1,339	29.7
5. Assistants	54.0	70.8	43,035	57,071	797	806	1.1
6. Others...	5.0	1.0	3,383	900	677	900	32.9
Totals.	516.7	571.1	933,387	1,227,436	1,806	2,149	19.0

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS B — NUMBER INCLUDED 6

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	76.9	91.0	167,783	241,516	2,182	2,654	21.6
2. Associate Professors	7.0	17.0	12,640	40,600	1,806	2,388	32.2
3. Assistant Professors	32.5	35.0	48,600	69,220	1,495	1,978	32.3
4. Instructors.....	44.0	50.0	44,130	63,445	1,003	1,269	26.5
5. Assistants	10.5	14.4	8,395	12,740	800	885	10.6
6. Others...	1.0		400		400		
Totals.	171.9	207.4	281,948	427,521	1,640	2,061	25.7

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS C — NUMBER INCLUDED 12

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	164.4	169.3	360,525	456,185	2,193	2,695	22.9
2. Associate Professors	26.0	48.5	52,750	111,160	2,029	2,292	13.0
3. Assistant Professors	31.0	44.5	49,200	87,650	1,587	1,970	24.1
4. Instructors	79.3	67.5	80,250	97,730	1,012	1,448	43.1
5. Assistants	5.3	13.8	4,230	13,625	798	987	23.7
6. Others...	2.5	1.5	2,900	2,100	116	140	20.7
Totals.	308.5	345.1	549,855	768,450	1,782	2,227	25.0

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS A — NUMBER INCLUDED 5

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	76.2	88.5	210,280	274,025	2,759	3,096	12.2
2. Associate Professors	29.5	20.0	68,750	55,915	2,330	2,795	19.9
3. Assistant Professors	19.3	22.0	25,600	42,200	1,326	1,918	44.6
4. Instructors	24.6	37.1	22,160	56,675	900	1,527	69.6
5. Assistants	15.1	12.6	8,780	8,600	581	682	17.3
6. Others...		1.0		1,400		1,400	
Totals.	164.7	181.2	335,570	438,815	2,037	2,421	18.8

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS B — NUMBER INCLUDED 9

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	103.7	119.6	200,580	287,160	1,934	2,401	24.1
2. Associate Professors	13.0	26.1	21,730	50,840	1,672	1,948	16.5
3. Assistant Professors	18.0	27.0	28,425	49,770	1,579	1,843	16.7
4. Instructors	31.6	33.5	29,442	42,320	932	1,263	35.5
5. Assistants	14.5	27.4	5,210	8,025	359	293	*18.3
6. Others...		1.0		2,600		2,600	
Totals.	180.8	234.6	285,387	440,715	1,578	1,879	19.1

*Decrease.

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS C — NUMBER INCLUDED 38

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	339.7	379.6	514,073	737,886	1,513	1,942	28.3
2. Associate Professors	28.2	16.7	34,698	29,636	1,230	1,774	44.2
3. Assistant Professors	26.2	42.3	27,999	61,134	1,068	1,445	35.2
4. Instructors	39.9	63.7	28,365	68,479	710	1,075	51.4
5. Assistants	15.0	18.2	3,914	7,559	260	415	59.6
6. Others...	5.0	7.0	2,520	3,100	504	442	*12.3
Totals..	454.0	527.5	611,569	907,294	1,347	1,719	27.6

* Decrease.

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE WESTERN STATES — CLASS A — NUMBER INCLUDED 9

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	221.4	255.9	690,517	1,016,068	3,118	3,970	27.3
2. Associate Professors	91.0	104.2	191,625	297,446	2,105	2,854	35.5
3. Assistant Professors	96.5	126.2	174,917	294,033	1,812	2,329	28.5
4. Instructors	167.2	174.1	191,310	272,903	1,144	1,567	36.9
5. Assistants	99.3	126.0	67,061	109,174	675	866	28.2
6. Others...	3.2	1.7	3,475	1,750	1,085	1,029	*5.1
Totals..	678.6	788.1	1,318,905	1,991,374	1,943	2,526	30.0

* Decrease.

MEN'S AND COEDUCATIONAL INSTITUTIONS
COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE WESTERN STATES — CLASS B — NUMBER INCLUDED 20

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	266.2	302.2	410,770	622,860	1,543	2,061	33.5
2. Associate Professors	18.0	20.5	22,150	34,450	1,230	1,680	36.5
3. Assistant Professors	41.0	70.2	49,975	117,910	1,218	1,679	37.8
4. Instructors	95.2	127.8	91,164	159,092	957	1,244	29.9
5. Assistants	19.5	24.0	9,410	4,605	482	192	*60.1
6. Others...	1.0		1,300		1,300		
Totals..	440.9	544.7	584,769	938,917	1,326	1,723	29.9

*Decrease

MEN'S AND COEDUCATIONAL INSTITUTIONS
COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE WESTERN STATES — CLASS C — NUMBER INCLUDED 51

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	534.7	606.5	751,163	1,126,009	1,405	1,856	32.0
2. Associate Professors	20.7	21.0	25,118	32,500	1,213	1,547	27.5
3. Assistant Professors	64.7	84.2	71,781	121,230	1,109	1,439	29.7
4. Instructors	129.7	124.2	114,737	153,096	884	1,232	39.3
5. Assistants	15.8	11.2	9,334	9,404	590	839	42.2
6. Others...	1.0	.7	1,300	1,150	1,300	1,642	26.3
Totals..	766.6	847.8	973,433	1,443,389	1,269	1,702	34.1

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

WESTERN STATES — CLASS A — NUMBER INCLUDED 3

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	76.0	91.8	198,820	304,566	2,616	3,318	26.8
2. Associate Professors	28.5	27.3	62,925	79,500	2,208	2,912	31.9
3. Assistant Professors	27.0	28.8	53,000	68,400	1,963	2,375	21.0
4. Instructors	25.8	33.8	32,370	51,715	1,255	1,530	21.9
5. Assistants	3.5	4.8	1,440	3,075	411	641	56.0
6. Others...							
Totals..	160.8	186.5	348,555	507,256	2,168	2,720	25.4

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

WESTERN STATES — CLASS B — NUMBER INCLUDED 2

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	29.0	28.5	52,800	70,550	1,821	2,475	35.9
2. Associate Professors	2.0	9.1	3,000	18,475	1,500	2,030	35.3
3. Assistant Professors	18.0	21.0	21,400	42,750	1,189	2,036	71.2
4. Instructors	15.0	14.4	16,063	18,521	1,071	1,286	20.0
5. Assistants	1.0	.2	700	300	700	1,500	114.2
6. Others...							
Totals..	65.0	73.2	93,963	150,596	1,446	2,057	42.3

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE ADN SCIENCE

WESTERN STATES — CLASS C — NUMBER INCLUDED 10

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	103.6	112.2	138,850	194,913	1,340	1,737	29.6
2. Associate Professors	5.7	5.1	6,300	8,517	1,105	1,670	51.1
3. Assistant Professors	6.5	11.6	8,900	15,460	1,369	1,333	*2.6
4. Instructors	11.7	17.2	12,267	18,545	1,048	1,078	2.8
5. Assistants	2.2	3.7	523	1,560	238	422	77.3
6. Others...	.5	.5	150	150	300	300	
Totals..	130.2	150.3	166,990	239,145	1,283	1,591	24.0

* Decrease

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

NEW ENGLAND STATES — CLASS A — NUMBER INCLUDED

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	65.0	87.0	162,525	240,295	2,500	2,762	10.4
2. Associate Professors	49.9	54.3	94,025	113,690	1,884	2,094	11.1
3. Assistant Professors	34.0	77.0	55,600	139,355	1,635	1,810	10.0
4. Instructors	141.2	142.8	164,364	198,515	1,164	1,390	19.4
5. Assistants	25.1	26.1	19,261	23,812	767	912	18.9
6. Others...	15.3	18.2	13,488	23,240	882	1,276	44.6
Totals..	330.5	405.4	509,263	738,907	1,540	1,822	18.3

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

NEW ENGLAND STATES — CLASS B — NUMBER INCLUDED 1

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	18.0	24.7	34,195	69,225	1,900	2,803	47.5
2. Associate Professors	26.0	26.0	37,275	45,180	1,434	1,738	21.2
3. Assistant Professors		3.0		4,950		1,650	
4. Instructors	28.0	23.5	28,305	29,384	1,011	1,250	23.6
5. Assistants	10.0	13.0	5,465	10,409	547	801	46.4
6. Others...	3.5	2.5	4,800	3,500	1,371	1,400	2.1
Totals..	85.5	92.7	110,040	162,648	1,287	1,755	36.4

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

NEW ENGLAND STATES — CLASS C — NUMBER INCLUDED 2

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	11.0	14.5	20,150	32,050	1,832	2,210	20.6
2. Associate Professors		3.0		5,350		1,783	
3. Assistant Professors	5.0	14.5	5,100	24,250	1,020	1,672	63.9
4. Instructors	19.5	24.5	18,510	30,773	949	1,256	32.3
5. Assistants		1.0		650		650	
6. Others...	2.0	5.7	6,350	10,450	3,175	1,833	42.2
Totals.	37.5	63.2	50,110	103,523	1,336	1,638	22.6

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS A — NUMBER INCLUDED 1

RANKS	PERSONS IN FACULTY REDUCED TO A ULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	21.5	20.5	68,200	72,670	3,172	3,545	11.8
2. Associate Professors	8.0	25.5	14,800	51,800	1,850	2,031	9.7
3. Assistant Professors	9.8	13.5	14,275	22,000	1,456	1,630	12.0
4. Instructors	42.3	31.0	50,784	41,100	1,201	1,326	10.4
5. Assistants	11.5	16.5	8,075	14,110	702	855	21.8
6. Others...							
Totals.	93.1	107.0	156,134	201,680	1,677	1,885	12.4

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS B — NUMBER INCLUDED 2

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	22.0	25.0	63,200	88,650	2,872	3,546	23.5
*2. Associate Professors	8.0	9.0	25,200	37,100	3,150	4,122	30.9
3. Assistant. Professors	6.0	13.0	12,000	34,450	2,000	2,650	32.5
4 Instructors	17.5	17.0	24,300	28,550	1,389	1,679	20.9
5. Assistants	9.0	9.0	5,400	6,300	600	700	16.7
6. Others...	1.5		900		600		
Totals.	64.0	73.0	131,000	195,050	2,046	2,672	30.6

*These are in one of the larger institutions—hence the larger rate of salary.

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS C — NUMBER INCLUDED 3

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	40.0	55.0	82,100	123,425	2,053	2,244	9.3
2. Associate Professors	17.5	15.5	32,750	33,400	1,871	2,155	15.2
3. Assistant Professors	7.3	14.0	10,970	21,200	1,503	1,514	.7
4. Instructors	21.0	24.0	18,520	32,250	882	1,344	52.4
5. Assistants	9.2	2.2	10,991	2,275	1,195	1,034	*13.4
6. Others ...	8.5	6.8	15,942	10,800	1,876	1,588	*15.3
Totals.	103.5	117.5	171,273	223,350	1,655	1,900	14.8

*Decrease.

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS B — NUMBER INCLUDED 3

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	43.5	47.5	92,500	119,190	2,126	2,509	18.0
2. Associate Professors	7.0	16.0	11,150	31,605	1,592	1,975	24.0
3. Assistant Professors	13.0	24.0	15,670	37,112	1,205	1,546	28.2
4. Instructors	31.0	37.2	28,650	44,470	924	1,195	29.3
5. Assistants	4.5	20.0	2,720	17,385	604	869	43.8
6. Others...	7.0	4.0	4,020	1,770	574	442	*23.0
Totals..	106.0	148.7	154,710	251,532	1,459	1,691	15.9

*Decrease.

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS C — NUMBER INCLUDED 11

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	101.4	122.1	106,879	181,245	1,054	1,484	40.8
2. Associate Professors	13.0	9.0	13,400	12,400	1,030	1,377	33.6
3. Assistant Professors	7.5	14.8	5,190	17,026	692	1,150	66.1
4. Instructors	24.5	26.3	17,200	22,580	702	858	22.2
5. Assistants	8.3	20.5	3,846	8,115	463	395	*14.6
6. Others...							
Totals..	154.7	192.7	146,515	241,366	947	1,252	32.2

*Decrease.

Note: In some cases room and board are included in the compensation in addition to the amounts given above.

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE WESTERN STATES — CLASS C — NUMBER INCLUDED 5

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	64.5	55.1	72,308	83,742	1,121	1,520	35.6
2. Associate Professors	8.5	17.0	8,990	22,400	1,058	1,317	24.5
3. Assistant Professors		3.0		4,050		1,350	
4. Instructors	51.7	46.3	43,904	52,793	849	1,140	34.3
5. Assistants	8.5	6.0	2,780	3,110	327	518	58.4
6. Others...							
Totals..	133.2	127.4	127,982	166,095	961	1,304	35.7

WOMEN'S COLLEGES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

WESTERN STATES — CLASS C — NUMBER INCLUDED 1

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	7.0	12.5	10,250	21,650	1,464	1,732	18.3
2. Associate Professors							
3. Assistant Professors	5.0	4.0	6,800	6,700	1,360	1,675	23.2
4. Instructors	9.0	12.5	9,800	14,290	1,089	1,143	5.0
5. Assistants	.5	.5	200	500	400	1,000	150.0
6. Others...							
Totals..	21.5	29.5	27,050	43,140	1,258	1,462	16.2

COLLEGES FOR NEGROES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS B — NUMBER INCLUDED 1

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	3.0	3.0	4,000	4,000	1,333	1,333	
2. Associate Professors	2.0	2.0	2,200	1,100	1,100	550	*50.0
3. Assistant Professors							
4. Instructors	6.0	6.0	3,900	4,360	650	726	11.6
5. Assistants	5.0	10.0	1,320	3,140	264	314	18.9
6. Others...	12.0	14.0	6,525	8,420	543	601	10.6
Totals.	28.0	35.0	17,945	21,020	640	600	6.2

*Decrease.

Note: The reports of two other colleges in this class are not complete or comparable.

COLLEGES FOR NEGROES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

MIDDLE ATLANTIC STATES — CLASS C — NUMBER INCLUDED 1

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	6.0	7.5	8,353	11,573	1,392	1,543	10.8
2. Associate Professors							
3. Assistant. Professors	1.0		1,200		1,200		
4. Instructors	1.0	2.7	300	1,350	300	500	66.7
5. Assistants							
6. Others...							
Totals.	8.0	10.2	9,853	12,923	1,231	1,266	2.8

COLLEGES FOR NEGROES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

SOUTHERN STATES — CLASS C — NUMBER INCLUDED 8

RANKS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
	1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
1. Professors	59.5	64.6	51,055	69,833	858	1,081	25.9
2. Associate Professors	3.0	5.0	3,850	4,455	1,283	891	*30.5
3. Assistant Professors	5.0	3.0	4,850	2,796	970	932	*3.9
4. Instructors	20.5	22.0	13,045	18,335	636	833	31.0
5. Assistants	8.0	6.0	2,235	3,030	279	505	81.0
6. Others...	2.0	4.0	4,320	12,500	2,160	3,125	44.6
Totals.	98.0	104.6	79,355	110,949	809	1,060	31.0

*Decrease.

PERCENTAGE OF INCREASE IN SALARIES BY RANKS AND CLASSES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

RANKS	CLASS A INSTITUTIONS		CLASS B INSTITUTIONS		CLASS C INSTITUTIONS	
	AVERAGE SALARY PAID 1919–20	PER CENT. OF INCREASE OVER 1914–15	AVERAGE SALARY PAID 1919–20	PER CENT. OF INCREASE OVER 1914–15	AVERAGE SALARY PAID 1919–20	PER CENT. OF INCREASE OVER 1914–15
MEN'S AND COEDUCATIONAL INSTITUTIONS						
Professor	$3,781	21.0	$2,319	21.8	$2,118	26.4
Associate Professor	2,845	31.5	2,029	21.5	2,032	29.0
Assistant Professor	2,415	20.1	1,842	33.8	1,615	22.3
Instructor	1,411	33.2	1,259	29.1	1,276	36.0
Assistant	703	29.0	429	*22.1	758	32.7
Others	168	47.4	230	103.5	1,346	35.8
WOMEN'S COLLEGES						
Professor	2,911	9.1	2,850	25.3	1,706	30.9
Associate Professor	2,073	10.3	2,233	29.9	1,772	25.3
Assistant Professor	1,783	11.7	1,913	31.4	1,456	28.7
Instructor	1,378	17.6	1,318	24.1	1,143	33.1
Assistant	890	19.1	812	40.5	485	27.8
Others	1,276	44.6	811	.1	1,700	*19.9

*Decrease

DEPARTMENTS	NO. OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
		1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
LAW								
New England States	1	6.0	9.5	27,000	55,350	4,500	5,826	29.4
Middle Atlantic States	5	38.2	41.2	98,466	130,365	2,578	3,164	22.7
Southern States	7	32.9	30.1	61,349	73,945	1,865	2,457	31.7
Middle Western States	8	44.7	49.3	123,944	160,918	2,773	3,264	17.7
Western States	2	8.0	9.0	27,500	40,750	3,437	4,528	31.7
Totals	23	129.8	139.1	338,259	461,328	2,606	3,316	27.2
MEDICINE								
New England States	3	29.1	45.9	68,738	142,085	2,362	3,096	31.1
Middle Atlantic States	4	121.1	172.0	214,520	330,315	1,771	1,920	8.4
Southern States	6	144.1	152.3	247,126	305,402	1,715	2,005	16.1
Middle Western States	4	74.5	118.3	178,435	344,586	2,395	2,912	21.5
Western States	2	19.5	24.5	45,775	75,880	2,347	3,097	31.9
Totals	19	388.3	513.0	754,594	1,198,268	1,943	2,336	20.2
ENGINEERING								
New England States	6	429.7	450.4	710,985	984,924	1,655	2,187	32.1
Middle Atlantic States	10	336.7	369.2	564,492	767,093	1,676	2,078	24.0
Southern States	2	14.0	21.5	33,900	59,330	2,421	2,760	14.0
Middle Western States	9	158.9	214.5	298,143	477,236	1,876	2,225	18.6
Western States	2	33.5	55.3	79,400	145,783	2,370	2,636	11.2
Totals	29	972.8	1,110.9	1,686,920	2,434,366	1,734	2,191	26.4

DEPARTMENTS	NO. OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
		1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
MUSIC								
New England States	1	4.5	5.6	14,000	21,100	3,111	3,768	21.1
Middle Atlantic States	2	10.5	12.0	11,670	18,005	1,111	1,500	35.0
Southern States	2	15.0	12.0	12,520	17,160	835	1,430	71.0
Middle Western States	13	110.5	141.9	179,826	319,057	1,627	2,248	38.2
Western States	4	13.4	19.3	15,867	31,634	1,184	1,639	38.4
Totals	22	153.9	190.8	233,883	406,956	1,520	2,133	40.3
FINE ARTS								
New England States	1	5.5	7.0	11,900	23,550	2,164	3,364	55.4
Middle Atlantic States	1	31.3	29.5	47,950	51,950	1,532	1,761	14.9
Southern States	7	45.5	55.2	43,956	69,950	966	1,267	31.2
Middle Western States	5	27.4	29.8	42,387	52,480	1,547	1,761	13.8
Western States	2	6.3	6.1	8,410	10,546	1,335	1,729	29.5
Totals	16	116.0	127.6	154,603	208,476	1,333	1,634	22.6
EDUCATION								
New England States								
Middle Atlantic States	3	139.7	158.4	306,071	466,443	2,191	2,945	34.4
Southern States	1	21.0	34.2	43,625	66,959	2,077	1,957	*5.8
Middle Western States	4	39.6	52.8	175,924	237,065	4,443	4,490	1.0
Western States	1	9.0	8.0	21,150	28,700	2,350	3,587	52.6
Totals	9	209.3	253.4	546,770	799,167	2,612	3,154	20.8

*Decrease.

PROFESSIONAL SCHOOLS

DEPARTMENTS	NO. OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID (DOLLARS)		AVERAGE SALARIES PAID (DOLLARS)		PER CENT. OF INCREASE
		1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
THEOLOGY								
New England States	2	17.3	17.2	44,516	70,650	2,573	4,108	59.6
Middle Atlantic States	2	8.1	7.5	12,446	13,426	1,537	1,790	16.5
Southern States	3	16.0	17.5	42,050	50,540	2,628	2,888	9.9
Middle Western States	5	27.6	26.1	65,834	84,175	2,385	3,225	35.2
Western States	1	2.5	2.5	3,770	4,350	1,508	1,740	15.4
Totals	13	71.5	70.8	168,616	223,141	2,358	3,152	33.6
OTHER SCHOOLS								
New England States	6	73.8	89.8	131,202	195,799	1,777	2,180	22.7
Middle Atlantic States	1	37.5	68.5	65,752	151,195	1,753	2,207	25.9
Southern States	8	65.3	82.3	70,861	113,560	1,085	1,380	27.2
Middle Western States	14	96.4	162.4	117,432	279,935	1,218	1,724	41.5
Western States	3	10.4	15.5	15,950	32,150	1,534	2,074	35.2
Totals	32	283.4	418.5	401,197	772,639	1,416	1,846	30.4

MEN'S AND COEDUCATIONAL INSTITUTIONS

COLLEGES OF ARTS, LITERATURE AND SCIENCE

DIVISIONS AND CLASSES	NO. OF INSTITUTIONS	ATTENDANCE		TUITION RECEIPTS (DOLLARS)		AVERAGE AMOUNT PAID PER STUDENT (DOLLARS)		PER CEN OF INCREASE
		1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
I. New Engl and Sta tes								
Class A	5	6,690	7,859	965,824	1,366,213	144.	174.	20.8
Class B	2	1,313	1,583	109,064	185,463	83.	117.	40.9
Class C	10	3,440	3,880	326,212	406,800	95.	105.	10.5
	17	11,443	13,322	1,401,100	1,958,476	122.	147.	20.5
II. Middle A tlantic	States							
Class A	5	8,144	10,751	697,569	1,243,000	86.	116.	34.9
Class B	6	2,678	3,733	291,958	450,085	109.	121.	11.0
Class C	12	3,902	4,830	318,811	528,431	82.	109.	32.9
	23	14,724	19,314	1,308,338	2,221,516	89.	115.	29.2
III. Southern	States							
Class A	5	2,617	5,290	161,523	384,666	62.	73.	17.7
Class B	9	3,311	5 003	201,757	360,685	61.	72.	18.0
Class C	38	7,125	9,875	279,263	505,572	39.	51.	30.7
	52	13,053	20,168	642,543	1,250,923	49.	62.	26.5
IV. Middle W estern	tates							
Class A	9	13,130	16,691	977,781	1,676,945	74.	100.	35.1
Class B	19	7,884	9,820	405,680	677,724	52.	69.	32.7
Class C	51	11,763	14,841	535,000	864,454	45.	58.	28.9
	79	32,777	41,352	1,918,461	3,219,123	58.	78.	34.4
V. Western S tates								
Class A	3	3,128	5,155	93,731	260,000	30.	50.	66.6
Class B	2	1,108	1,240	76,112	127,800	68.	103.	51.5
Class C	10	1,888	2,578	105,769	173,726	56.	67.	19.6
	15	6,124	8,973	275,612	561,526	45.	63.	40.0
Totals								
Class A	27	33,709	45,746	2,896,428	4,930,824	86.	108.	25.5
Class B	38	16,294	21,379	1,084,571	1,801,757	67.	84.	25.4
Class C	121	28,118	36,004	1,565,055	2,478,983	56.	69.	23.2
Grand Totals	186	78,121	103,129	5,546,054	9,211,564	71.	89.	25.3

COLLEGES FOR WOMEN

COLLEGES OF ARTS, LITERATURE AND SCIENCE

DIVISIONS AND CLASSES	NO. OF INSTITUTIONS	ATTENDANCE		TUITION RECEIPTS (DOLLARS)		AVERAGE AMOUNT PAID PER STUDENT (DOLLARS)		PER CENT. OF INCREASE
		1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
I. New England States								
Class A	3	4,188	4,790	593,117	743,114	142.	155.	9.2
Class B	1	773	784	96,290	147,400	125.	188.	50.4
Class C	2	274	518	41,761	108,000	152.	208.	36.8
	6	5,235	6,092	731,168	998,514	140.	164.	17.1
II. Middle Atlantic States								
Class A	1	1,092	1,083	166,635	331,200	153.	306.	100.0
Class B	2	1,086	1,100	141,427	178,200	130.	162.	24.6
Class C	3	890	1,038	174,883	255,575	196.	246.	25.5
	6	3,068	3,221	482,945	764,975	157.	237.	50.9
III. Southern States								
Class A								
Class B	3	1,372	1,967	132,691	294,000	97.	149.	53.6
Class C	11	2,122	3,636	177,042	367,873	83.	101.	21.6
	14	3,494	5,603	309,733	661,873	89.	118.	32.5
IV. Middle Western States								
Class A								
Class B								
Class C	6	1,174	1,594	141,179	201,911	120.	126.	5.0
	6	1,174	1,594	141,179	201,911	120.	126.	5.0
V. Western States								
Class A								
Class B								
Class C	1	133	425	13,300	60,000	100.	141.	41.0
	1	133	425	13,300	60,000	100.	141.	41.0
Totals								
Class A	4	5,280	5,873	759,752	1,074,314	144.	183.	27.1
Class B	6	3,231	3,851	370,408	619,600	115.	161.	40.0
Class C	23	4,593	7,211	548,165	993,359	119.	138.	15.9
Grand Totals	33	13,104	16,935	1,678,325	2,687,273	128.	158.	23.4

COLLEGES FOR NEGROES

COLLEGES OF ARTS, LITERATURE AND SCIENCE

DIVISIONS AND CLASSES	NO. OF INSTITUTIONS	ATTENDANCE		TUITION RECEIPTS (DOLLARS)		AVERAGE AMOUNT PAID PER STUDENT (DOLLARS)		PER CENT. OF INCREASE
		1914–15	1919–20	1914–15	1919–20	1914–15	1919–20	
I. New England States								
Class A								
Class B								
Class C								
II. Middle Atlantic States								
Class A								
Class B								
Class C	1	162	166	1,871	2,500	12.	15.	25.0
	1	162	166	1,871	2,500	12.	15.	25.0
III. Southern States								
Class A								
*Class B	1	427	570	6,568	10,700	15.	19.	26.7
*Class C	8	1,884	3,412	41,252	85,411	22.	25.	13.6
	9	2,311	3,982	47,820	96,111	21.	24.	14.3
IV. Middle Western States								
Class A								
*Class B	1	488	975	4,109	9,000	8.	9.	12.5
Class C								
	1	488	975	4,109	9,000	8.	9.	12.5
V. Western States								
Class A								
Class B								
Class C								
Totals								
Class A								
Class B	2	915	1,545	10,677	19,700	12.	13.	8.3
Class C	9	2,042	3,578	43,123	87,911	21.	25.	19.0
Grand Totals	11	2,957	5,123	53,800	107,611	18.	21.	16.6

*All Departments

RELATION OF TEACHERS' SALARIES AND OPERATION OF PLANT COST TO TOTAL BUDGET

ALL DEPARTMENTS

DIVISIONS	PERCENTAGE OF TOTAL BUDGET			
	TEACHERS' SALARIES FOR ALL DEPARTMENTS		OPERATION AND MAINTENANCE OF PLANT	
	1914–15	1919–20	1914–15	1919–20
MEN'S AND COEDUCATIONAL INSTITUTIONS				
I. New England States....	51.4	45.1	13.5	15.4
II. Middle Atlantic States..	52.4	52.4	14.6	17.8
III. Southern States.....	49.6	46.7	12.9	14.9
IV. Middle Western States..	48.6	45.6	16.8	17.2
V. Western States.....	38.7	46.5	9.6	12.5
Total Country....	49.6	47.1	14.4	16.3
WOMEN'S COLLEGES				
I. New England States....	49.7	48.3	15.2	19.0
II. Middle Atlantic States..	49.7	42.0	19.5	31.0
III. Southern States.....	47.8	51.0	18.2	19.9
IV. Middle Western States..	43.7	41.2	26.7	28.6
V. Western States.....	45.9	31.6	29.2	43.6
Total Country....	48.6	45.9	18.4	24.3
Combined Men's and Women's Colleges				
Total Country....	49.5	47.0	14.8	17.2

Total Budget Expenditures	1914–15 1919–20	$33,238,492 49,906,913	Increase of 50.1%
Total Operation of Plant	1914–15 1919–20	$4,928,755 8,576,522	Increase of 74%
Total Salaries Paid	1914–15 1919–20	$16,453,566 23,461,826	Increase of 42.6%

PUBLICATIONS OF
THE GENERAL EDUCATION BOARD

OCCASIONAL PAPERS, No. 8

TEACHERS' SALARIES

IN

CERTAIN ENDOWED AND STATE SUPPORTED COLLEGES AND UNIVERSITIES IN THE UNITED STATES, WITH SPECIAL REFERENCE TO COLLEGES OF ARTS, LITERATURE AND SCIENCE

1926-27

BY

TREVOR ARNETT

GENERAL EDUCATION BOARD
61 BROADWAY NEW YORK CITY
1928

CONTENTS

TEACHERS' SALARIES IN CERTAIN ENDOWED AND STATE SUPPORTED COLLEGES AND UNIVERSITIES IN THE UNITED STATES, WITH SPECIAL REFERENCE TO COLLEGES OF ARTS, LITERATURE AND SCIENCE 1926-27

I. PREVIOUS STUDY OF TEACHERS' SALARIES

IN 1921 the General Education Board published Occasional Paper No. 7, entitled "Teachers' Salaries in Certain Endowed Colleges and Universities in the United States," by Trevor Arnett. The Paper embodied the results of a study which was undertaken by the Board "to ascertain the present situation respecting teachers' salaries in the higher institutions of learning; how it compares with that which existed in 1914-15, before the war; what steps, if any, have been taken by the institutions themselves to increase salaries to meet the increase in the cost of living; what further steps institutions may contemplate looking to that end, in case measures thus far taken are not yet entirely adequate."

The immediate cause for making the study was to enable the General Education Board to take intelligent action with regard to the use of a gift from Mr. John D. Rockefeller of securities valued at approximately $50,000,000 for the object described in the following communication:

General Education Board
61 Broadway
New York City

December 18, 1919

GENTLEMEN:

The attention of the American public has recently been drawn to the urgent and immediate necessity of providing more adequate salaries to members of the teaching profession. It is of the highest importance that those entrusted with the education of youth and the increase of knowledge should not be led to abandon their calling by reason of financial pressure or to cling to it amid discouragements due to financial limitations. It is of equal importance to our future welfare and progress that able and aspiring young men and women should not for similar reasons be deterred from devoting their lives to teaching.

Moved by these considerations, I herewith give to the General Education Board the securities set forth in the accompanying schedule. While this gift is made for the general corporate purposes of the Board, I should cordially endorse a decision to use the principal as well as the income as promptly and largely as may seem wise for the purpose of coöperating with the higher institutions of learning in raising sums specifically devoted to the increase of teachers' salaries.

Very truly yours,
(signed) JOHN D. ROCKEFELLER.

Following the completion of the study, the General Education Board made appropriations from principal to 176 colleges and universities* which undertook to raise additional endowment for increase of teachers' salaries. The appropriations from the Board together with the supplementary sums to be raised by institutions aggregated $122,649,794. In practically all instances these supplementary sums have been raised in full, and the institutions have been enabled to make a permanent increase in the salaries of their teachers. The General Education Board also recognized that in 1920 there existed a grave situation which required prompt relief. It therefore made annual grants from income aggregating $7,212,882 to 231 colleges and universities* for periods of one to three or more years, to provide immediate increases of salary, while the supplementary sums for endowment were being raised.

The General Education Board has recently received many requests for a new study of teachers' salaries to disclose the present status in the institutions of higher learning in the United States and the extent to which teachers' salaries have been raised since 1920. This study has been made in compliance with these requests.

*This includes colleges for Negroes. The present study deals with colleges for whites only.

II. PROCEDURE IN PRESENT STUDY

The data of the previous study were obtained from colleges and universities which it was thought might be eligible for aid under the gift of Mr. Rockefeller. The scope of the present study was extended to include a larger number of endowed institutions, and tax-supported institutions were added in order to reflect more fully the conditions current in the United States as a whole.

To obtain the material needed, two questionnaires were prepared —one to be answered by the financial officer of the institution, and the other to be answered by the teachers.

The first questionnaire (see Appendix), to be answered by the financial officer of the institution, asked for the following information for the years 1919–20 and 1926–27:

1. Instructional staff by schools and ranks, the number employed at each unit of salary paid;
2. Number of teachers by rank, total salaries paid, and average salaries paid;
3. Salary scale, date of its adoption, and tuition fees per student;
4. Endowment as of June 30, 1920 and June 30, 1927.

The second questionnaire (see Appendix), to be answered by teachers, sought information as follows:

1. School, rank, and salary, and whether married or single;
2. Extent of supplementing salary and character of extra work;
3. Whether appreciable or inappreciable private income;
4. Whether extra work was done from necessity or from choice.

Classification of Institutions

The data requested in the first questionnaire, answered by officers, are similar to those contained in the previous study of teachers' salaries, and similar methods have been followed in tabulation and organization.

As before, the country was divided into five geographical divisions, as follows:

New England States

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Middle Atlantic States

New Jersey
New York
Pennsylvania

Southern States

Alabama
Arkansas
Delaware
District of Columbia
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia

Middle Western States

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

Western States

Arizona
California
Colorado
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

The institutions reporting were grouped under three genera headings:

1. Men's and Coeducational Institutions, which includes men's colleges and coeducational colleges of arts, literature, and science, and corresponding colleges and departments of universities;
2. Women's Colleges, which includes women's colleges of arts, literature, and science, and corresponding colleges and departments of universities;
3. Professional Schools and professional departments of universities.

The colleges of arts, literature, and science and the corresponding departments in universities were also grouped on the basis of enrollment, as:

Class A—institutions having an enrollment of 1,000 and over;
Class B—institutions having an enrollment between 500 and 1,000;
Class C—institutions having fewer than 500 students.

The enrollment for 1926–27 in the institution as a whole was made the basis of classification. That is, if a college of liberal arts contained fewer than 1,000 students, but was a part of a university which had more than 1,000 students, it was grouped as a Class A institution. This was done because the department seemed to have the characteristics of the institution of which it

was a part, rather than the characteristics of an independent institution of the size of the department in question.

In dealing with certain data obtained from the second questionnaire, especially data on supplementary earnings, the institutions from which teachers replied were further grouped as urban or rural. Institutions located in cities of 100,000 or more were classified as urban. This large unit was taken as the basis of classification because the activities of a city of 100,000 or more were thought to be sufficiently diverse to give opportunity for teachers, if they so desired, to supplement their salaries.

Number of Institutions from Which Replies Were Received

The first questionnaire was sent to 454 institutions, and replies were received from 370. Of the 370 institutions responding, 302 colleges of arts, literature, and science, or universities having corresponding colleges or departments, replied in such way that their replies could be used. The 302 institutions, the replies from which constitute the basis of this report, were distributed by type, class, and geographical division, as follows:*

TYPE AND CLASS	NEW ENGLAND STATES	MIDDLE ATLANTIC STATES	SOUTHERN STATES	MIDDLE WESTERN STATES	WESTERN STATES	TOTAL
Men's and Coeducational Colleges						
Class A.....	9	15	24	26	12	86
Class B.....	7	10	12	32	6	67
Class C.....	2	11	33	54	9	109
TOTAL.....	18	36	69	112	27	262
Women's Colleges						
Class A.....	3	2	5	..	..	10
Class B.....	1	3	3	..	1	8
Class C.....	..	3	14	5	..	22
TOTAL.....	4	8	22	5	1	40
TOTAL.....	22	44	91	117	28	302

*This table is based on Tables I, II, and VI of Appendix.

All geographic divisions of the country and both types of colleges of arts, literature, and science—262 men's and coeducational institutions and 40 women's colleges—are represented in these 302 institutions. Conclusions drawn on the basis of replies from them

should be fairly representative of conditions prevailing in colleges of arts, literature, and science of the country as a whole, with which this report is primarily concerned.

Replies to the first questionnaire were received and tabulated from both independent and university professional schools as follows:

Agriculture	32	Law	57
Commerce	38	Medicine	46
Education	48	Music	26
Engineering	73	Theology	22
Fine Arts	21		

Data relating to the salaries of teachers in these professional schools and to the increases in salaries in 1926–27 over 1919–20 are to be found in the Appendix.

Number of Teachers Replying to Second Questionnaire

Replies were received to the second questionnaire from 11,361 teachers in colleges of arts, literature, and science and corresponding colleges or departments of universities. These replies came from 369 institutions.

The teachers replying were distributed by professional rank, men's and coeducational institutions and women's colleges, urban and rural, as follows:*

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Professor	1,045	3,167	4,212	64	452	516	1,109	3,619	4,728
Associate Prof.	405	879	1,284	30	168	198	435	1,047	1,482
Assistant Prof.	720	1,333	2,053	59	225	284	779	1,558	2,337
Instructor	893	1,585	2,478	85	251	336	978	1,836	2,814
TOTAL	3,063	6,964	10,027	238	1,096	1,334	3,301	8,060	11,361

*This table is based on Table X of Appendix.

A single comparison is enough to show the reliability of the data obtained from teachers. The average salary of teachers in the 302 colleges of arts, literature, and science and in corresponding colleges or departments of universities, when computed on the basis of data obtained from these institutions in the first questionnaire, was, for 1926–27, $2,958. The average salary of teachers in similar institutions, when computed on the basis of data obtained from teachers in the second questionnaire, was, for 1926–27, $3,057.

The difference between the average salary computed on the basis of data derived from these two sources, it will be noted, is slight. This gives reason to believe that the data obtained from teachers may be used with confidence as the basis of conclusions regarding their outside work and supplementary earnings.

Method of Presentation

Details with regard to the salaries of teachers in colleges of arts, literature, and science and corresponding colleges or departments of universities will be found in the Appendix. Questions of more general import only are considered here under the following titles:

Comparative Salaries of Teachers
Additional Earnings of Teachers
Provision for Increased Cost
Conclusions

III. COMPARATIVE SALARIES OF TEACHERS

Comparison by Geographical Division and Type of Institution

In the 302 colleges of arts, literature, and science and corresponding colleges or departments of universities with which this chapter is concerned, the average salary, in 1926–27, of professors, associate professors, assistant professors, and instructors, was $2,958. This is an increase over 1919–20 of 29.8 per cent. The average salary paid in 1926–27 varies with the geographical division and type of institution, as shown in Table I, following:

TABLE I*

AVERAGE SALARY PAID IN 1926-27 AND PER CENT OF INCREASE OVER 1919-20 IN COLLEGES OF ARTS, LITERATURE, AND SCIENCE, BY GEOGRAPHICAL DIVISION AND BY TYPE OF INSTITUTION

Geographical Division	Men's and Coeducational Institutions		Women's Colleges		Total	
	Average Salary 1926–27	Per Cent Increase Over 1919–20	Average Salary 1926–27	Per Cent Increase Over 1919–20	Average Salary 1926–27	Per Cent Increase Over 1919–20
New England States..	$3,605	24.4	$2,753	45.0	$3,385	29.9
Middle Atlantic States	3,243	24.8	3,074	35.7	3,214	26.6
Southern States.....	2,753	30.1	2,355	43.1	2,660	33.4
Middle Western States	2,824	29.1	2,155	62.4	2,808	29.8
Western States.....	2,974	32.1	2,527	71.9	2,960	32.8
TOTAL.....	$3,003	28.0	$2,656	43.0	$2,958	29.8

*This table is based on Tables I, II, and VI of Appendix.

The average salary ranged for the several geographical divisions from $3,385 for New England, an increase of 29.9 per cent over 1919–20, to $2,660 for the Southern States, an increase over 1919–20 of 33.4 per cent. This is the largest per cent of increase for any geographical division, and it is interesting to note that it occurred in the section where the average salary in 1926–27 was the lowest. For men's and co-educational institutions, the average salary in 1926–27 was $3,003, and for the women's colleges $2,656. However, the per cent of increase in women's colleges in 1926–27 over

TABLE II*

AVERAGE SALARY PAID IN 1926-27 AND PER CENT OF INCREASE OVER 1919-20 IN COLLEGES OF ARTS, LITERATURE, AND SCIENCE, BY PROFESSIONAL RANK AND BY SIZE OF INSTITUTION

RANK	CLASS A INSTITUTIONS		CLASS B INSTITUTIONS		CLASS C INSTITUTIONS		TOTAL	
	Average Salary 1926–27	Per Cent Increase Over 1919–20	Average Salary 1926–27	Per Cent Increase Over 1919–20	Average Salary 1926–27	Per Cent Increase Over 1919–20	Average Salary 1926–27	Per Cent Increase Over 1919–20
MEN'S AND COEDUCATIONAL INSTITUTIONS								
Professor	$4,620	27.2	$3,355	45.7	$2,726	46.1	$3,847	34.5
Associate Professor	3,547	31.1	2,741	38.6	2,435	35.4	3,305	30.3
Assistant Professor	2,833	23.8	2,461	39.7	2,169	49.9	2,696	26.2
Instructor	2,000	32.4	1,890	42.7	1,623	44.1	1,947	34.8
WOMEN'S COLLEGES								
Professor	4,049	33.6	3,244	66.8	2,860	71.2	3,392	54.1
Associate Professor	3,299	51.3	2,488	64.3	2,509	46.7	2,987	51.8
Assistant Professor	2,666	33.3	2,283	62.7	2,058	64.8	2,496	38.8
Instructor	1,977	27.4	1,881	55.3	1,684	52.1	1,905	33.2
TOTAL								
Professor	4,573	27.7	3,344	47.6	2,748	50.2	3,798	36.4
Associate Professor	3,514	33.8	2,702	44.5	2,457	39.0	3,256	33.9
Assistant Professor	2,812	24.5	2,440	40.6	2,146	53.1	2,669	27.3
Instructor	1,997	31.6	1,888	44.5	1,639	46.3	1,941	34.6

*This table is based on Tables III and VII of Appendix.

1919–20 was 43, as compared with 28 per cent for the same period in men's and co-educational institutions.

Comparison by Professional Rank, Size, and Type of Institution

The average salary also varies with the professional rank and with the size of institution, as is shown by Table II, on page 11. To illustrate, in men's and coeducational institutions, Class A, the average salary of professors in 1926–27 was $4,620, and of instructors, $2,000; whereas in Class C institutions of the same type the average salary of professors was $2,726, and of instructors, $1,623. Similarly, in women's colleges, Class A, the average salary of professors in 1926–27 was $4,049, and of instructors, $1,977; whereas in Class C, the average salary of professors was $2,860, and of instructors, $1,684.

If comparison be made between the average salaries paid teachers of the same professional rank by men's and coeducational institutions and by women's colleges of the same size—for example, Class A—it will be noted that the average salary is somewhat higher for all professional ranks in men's and coeducational institutions than in women's colleges. The differences in the average salaries for the several professional ranks in Class B institutions of the two types are nominal, but again slightly higher in men's and coeducational institutions. In Class C institutions, of the two types, the average salary of the several professional ranks, with one exception, is higher in the women's colleges.

The per cent of increase in 1926–27 over 1919–20 in the average salary of any given professional rank likewise tends to vary with geographical division, type and size of institution. This is shown by Table III on page 13. For example, in men's and coeducational institutions the increase in 1926–27 over 1919–20 in the average salary of professors ranged for the New England States from 20.5 per cent in Class A to 42.4 per cent in Class B, whereas the corresponding increase for the Southern States ranged from 30.2 per cent in Class A to 63.3 per cent in Class B. Similarly, in women's colleges, the per cent of increase in 1926–27 over 1919–20 in the average salary of professors ranged for the New England States from 36.6 per cent in Class A to 86.6 per cent in Class B, whereas the corresponding increase for the Southern States ranged from 37.7 per cent in Class A to 74 per cent in Class C.

TABLE III*

PER CENT OF INCREASE IN AVERAGE SALARIES 1926-27 OVER 1919-20, BY PROFESSIONAL RANK, SIZE OF INSTITUTION AND GEOGRAPHICAL DIVISION

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS										WOMEN'S COLLEGES									
	NEW ENGLAND STATES		MIDDLE ATLANTIC STATES		SOUTHERN STATES		MIDDLE WESTERN STATES		WESTERN STATES		NEW ENGLAND STATES		MIDDLE ATLANTIC STATES		SOUTHERN STATES		MIDDLE WESTERN STATES		WESTERN STATES	
	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase	No. of Colleges	Per Cent of Increase
PROFESSOR																				
Class A	9	20.5	15	30.5	24	30.2	26	27.6	12	31.7	3	36.6	2	20.7	5	37.7	..	....	..	....
Class B	7	42.4	10	44.5	12	63.3	32	43.3	6	51.3	1	86.6	3	59.4	3	49.2	..	....	1	76.2
Class C	2	30.4	11	49.8	33	54.7	54	42.3	9	51.1	..	....	3	70.2	14	74.0	5	57.6	..	....
ASSOCIATE PROFESSOR																				
Class A	7	37.6	12	37.7	24	21.6	25	26.6	12	26.2	3	44.6	2	79.8	5	42.6	..	....	..	....
Class B	6	51.8	8	51.3	9	29.9	17	45.7	6	38.9	1	88.1	2	39.6	1	38.8	..	....	..	....
Class C	2	61.0	5	25.9	19	47.4	21	49.2	3	35.6	..	....	3	50.1	10	71.0	2	58.5	..	....
ASSISTANT PROFESSOR																				
Class A	9	12.3	15	26.4	24	29.0	26	26.2	11	25.3	3	32.8	2	28.1	5	36.1	..	....	..	....
Class B	6	43.3	9	47.1	9	46.9	30	41.0	6	19.1	1	48.3	3	78.2	3	105.4	..	....	1	42.0
Class C	2	55.6	9	37.7	20	50.3	36	56.2	5	80.7	..	....	3	81.5	11	54.9	4	70.6	..	....
INSTRUCTOR																				
Class A	9	50.2	15	32.0	24	36.5	26	25.3	10	32.8	3	30.3	2	11.3	5	32.2	..	....	..	....
Class B	7	41.1	10	52.6	10	72.9	31	39.5	6	59.8	1	43.2	3	75.4	2	29.7	..	....	1	73.6
Class C	2	69.2	11	33.7	23	34.2	42	52.5	9	16.6	..	....	3	41.9	10	59.2	5	70.7	..	....

*This table is based on Tables III and VII of Appendix. Number of institutions in each case is based on original reports.

Table III also shows that, for all professional ranks, and geographical divisions, and for both men's and coeducational institutions and women's colleges, the per cent of increase in average salary in 1926–27 over 1919–20 was, with minor exception, larger in Class C institutions than in Class B or Class A, and with minor exceptions larger in Class B institutions than in Class A.

Comparative Distribution of Teachers, on Salary Scale

Up to this point we have been dealing with average salaries and with per cents of increase in average salaries. Quite as significant, if the salary status of teachers is to be made clear, is the distribution of teachers, irrespective of rank, at the several levels of a given salary scale. Table IV, on page 15, gives this distribution.

From Table IV it appears that in 1919-20 the median salary of teachers in the 302 institutions under consideration was $2,066. That is, in 1919–20, half the teachers in these institutions received an annual salary of $2,066 or less, and a half received more than $2,066. By 1926–27, the median salary of teachers in these institutions had risen to $2,704. The significance of this increase over 1919–20 lies in this fact: In 1926–27, 50 per cent of all teachers in these 302 institutions received an annual salary of more than $2,704, whereas in 1919–20 only 27 per cent received more than $2,704. In other words, not only has the average salary risen over 1919–20, but also the median salary, and, in consequence, a larger proportion of teachers received the higher salaries in 1926–27 than in 1919–20.

Real and Nominal Salaries

Whether the salaries of teachers in the institutions under consideration have actually increased over 1919–20 depends, of course, upon what has happened in the meantime with the cost of living and the purchasing power of the dollar. Reliable studies have been made of these questions for the period under consideration in this report—notably by the Bureau of Labor Statistics, Department of Labor of the United States, published in the "Statistical Abstract of the United States," and by the National Industrial Conference Board of New York City. The Statistical Abstract of the United States, 1926, Table 330, page 321, gives the index number of the cost of living in the United States, based on an average of 100 for 1913, as 216.5 in June 1920, and 175.6 in December 1926. Thus

TABLE IV *

NUMBER OF TEACHERS AND PER CENT OF TOTAL NUMBER** RECEIVING GIVEN SALARY IN 1919-20 AND IN 1926-27

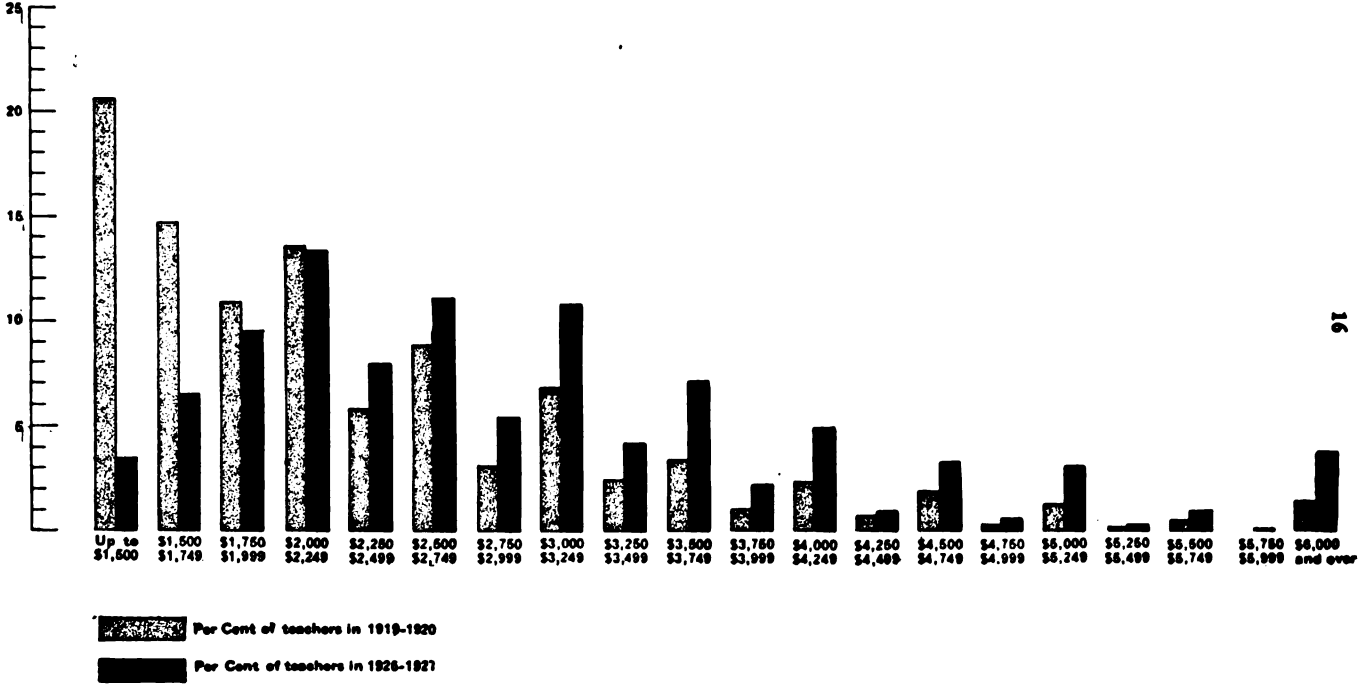
SALARY SCALE FROM	TO	NUMBER OF TEACHERS AT GIVEN LEVEL		PER CENT OF TOTAL		CUMULATIVE PER CENT	
		1919–20	1926–27	1919–20	1926–27	1919–20	1926–27
To	$1,500	2,046	533	20.7	3.5	....	....
$1,500	1,749	1,455	990	14.8	6.5	35.5	10.0
1,750		1,076	1,464	10.9	9.5	46.4	19.5
2,000		1,340	2,058	13.6	13.4	60.0	32.9
2,250		573	1,230	5.8	8.0	65.8	40.9
2,500		877	1,717	8.9	11.2	74.7	52.1
2,750		307	804	3.1	5.3	77.8	57.4
3,000		665	1,656	6.8	10.8	84.6	68.2
3,250		234	646	2.4	4.2	87.0	72.4
3,500		341	1,109	3.4	7.2	90.4	79.6
3,750		96	343	1.0	2.2	91.4	81.8
4,000		228	746	2.3	4.9	93.7	86.7
4,250		68	154	.7	1.0	94.4	87.7
4,500		185	512	1.9	3.3	96.3	91.0
4,750		24	98	.3	.6	96.6	91.6
5,000		132	482	1.3	3.1	97.9	94.7
5,250		23	47	.2	.3	98.1	95.0
5,500		52	174	.5	1.1	98.6	96.1
5,750		3	20	...	.1	....	96.2
6,000		77	268	.8	1.8	99.4	98.0
6,250		14	3	.1	...	99.5	....
6,500		9	59	.1	.4	99.6	98.4
6,750		7	3	.1	...	99.7	....
7,000		17	90	.2	.6	99.9	99.0
7,250		1	...	...	...	....	....
7,500		2	53	...	.4	....	99.4
7,750		...	...	...	...	....	....
8,000		10	67	.1	.4	....	99.8
8,250		...	...	...	...	....	....
8,500		...	17	...	.1	....	99.9
8,750		2	...	...	...	....	....
9,000		...	2	...	...	....	....
9,250		...	...	...	...	....	....
9,500		...	...	...	...	....	....
9,750		...	...	...	...	....	....
10,000	and over	1	16	...	.1	100.0	100.0
Total.....		9,865	15,361	100.0	100.0		

*This table is based on Tables IV and VIII of Appendix.

**The totals in this table differ from the totals in Table I of Appendix, as in the compilation of the above table all fractions were dropped.

FIG. 1

PER CENT OF TEACHERS IN 1919-20 AND 1926-27 RECEIVING GIVEN SALARY



the cost of living, according to this report, decreased in the country as a whole for the period covered by this study.

Most colleges and universities are located in cities. The Statistical Abstract of the United States, 1926, page 322, and the National Industrial Conference Board's "Cost of Living in the United States," page 168, give data concerning the cost of living in cities. On the basis of data selected from the above sources and rearranged, the cost of living has decreased in cities from December 1919 to December 1926 as follows:

New England States	11.1
Middle Atlantic States	9.5
Southern States	13.6
Middle Western States	10.2
Western States	13.7

Whether considered from the point of view of the country as a whole or from the point of view of cities, it is apparent that there has been a decrease in the cost of living for the period covered in this study. Therefore, the increases in teachers' salaries which have occurred between 1919–20 and 1926–27 are real increases. Teachers have profited in two ways—by the decreased cost of living, and by the increase in the number of dollars received for their services. Their economic status for 1926–27 is clearly an improved one. But what can be said of it as compared to the economic status of teachers in 1914–15, which was the basic date of the previous study of teachers' salaries?

The average salary of teachers in the institutions under consideration, as shown by Table I of this report, was for 1926–27, $2,958, and for 1919–20, $2,279. The average salary for 1914–15, as computed from the data given in tables on pages 21–33 of Occasional Paper No. 7, for corresponding professional ranks, was $1,724. In accepting this computed average salary of teachers for 1914–15, and in making all comparisons between the findings of Occasional Paper No. 7 and of this report, it should be remembered that:

1. The present report deals with a somewhat larger number of endowed institutions than the previous report, and may or may not include all the endowed institutions considered in the previous report. Tax-supported institutions have also been added.
2. Institutions may be classified differently in the two reports, as institutions

were classified according to size on the basis of enrollment at the time the data for the two reports were collected.

3. Data regarding "assistants" and "others" which appeared in the previous report are not included in this report.

When the nominal average salaries for the respective years are equated in terms of the purchasing power of the dollar for the corresponding years—$1 for 1914–15, 48.9 cents as of July, 1920, and 61.7 cents as of July, 1927*—the nominal average salary and the real average salary for teachers in the institutions under consideration for these years are as follows:

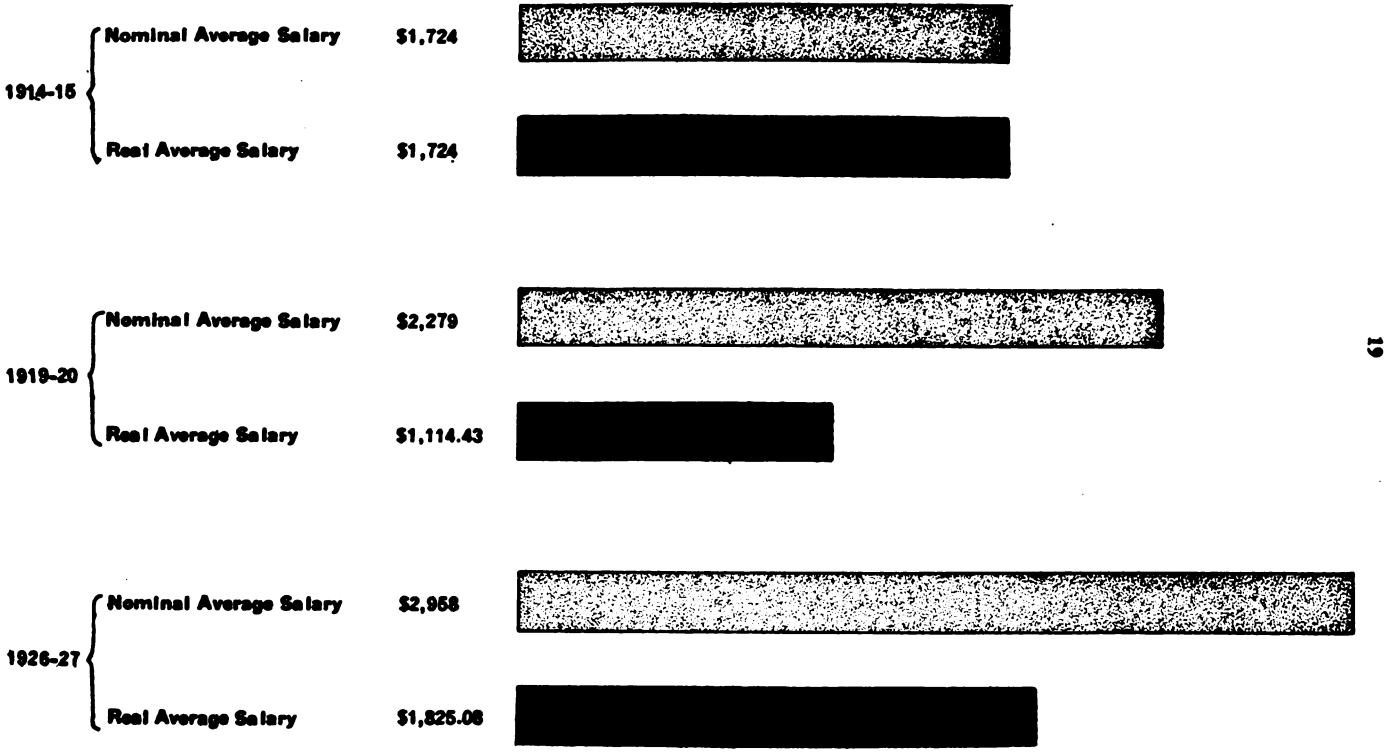
	NOMINAL AVERAGE SALARY	REAL AVERAGE SALARY
1914–15	$1,724	$1,724
1919–20	2,279	1,114
1926–27	2,958	1,825

There was a distressing depreciation, it appears, in the real average salaries of college teachers from 1914–15 to 1919–20. The increase in 1926–27 over 1919–20 has been material and is gratifying. Nevertheless, despite all the efforts exerted in recent years to improve their economic status, teachers in the 302 institutions under consideration were only slightly better off financially in 1926–27 than like workers in 1914–15. However, the emergency existing in 1919–20 has been met, and the salaries of teachers in higher educational institutions, it appears, are at least again on a pre-war basis.

*The National Industrial Conference Board Report, March, 1928.

FIG. 2

NOMINAL AND REAL AVERAGE SALARY OF TEACHERS 1914-15, 1919-20, AND 1926-27



IV. ADDITIONAL EARNINGS OF TEACHERS

The preceding chapter deals with the data from 302 colleges of arts, literature, and science and corresponding colleges or departments of universities. The data used were supplied in the first questionnaire by the financial officers of these institutions and are therefore authoritative. The data for this chapter—Additional Earnings of Teachers—were provided in the second questionnaire by teachers. Teachers replied from 369 institutions. This number may or may not include all the 302 institutions under consideration in the preceding chapter, and it is doubtful whether all the teachers of any one institution made reply. Replies from teachers on which this chapter is based are therefore only a sampling, but, as stated earlier in this report, we believe that so far as they go, these replies are reliable.

Per Cent of Teachers Doing Additional Work

Salaries for the regular nine months' school session are not the only earnings of teachers. Of the 11,361 replying to the second questionnaire, 7,557 or 66.5 per cent reported that they supplemented their salaries by earned income, although, as we shall see later, not all of the 7,557 gave complete information as to regular salary and amount and character of supplementary earnings. When these replies are tabulated by professional rank of teachers replying and by type of institution from which they replied, it will be seen that the per cent supplementing their salaries varies with professional rank and type of institution. See Table V, on page 21.

Of the professors replying to the second questionnaire, 76.2 per cent supplement their salaries, as compared with 52.4 per cent of the instructors. Of the professors replying from urban institutions, i.e., institutions located in cities having a population of 100,000 or more, 77.8 per cent add to their regular earnings, as compared with 66.7 per cent of the instructors. The corresponding per cents for those replying from rural institutions are, for professors, 75.7 per cent, and for instructors, 44.8. Teachers replying from men's and co-educational institutions supplement their salaries in larger proportion than teachers replying from women's colleges—

more than two-thirds of those replying from the former and less than half of those replying from the latter add to their earnings.

TABLE V*

PER CENT OF TOTAL REPLYING WHO SUPPLEMENT SALARY BY OTHER EARNED INCOME, BY PROFESSIONAL RANK AND TYPE AND LOCATION OF INSTITUTION

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Professor.....	79.2	78.6	78.8	54.7	55.1	55.0	77.8	75.7	76.2
Associate Professor...	79.8	70.9	73.7	46.7	47.0	47.0	77.5	67.0	70.1
Assistant Professor...	74.3	59.0	64.3	52.5	40.4	43.0	72.7	56.3	61.7
Instructor....	68.2	47.3	54.8	50.6	29.1	34.5	66.7	44.8	52.4
TOTAL.....	74.9	66.7	69.2	51.7	44.9	46.1	73.3	63.8	66.5

*This table is based on Table X of Appendix.

What teachers find to do in their efforts to add to their salaries is shown in Table VI on page 22.

Kinds of Extra Work

Of the 7,072 teachers from whom we have complete information both as to regular salary and as to amount and character of supplementary earnings, 69.7 per cent do extra teaching or institutional services either in their own or other institutions, and earn by extra teaching practically one-half of all supplementary earnings. However, this does not mean that those included in this group do no other kind of supplementary work. For example, part of the group may also lecture and do other types of work. The next most popular field is writing, with 25.3 per cent; 19.5 per cent lecture, 10 per cent do consulting work, and 25.2 per cent engage in miscellaneous services. Teachers reporting from urban institutions apparently find greater opportunity for writing, extra teaching and institutional services, and consulting work than teachers reporting from rural institutions. In lecturing and miscellaneous services, the comparison is in favor of teachers reporting from rural institutions.

Amounts of Supplementary Earnings

The total supplementary earnings of these 7,072 teachers who do extra work is equal to 23.8 per cent of their regular annual salaries. (See Table XI of Appendix.) The range of these sup-

TABLE VI*

KINDS OF WORK DONE, PER CENT OF TEACHERS (7,072) SUPPLEMENTING SALARY BY EACH KIND OF WORK, AND PER CENT EARNED IN EACH KIND OF WORK OF TOTAL SUPPLEMENTARY EARNINGS, BY URBAN AND RURAL INSTITUTIONS

TYPE AND LOCATION OF INSTITUTION FROM WHICH REPLIES WERE MADE	KIND OF WORK DONE					
	Writing	Extra Teaching and/or Institutional Services	Lectures	Consulting	Other Work	Total
Urban						
Per Cent of Teachers Doing Extra Work....	30.9	74.1	18.8	13.0	22.6	....
Per Cent of Total Supplementary Earnings.....	21.2	51.0	4.8	11.2	11.8	100
Rural						
Per Cent of Teachers Doing Extra Work....	22.3	67.4	19.8	8.4	26.9	...
Per Cent of Total Supplementary Earnings.....	16.1	48.6	8.1	7.6	19.6	100
Combined						
Per Cent of Teachers Doing Extra Work....	25.3	69.7	19.5	10.0	25.4	...
Per Cent of Total Supplementary Earnings.....	18.4	49.7	6.6	9.2	16.1	100

*This table is based on Tables XI, XII, and XIII of Appendix.

TABLE VII

RANGE OF SUPPLEMENTARY EARNINGS OF TEACHERS, AND THE NUMBER AND PER CENT OF TOTAL (7,072) EARNING GIVEN AMOUNTS, BY URBAN AND RURAL INSTITUTIONS

SUPPLEMENTARY EARNINGS	URBAN			RURAL			TOTAL		
	Number	Per Cent of Total	Cumulative Per Cent	Number	Per Cent of Total	Cumulative Per Cent	Number	Per Cent of Total	Cumulative Per Cent
Less than $100	57	2.4	....	190	4.1	....	247	3.5	....
$100 to $199	141	5.8	8.2	489	10.5	14.6	630	8.9	12.4
$200 to $299	180	7.4	15.6	634	13.6	28.2	814	11.5	23.9
$300 to $399	246	10.2	25.8	649	13.9	42.1	895	12.7	36.6
$400 to $499	224	9.3	35.1	567	12.2	54.3	791	11.2	47.8
Total to $499	848	35.1	....	2,529	54.3	....	3,377	47.8	....
$500 to $599	216	8.9	44.	487	10.5	64.8	703	9.9	57.7
$600 to $699	176	7.3	51.3	325	7.	71.8	501	7.1	64.8
$700 to $799	133	5.5	56.8	236	5.1	76.9	369	5.2	70.
$800 to $899	117	4.8	61.6	168	3.6	80.5	285	4.	74.
$900 to $999	77	3.2	64.8	121	2.6	83.1	198	2.8	76.8
Total $500 to $999	719	29.7	....	1,337	28.8	....	2,056	29.	....
$1,000 to $1,499	384	15.9	80.7	412	8.8	91.9	796	11.3	88.1
$1,500 to $1,999	158	6.5	87.2	138	3.	94.9	296	4.2	92.3
$2,000 and over	309	12.8	100.	238	5.1	100.	547	7.7	100.
Total $1,000 to $2,000 and over	851	35.2	....	788	16.9	....	1,639	23.2	....
TOTAL	2,418	100.	....	4,654	100.	....	7,072	100.	....

plementary earnings and the number earning given amounts are shown in Table VII, on page 23.

From Table VII, it will be seen that the supplementary earnings of teachers ranged from less than $100 to $10,000 or more. The median is $522. Less than a fourth make as much as $1,000 or more, and 7.7 per cent as much as $2,000 or more. A very few succeed in earning considerable sums, as shown by Table VIII, below. Seventy-seven out of 7,072 earn $5,000 or more, and thirteen earn $10,000 or more. There is reason to believe from Table XVII of Appendix, that the higher the professional rank and the higher the regular salary, the larger the amount earned by additional work.

TABLE VIII

MAXIMA SUPPLEMENTARY EARNINGS BY RANK

RANK	$5,000–5,999	$6,000–6,999	$7,000–7,999	$8,000–8,999	$9,000–9,999	$10,000 or more	TOTAL
Professor	24	12	5	6	3	11	61
Associate Professor	2	2	..	..	2	..	6
Assistant Professor	6	..	1	..	..	..	7
Instructor	1	..	..	..	..	2	3
TOTAL	33	14	6	6	5	13	77

Reason for Supplementing Salary

Of the 7,557 teachers who supplement their salaries, 6,370 stated whether they did it from necessity or from choice. Of these, 71.9 per cent reported that they did it from necessity and 28.1 per cent from choice. Again, of the 7,557 teachers who supplemented their salaries, 6,550 gave a preference—77.2 per cent preferred to do regular work only and 22.8 per cent to do additional work. The corresponding per cents for teachers replying from men's and coeducational institutions and from women's colleges, urban and rural, are given below:

	MEN'S AND COEDUCATIONAL INSTITUTIONS		WOMEN'S COLLEGES	
	Urban	Rural	Urban	Rural
From Necessity	77.5	70.4	71.7	57.1
From Choice	22.5	29.6	28.3	42.9
Prefer Regular Work Only	81.3	76.6	73.3	62.0
Prefer Additional Work	18.7	23.4	26.7	38.0

Of the 11,361 teachers answering the second questionnaire, 2,132 or 18.5 per cent replied that they had private, unearned income of an appreciable amount. The amount of unearned income to be considered appreciable was left to the judgment of the teachers themselves. Of the 2,132 teachers with appreciable private income, 1,393 or 65.3 per cent supplement their salaries (see Table IX below), as compared with 66.8 per cent of those who presumably do not have appreciable private income. Apparently, appreciable private income has little effect on whether or not the possessor does additional work. Of those who reported appreciable private income and who supplemented their salaries, 44.8 per cent stated that they did it from necessity.

TABLE IX*

PER CENT OF TEACHERS REPLYING WHO HAVE APPRECIABLE INCOME AND WHO SUPPLEMENT SALARY, BY PROFESSIONAL RANK, TYPE AND LOCATION OF INSTITUTION

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Professor...	74.4	74.8	74.7	68.8	57.8	59.2	74.1	72.6	73.1
Associate Professor.	67.1	73.7	71.2	41.7	47.5	46.2	63.8	67.8	66.4
Assistant Professor.	60.0	60.8	60.4	27.3	28.9	28.6	57.4	54.5	55.7
Instructor..	50.0	48.1	49.0	36.4	29.0	31.0	49.0	45.0	46.8
TOTAL....	65.8	69.3	68.0	46.0	46.8	46.6	64.5	65.8	65.3

*This table is based on Table XIV of Appendix.

Of the many factors compelling teachers, under present salary conditions, to supplement their regular income, perhaps none is more important than family responsibility. See Table X on page 26.

Of the 7,376 married teachers replying, 77.2 per cent supplement their regular salary, as compared with 46.7 per cent of the 3,927 single teachers.** When comparisons are made by rank, it will be noted that 81.7 per cent of the married professors replying do additional work as compared with 51.5 per cent of unmarried professors. The corresponding per cents for married and unmarried in-

**Of the 11,361 teachers from whom replies were received to the second questionnaire, 58 failed to state whether married or single.

structors are 65.7 and 43.4. When comparisons are made by rank for both married teachers and single teachers replying from urban and from rural institutions, it will be noted that for each rank a larger per cent of those replying from urban institutions than from rural supplement their salaries.

TABLE X*

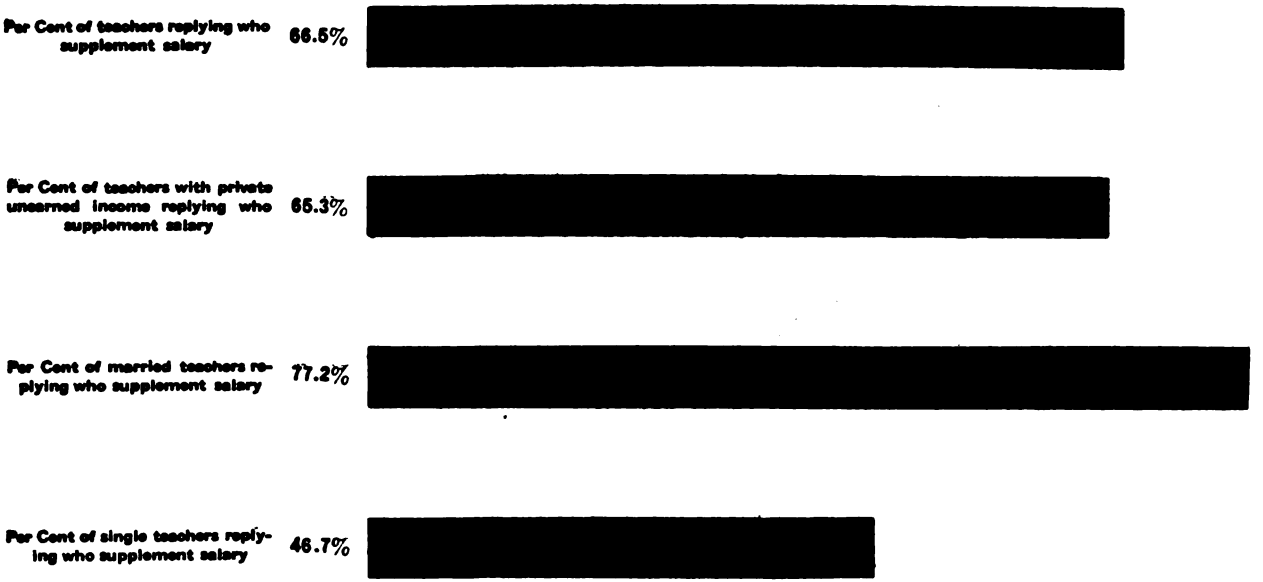
PER CENT OF TOTAL MARRIED TEACHERS AND OF SINGLE TEACHERS REPLYING WHO SUPPLEMENT SALARY, BY RANK, TYPE AND LOCATION OF INSTITUTION

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Married									
Professor...	81.8	81.9	81.9	75.9	78.4	78.0	81.7	81.7	81.7
Associate Professor.	83.6	78.1	79.9	77.8	53.6	59.5	83.4	77.0	79.2
Assistant Professor.	79.9	69.2	73.3	78.6	50.0	58.7	79.8	68.5	72.8
Instructor..	78.3	57.6	66.3	50.0	41.2	45.9	77.1	57.2	65.7
TOTAL.....	80.9	76.0	77.6	69.4	69.8	69.8	80.5	75.7	77.2
Single									
Professor...	56.9	59.3	58.8	37.1	38.7	38.5	52.1	51.4	51.5
Associate Professor.	64.6	51.5	54.8	33.3	44.9	43.3	58.3	49.1	51.0
Assistant Professor.	61.5	42.5	48.3	44.4	38.2	39.4	58.6	41.3	46.1
Instructor..	57.2	40.3	45.6	50.8	28.4	33.3	56.4	38.0	43.4
TOTAL.....	59.0	46.0	49.7	44.0	36.7	38.0	56.5	43.4	46.7

*This Table is based on Table XV of Appendix.

FIG. 3

PER CENT OF TEACHERS REPLYING WHO SUPPLEMENT INCOME



V. PROVISION FOR INCREASED COST

Not only has the average salary of teachers in the 302 institutions under consideration been increased 29.8 per cent during the period from 1919–20 to 1926–27, but the number of teachers has increased from 9,922 to 15,430—an increase of 55.5 per cent (see Table I, Appendix). The result of these two increases has doubled salary expenditures and has placed on these institutions corresponding financial burdens. See Table XI, on page 29.

Salary expenditures in the 302 institutions under consideration increased in 1926–27 over 1919–20, $23,031,239, or 102 per cent. How have these institutions been able to meet within a seven-year period a 102 per cent increase in salary expenditures? In endowed institutions, these increases have been met at least in part by raising tuition fees and by increasing endowment.

TABLE XII*

PER CENT OF INCREASE IN AVERAGE TUITION FEES IN 1926-27 OVER 1919-20 IN 257 ENDOWED COLLEGES OF ARTS, LITERATURE, AND SCIENCE, BY TYPE AND CLASS OF INSTITUTION, AND BY GEOGRAPHICAL DIVISION

TYPE AND CLASS	NEW ENGLAND STATES	MIDDLE ATLANTIC STATES	SOUTHERN STATES	MIDDLE WESTERN STATES	WESTERN STATES	TOTAL
Men's and Coeducational Institutions						
Class A	71.8	79.5	55.8	69.6	62.1	71.3
Class B	93.4	64.5	76.4	79.8	88.0	79.4
Class C	136.8	85.5	73.0	79.7	67.9	78.5
Total	85.9	76.1	70.4	77.4	74.5	77.3
Women's Colleges						
Class A	71.4	166.7	23.6	....	....	69.0
Class B	75.0	44.9	22.4	....	100.0	50.8
Class C	....	44.2	37.9	46.2	....	41.6
Total	71.5	57.8	33.9	46.2	100.0	50.7
TOTAL	81.0	72.3	58.9	75.9	76.2	70.5

*This Table is based on Table XVI of Appendix.

TABLE XI*

SALARY EXPENDITURES IN 1926-27 AND INCREASE OVER 1919-20 IN COLLEGES (302) OF ARTS, LITERATURE, AND SCIENCE, BY TYPE OF INSTITUTION AND GEOGRAPHICAL DIVISION

GEOGRAPHICAL DIVISION	MEN'S AND COEDUCATIONAL INSTITUTIONS		WOMEN'S COLLEGES		TOTAL	
	Salary Expenditures 1926–27	Increase Over 1919–20	Salary Expenditures 1926–27	Increase Over 1919–20	Salary Expenditures 1926–27	Increase Over 1919–20
New England States	$5,468,649	$2,414,025	$1,455,261	$623,061	$6,923,910	$3,037,086
Middle Atlantic States	9,038,125	4,944,501	1,754,962	960,754	10,793,087	5,905,255
Southern States	6,556,459	3,786,227	1,708,127	953,470	8,264,586	4,739,697
Middle Western States	14,864,689	6,969,941	278,490	145,902	15,143,179	7,115,843
Western States	4,399,390	2,155,718	120,280	77,640	4,519,670	2,233,358
TOTAL	$40,327,312	$20,270,412	$5,317,120	$2,760,827	$45,644,432	$23,031,239

*This Table is based on Tables I, II, and VI of Appendix.

Increased Tuition Fees

In the 257 endowed institutions (217 men's and coeducational institutions and 40 women's colleges) from which we have reports, the average tuition fees have increased from $105 in 1919–20 to $179 in 1926–27, an increase of 70.5 per cent. (See Table XVI of Appendix and Table XII, on page 28.) In men's and coeducational institutions, the average tuition fee has increased from $97 in 1919–20 to $172 in 1926–27—an increase of 77.3 per cent. In women's colleges, the average tuition fee has increased from $146 to $220, or an increase of 50.7 per cent. In men's and coeducational institutions the per cent of increase ranges from 70.4 per cent in Southern States to 85.9 per cent in the New England States. In women's colleges, it ranges from 100 per cent in the Western States to 33.9 per cent in the Southern States.

In the 262 endowed institutions (223 men's and coeducational institutions and 39 women's colleges) from which we have reports, the total endowment in 1919–20 was $415,689,691, and in 1926–27, $760,119,098, an increase of $344,429,407 or 82.9 per cent. The per cent of increase was largest in the Southern States, 159.4 per cent, and smallest in the Western States, 32.6 per cent. It was higher for women's colleges, 90.1 per cent, than for men's and coeducational institutions, 82.3 per cent. See Table XIII, following.

TABLE XIII

PER CENT OF INCREASE IN ENDOWMENT IN 1926-27 OVER 1919-20 IN 262 ENDOWED INSTITUTIONS, BY TYPE OF INSTITUTION AND GEOGRAPHICAL DIVISION

GEOGRAPHICAL DIVISION	MEN'S AND COEDUCATIONAL INSTITUTIONS	WOMEN'S COLLEGES	TOTAL
New England States	80.6	80.1	80.5
Middle Atlantic States	69.1	81.6	70.
Southern States	166.	112.2	159.4
Middle Western States	83.2	115.8	83.8
Western States	30.8	148.7	32.6
TOTAL	82.3	90.1	82.9

VI. CONCLUSIONS

1. On the basis of the data presented in this report the average salary of teachers in the 302 higher educational institutions considered, increased 29.8 per cent from 1919–20 to 1926–27. This has been a real increase, for not only have the teachers received more dollars in payment for their services, but the purchasing power of the dollar has also increased during this period. Moreover, these increases have been sufficient to meet the salary crisis of 1919–20, and also to give teachers in these institutions a slightly better financial position than they enjoyed in 1914–15, as their real average salary has risen from $1,724 in 1914–15 to $1,825 in 1926–27.

2. Large numbers of teachers, 66.5 per cent of those replying to the second questionnaire, supplement their regular salaries by earnings from additional work. Much of this additional work is extra teaching. A few teachers earn considerable sums, but, for the great majority, the annual return is small, as the median additional annual earnings for all teachers who supplement their salaries is only $522. Of the teachers supplementing their salary, and stating whether from necessity or choice, 71.9 per cent do it from necessity and 28.1 per cent from choice—evidence that the salaries of 1926–27 were still inadequate.

3. The increase in teachers' salaries has added to the financial burdens of the institutions considered. These have been met by endowed institutions in part by raising tuition fees 70.5 per cent over 1919–20, and by an increase in endowment of 82.9 per cent.

VII. APPENDIX

CONTENTS

3. Professional Schools or Departments

(1) First Questionnaire

DIRECTIONS FOR FILLING OUT THE FORMS

1. Data should cover the regular academic year; summer session figures should *not* be included.

2. *Regular Annual Salary* referred to in the accompanying blanks means the amount of salary paid for the full normal work required during the regular academic year of approximately nine months. It does not include compensation for extra teaching either during the regular academic year or during summer sessions, nor salary for administrative services.

3. *Full Time* referred to in the accompanying blanks means the time required for the work paid for by the *Regular Annual Salary* defined in paragraph 2 above.

4. *Form I.*—An example of the manner in which Form I should be made is given in the note at the foot of the blank. The information sought is the total number of teachers at each rate of annual salary in each of the several schools or colleges arranged in order of rank in steps of $250 (e.g., $10,000 to $10,249 inclusive; $9,750 to $9,999 inclusive; $9,500 to $9,749 inclusive, etc.)
A separate column should be used for each school or college within the institution as shown at the foot of Form I. The name of the school or college should be inserted at the head of the column in the space provided for that purpose. The salary range of professors should be given first, then that of associate professors, and so on by ranks through and including instructors. Data for teachers ranking lower than instructors are not sought.
In case there are perquisites such as room and board as part of instructorial compensation, please assign a money value to them and include in regular annual salary. Thus, if a teacher were paid a cash salary of $3,000 and received room and board in addition valued at $1,000 he should be classified as receiving $4,000. Neither administrative salaries nor salary additions to regular teaching salaries for administrative services should be included.

5. *Form II* is designed to secure a statement of the total actual salaries and average salaries paid in 1919–20 and 1926–27, classified by ranks for each school or college. A separate sheet should be used for each school or college shown on Form I. The number of persons here reported should agree with the number shown on Form I. The total salaries paid assign the definite value to the salary ranges indicated on Form I.

6. *Form III* calls for the salary scale for each school or college separately, if any scale has been adopted. The date of adoption should be stated. Form III also asks for the rate of tuition fee. The figures given for the salary scales and for tuition fees should be for the regular academic year only, not inclusive of summer sessions, if any.

7. *Form IV* asks for the endowment owned at the close of the fiscal years 1919–20 and 1926–27 classified as to applicability for the whole institution or to a separate school or college. If one sheet is not sufficient to report the schools and colleges for which separate endowment is held, please use two or more sheets, giving the grand totals on the final sheet.

8. *Form V.*—This form should be used for remarks and explanations if it is felt that any are needed to make clear any replies given in Forms I to IV.

9. If more copies of the forms are needed, they will be supplied upon request.

10. The General Education Board will appreciate a prompt reply, to be mailed if possible by_____, 1927.

FORM I

Report of _____
(Institution)

SUMMARY OF REGULAR ANNUAL SALARIES PAID FOR INSTRUCTION BY RANKS AND SCHOOLS

Academic Rank	Regular Annual Salary	Numbers of Individuals in Each School Division at Each Annual Salary Level (Indicate part-time by fractions of full time)												Totals of All Divisions	
		1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27

NOTE.—The above form should be filled out in the following manner:

		Arts and Lit.		Education		Divinity		Law		Medicine		Commerce		Totals of All Divisions	
		1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27
Professors	$10,000	3	4½	0	1½	0	0	3	4	0	2	0	1	6	13
	$9,750–9,999	0	1	0	0	0	0	2	3	1	2½	0	0	3	6½

FORM II

Report for _____ (*e.g., Law School*) of _____ (*Institution*)

SUMMARY OF SALARIES ACTUALLY PAID FOR INSTRUCTION BY RANKS

Rank	No. on Basis of Full Time		Total Salaries Paid (Omit Cents)		Average Salaries Paid (Omit Cents)	
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27
Professors						
Associate Professors						
Assistant Professors						
Instructors						
Totals						

Note 1.—The above form should be filled out as follows:

Professors	15½	17	$55,000	$73,000	$3,548	$4,294

Note 2.—If the above classification does not agree with the ranks of instruction in use please make proper designations.
Note 3.—Make separate return on this form for each school or division reported on Form I.

FORM III

Report for _____ (*e.g., Law School*) of _____ (*Institution*)

A. SALARY SCALE

Rank	1919–20		1926–27		Increase	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Professors						
Associate Professors						
Assistant Professors						
Instructors						
When Salary Scale Was Adopted						

B. TUITION FEE PER STUDENT for regular work for the regular academic year of approximately 9 months

1919–20 $_____

1926–27 $_____

Note 1.—Make separate return on this form for each school or division reported on Form I.

Note 2.—If the above classification does not agree with the ranks of instruction in use please make proper designations.

FORM IV

Report of _____
(Institution)

ENDOWMENT 1920 AND 1927

	June 30, 1920	June 30, 1927
1. For Institution as a whole	$	$
2. For College of Arts		
3. For _____ (Insert school: e.g., Law School)		
4. For _____		
5. For _____		
TOTALS	$	$

FORM V

Report of _____
(Institution)

REMARKS

(2) Second Questionnaire

GENERAL EDUCATION BOARD

Study of Faculty Salaries in Colleges and Universities

Year 1926-1927

Put X in proper space to answer question.

1. RANK

	(X)	REGULAR ANNUAL SALARY (If part time, indicate fraction)
Professor		$
Associate Professor or equivalent rank		
Assistant Professor or equivalent rank		
Instructor or equivalent rank		

2. DEPARTMENT: (e.g., Liberal Arts, Law, etc.)_____

3. STATUS:

					Number
Male		Married		Dependent Children	
Female		Single		Other Dependents	

4. Is your regular salary your only earned income? Yes ☐ No ☐

5. If not, do you supplement it by one or more of the following, and approximately to what extent?

	(X)	ESTIMATED YEARLY INCOME
Writing (Articles, Textbooks, etc.)		$
Extra teaching or services in your own institution (e.g., Summer Term)		
Teaching or services in other institutions		
Outside lectures and addresses		
Consulting work		
Other work (Indicate general nature, e.g., tutoring)		

6. If you supplement your regular salary as above, do you do so from Choice? ☐ or Necessity? ☐
Would you prefer to devote your efforts entirely to your regular work? Yes ☐ No ☐

7. Is your income as reported under Nos. 4 and 5 supplemented from private sources? Yes ☐ No ☐
If so, is it an appreciable amount? Yes ☐ No ☐

8. HOUSING: What percentage of your regular annual salary goes for rent?_____ per cent. (If home is owned, use estimated rental value.)

9. REMARKS: For comment or in explanation of above replies use reverse side of this sheet.

Name_____

Institution_____

(Detach and mail in one of envelopes)

TABLE I

MEN'S AND COEDUCATIONAL INSTITUTIONS AND WOMEN'S COLLEGES COMBINED

Number of Institutions, Number of Persons in Faculty, Total Salaries Paid, and Average Salaries Paid, in 1919–20 and 1926–27, by Class and Geographical Division

DIVISION AND CLASS	NUMBER OF INSTITUTIONS INCLUDED	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
New England States								
Class A	12	1,123.15	1,546.91	$3,006,085	$5,239,870	$2,676	$3,387	26.6
Class B	8	320.0	435.33	742,537	1,455,290	2,320	3,343	44.1
Class C	2	49.0	63.5	138,202	228,750	2,820	3,602	27.7
TOTAL	22	1,492.15	2,045.74	$3,886,824	$6,923,910	$2,605	$3,385	29.9
Middle Atlantic States								
Class A	17	1,323.99	2,419.78	$3,633,201	$8,019,890	$2,744	$3,314	20.8
Class B	13	327.5	536.45	702,262	1,602,015	2,144	2,986	39.3
Class C	14	274.67	401.58	552,369	1,171,182	2,011	2,916	45.0
TOTAL	44	1,926.16	3,357.81	$4,887,832	$10,793,087	$2,538	$3,214	26.6
Southern States								
Class A	29	1,031.66	1,809.33	$2,335,935	$5,090,533	$2,264	$2,813	24.2
Class B	15	168.1	411.17	303,573	1,066,900	1,806	2,595	43.7
Class C	47	567.84	885.96	885,381	2,107,153	1,559	2,378	52.5
TOTAL	91	1,767.60	3,106.46	$3,524,889	$8,264,586	$1,994	$2,660	33.4

DIVISION AND CLASS	NUMBER OF INSTITUTIONS INCLUDED	PERONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Middle Western States								
Class A	26	2,017.36	3,031.07	$5,153,542	$9,482,925	$2,555	$3,129	22.5
Class B	32	783.29	1,121.92	1,414,575	2,803,470	1,806	2,499	38.4
Class C	59	909.88	1,240.42	1,459,219	2,856,784	1,604	2,303	43.6
TOTAL	117	3,710.53	5,393.41	$8,027,336	$15,143,179	$2,163	$2,808	29.8
Western States								
Class A	12	739.67	1,055.79	$1,802,220	$3,351,157	$2,437	$3,174	30.2
Class B	7	173.32	290.47	308,710	761,300	1,781	2,621	47.2
Class C	9	112.75	180.42	175,382	407,213	1,555	2,257	45.1
TOTAL	28	1,025.74	1,526.68	$2,286,312	$4,519,670	$2,229	$2,960	32.8
Total								
Class A	96	6,235.83	9,862.88	$15,930,983	$31,184,375	$2,555	$3,162	23.8
Class B	75	1,772.21	2,795.34	3,471,657	7,688,975	1,959	2,751	40.4
Class C	131	1,914.14	2,771.88	3,210,553	6,771,082	1,677	2,443	45.7
TOTAL	302	9,922.18	15,430.10	$22,613,193	$45,644,432	$2,279	$2,958	28.9

TABLE II

MEN'S AND COEDUCATIONAL INSTITUTIONS

Number of Institutions, Number of Persons in Faculty, Total Salaries Paid, and Average Salaries Paid, in 1919–20 and 1926–27 by Class and Geographical Division

DIVISION AND CLASS	NUMBER OF INSTITUTIONS INCLUDED	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
New England States								
Class A	9	763.14	1,113.34	$2,299,772	$4,042,074	$3,014	$3,631	20.5
Class B	7	241.5	340.33	616,650	1,197,825	2,553	3,520	37 9
Class C	2	49.	63.5	138,202	228,750	2,820	3,602	27.7
TOTAL	18	1,053.64	1,517.17	$3,054,624	$5,468,649	$2,899	$3,605	24.4
Middle Atlantic States								
Class A	15	1,148.49	2,112.53	$3,168,058	$7,025,798	$2,758	$3,326	20.6
Class B	10	258.17	406.50	579,097	1,261,745	2,243	3,104	38.4
Class C	11	169.	267.83	346,469	750,582	2,050	2,802	36.7
TOTAL	36	1,575.66	2,786.86	$4,093,624	$9,038,125	$2,598	$3,243	24.8
Southern States								
Class A	24	805.16	1,419.83	$1,908,765	$4,122,674	$2,371	$2,904	22.5
Class B	12	137.1	363.17	254,913	960,450	1,859	2,645	42.3
Class C	33	366.84	598.16	606,554	1,473,335	1,653	2,463	49.
TOTAL	69	1,309.10	2,381.16	$2,770,232	$6,556,459	$2,116	$2,753	30.1

DIVISION AND CLASS	NUMBER OF INSTITUTIONS INCLUDED	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Middle Western States								
Class A	26	2,017.36	3,031.07	$5,153,542	$9,482,925	$2,555	$3,129	22.5
Class B	32	783.29	1,121.92	1,414,575	2,803,470	1,806	2,499	38.4
Class C	54	809.93	1,111.22	1,326,631	2,578,294	1,638	2,320	41.6
TOTAL	112	3,610.58	5,264.21	$7,894,748	$14,864,689	$2,187	$2,824	29.1
Western States								
Class A	12	739.67	1,055.79	$1,802,220	$3,351,157	$2,437	$3,174	30.2
Class B	6	144.32	242.87	266,070	641,020	1,844	2,639	43.1
Class C	9	112.75	180.42	175,382	407,213	1,555	2,257	45.1
TOTAL	27	996.74	1,479.08	$2,243,672	$4,399,390	$2,251	$2,974	32.1
Total								
Class A	86	5,473.82	8,732.56	$14,332,357	$28,024,628	$2,618	$3,209	22.6
Class B	67	1,564.38	2,474.79	3,131,305	6,864,510	2,002	2,774	38.6
Class C	109	1,507.52	2,221.13	2,593,238	5,438,174	1,720	2,448	42.3
TOTAL	262	8,545.72	13,428.48	$20,056,900	$40,327,312	$2,347	$3,003	28.

TABLE III

MEN'S AND COEDUCATIONAL INSTITUTIONS

Number of Institutions, Number of Persons in Faculty, Total Salaries Paid, and Average Salaries Paid, in 1919–20 and 1926–27, by Professional Rank and Class for Each Geographical Division, as follows:

TABLE III–1, New England States, Class A — Number of Institutions—9

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	276.79	330.33	$1,293,573	$1,860,509	$4,673	$5,632	20.5
Associate Prof..	26.95	107.36	79,380	435,171	2,945	4,053	37.6
Assistant Prof...	193.99	283.53	536,679	880,689	2,767	3,106	12.3
Instructor.....	265.41	392.12	390,140	865,705	1,470	2,208	50.2
TOTAL.....	763.14	1,113.34	$2,299,772	$4,042,074	$3,014	$3,631	20.5

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–2, New England States, Class B — Number of Institutions—7

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	138.	170.83	$424,875	$748,875	$3,079	$4,384	42.4
Associate Prof..	26.	26.5	57,850	89,500	2,225	3,377	51.8
Assistant Prof..	33.5	73.	66,970	209,075	1,999	2,864	43.3
Instructor.....	44.	70.	66,955	150,375	1,522	2,148	41.1
TOTAL.....	241.5	340.33	$616,650	$1,197,825	$2,553	$3,520	37.9

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–3, New England States, Class C — Number of Institutions—2

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	34.	35.5	$110,540	$150,450	$3,251	$4,238	30.4
Associate Prof..	4.	8.	8,480	27,300	2,120	3,413	61.
Assistant Prof..	10.	12.	17,882	33,400	1,788	2,783	55.6
Instructor.....	1.	8.	1,300	17,600	1,300	2,200	69.2
TOTAL.....	49.	63.5	$138,202	$228,750	$2,820	$3,602	27.7

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–4, Middle Atlantic States, Class A Number of Institutions—15

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	420.78	556.33	$1,651,403	$2,849,301	$3,925	$5,122	30.5
Associate Prof..	89.67	218.99	282,043	948,550	3,145	4,331	37.7
Assistant Prof..	265.8	452.5	655,135	1,409,427	2,465	3,115	26.4
Instructor.....	372.24	884.71	579,477	1,818,520	1,557	2,055	32.
TOTAL.....	1,148.49	2,112.53	$3,168,058	$7,025,798	$2,758	$3,326	20.6

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–5, Middle Atlantic States, Class B Number of Institutions—10

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	136.5	168.	$369,585	$657,495	$2,708	$3,914	44.5
Associate Prof..	21.	45.5	43,410	142,300	2,067	3,127	51.3
Assistant Prof..	52.5	84.5	101,950	241,450	1,942	2,857	47.1
Instructor.....	48.17	108.5	64,152	220,500	1,332	2,032	52.6
TOTAL.....	258.17	406.5	$579,097	$1,261,745	$2,243	$3,104	38.4

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–6, Middle Atlantic States, Class C Number of Institutions—11

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	103.	140.83	$232,540	$476,377	$2,258	$3,383	49.8
Associate Prof..	16.	25.	38,766	76,250	2,423	3,050	25.9
Assistant Prof..	27.	37.	45,520	85,912	1,686	2,322	37.7
Instructor.....	23.	65.	29,643	112,043	1,289	1,724	33.7
TOTAL.....	169.	267.83	$346,469	$750,582	$2,050	$2,802	36.7

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–7, Southern States, Class A — Number of Institutions—24

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	379.08	552.33	$1,143,338	$2,169,326	$3,016	$3,928	30.2
Associate Prof..	100.5	189.42	246,621	565,500	2,454	2,985	21.6
Assistant Prof..	150.5	256.25	291,526	640,366	1,937	2,499	29.
Instructor.....	175.08	421.83	227,280	747,482	1,298	1,772	36.5
TOTAL.....	805.16	1,419.83	$1,908,765	$4,122,674	$2,371	$2,904	22.5

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–8, Southern States, Class B — Number of Institutions—12

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	109.5	179.5	$215,378	$576,550	$1,967	$3,212	63.3
Associate Prof..	13.6	55.	25,440	133,675	1,871	2,430	29.9
Assistant Prof..	2.	67.	3,100	152,550	1,550	2,277	46.9
Instructor.....	12.	61.67	10,995	97,675	916	1,584	72.9
TOTAL.....	137.1	363.17	$254,913	$960,450	$1,859	$2,645	42.3

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III–9, Southern States, Class C — Number of Institutions—33

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	281.65	391.83	$498,229	$1,072,115	$1,769	$2,736	54.7
Associate Prof..	12.3	67.45	18,289	147,858	1,487	2,192	47.4
Assistant Prof..	27.	74.83	36,933	153,870	1,368	2,056	50.3
Instructor.....	45.89	64.05	53,103	99,492	1,157	1,553	34.2
TOTAL.....	366.84	598.16	$606,554	$1,473,335	$1,653	$2,463	49.

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III-10, Middle Western States, Class A Number of Institutions—26

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	693.17	952.79	$2,476,874	$4,342,527	$3,573	$4,558	27.6
Associate Prof..	299.71	377.57	803,403	1,281,379	2,681	3,394	26.6
Assistant Prof..	439.14	660.24	950,350	1,802,996	2,164	2,731	26.2
Instructor.....	585.34	1,040.47	922,915	2,056,023	1,577	1,976	25.3
TOTAL.....	2,017.36	3,031.07	$5,153,542	$9,482,925	$2,555	$3,129	22.5

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III-11, Middle Western States, Class B Number of Institutions—32

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	450.99	543.95	$931,370	$1,610,149	$2,065	$2,960	43.3
Associate Prof..	21.	57.8	35,865	143,830	1,708	2,488	45.7
Assistant Prof..	123.8	211.62	198,589	478,414	1,604	2,261	41.0
Instructor.....	187.5	308.55	248,751	571,077	1,327	1,851	39.5
TOTAL.....	783.29	1,121.92	$1,414,575	$2,803,470	$1,806	$2,499	38.4

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III-12, Middle Western States, Class C Number of Institutions—54

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	590.25	716.07	$1,055,755	$1,822,854	$1,789	$2,546	42.3
Associate Prof..	28.83	53.32	44,413	122,575	1,541	2,299	49.2
Assistant Prof..	70.75	144.72	95,420	304,861	1,349	2,107	56.2
Instructor.....	120.10	197.11	131,043	328,004	1,091	1,664	52.5
TOTAL.....	809.93	1,111.22	$1,326,631	$2,578,294	$1,638	$2,320	41.6

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III-13, Western States, Class A — Number of Institutions—12

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	304.59	392.39	$968,120	$1,641,936	$3,178	$4,184	31.7
Associate Prof..	82.92	185.47	211,183	596,085	2,547	3,214	26.2
Assistant Prof..	166.24	263.89	349,424	694,910	2,102	2,633	25.3
Instructor.....	185.92	214.04	273,493	418,226	1,471	1,954	32.8
TOTAL.....	739.67	1,055.79	$1,802,220	$3,351,157	$2,437	$3,174	30.2

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III-14, Western States, Class B — Number of Institutions—6

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	77.5	121.67	$159,400	$378,600	$2,057	$3,112	51.3
Associate Prof..	18.07	30.17	34,450	79,900	1,906	2,648	38.9
Assistant Prof..	22.	37.5	41,450	84,150	1,884	2,244	19.1
Instructor.....	26.75	53.53	30,770	98,370	1,150	1,838	59.8
TOTAL.....	144.32	242.87	$266,070	$641,020	$1,844	$2,639	43.1

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE III-15, Western States, Class C — Number of Institutions—9

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	84.25	118.	$142,222	$301,028	$1,688	$2,551	51.1
Associate Prof..	1.	6.42	1,850	16,100	1,850	2,508	35.6
Assistant Prof..	7.5	17.5	10,050	42,375	1,340	2,421	80.7
Instructor.....	20.	38.5	21,260	47,710	1,063	1,239	16.6
TOTAL.....	112.75	180.42	$175,382	$407,213	$1,555	$2,257	45.1

TABLE IV

MEN'S AND COEDUCATIONAL INSTITUTIONS

Number of Teachers Receiving Given Salary in 1919–20 and 1926–27, by Geographical Division

SALARY PAID FROM TO	NEW ENGLAND		MIDDLE ATLANTIC		SOUTHERN		MIDDLE WESTERN		WESTERN		TOTAL	
	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927
To $1,500	149	54	257	55	277	135	706	160	145	41	1,534	445
1,500 to 1,749	100	65	162	172	204	141	630	400	144	66	1,240	844
1,750	73	85	158	250	129	220	430	551	137	91	927	1,197
2,000	115	114	194	374	187	301	534	786	145	151	1,175	1,726
2,250	63	80	85	219	83	172	205	445	87	134	523	1,050
2,500	89	153	144	206	125	261	322	680	106	202	786	1,502
2,750	28	59	47	133	55	117	131	314	32	92	293	715
3,000	89	150	165	238	72	348	208	532	64	182	598	1,450
3,250	31	69	17	99	51	110	37	170	50	116	186	564
3,500	53	133	78	244	53	213	106	311	17	108	307	1,009
3,750	14	23	42	43	14	94	22	103	1	39	93	302
4,000	55	76	29	131	26	111	110	234	6	91	226	643
4,250	24	34	22	40	3	13	19	50	....	5	68	142
4,500	40	74	24	135	13	63	71	138	37	61	185	471
4,750	3	26	11	27	....	10	5	26	4	3	23	92
5,000	30	108	47	132	10	34	32	123	9	36	128	433
5,250	2	10	20	20	....	....	....	11	1	3	23	44
5,500	14	38	25	55	....	7	8	54	4	10	51	164
5,750	1	3	2	9	....	3	....	2	....	3	3	20
6,000	45	56	7	84	....	9	16	100	2	16	70	265
6,250	....	....	14	1	....	....	....	2	....	....	14	3
6,500	....	8	4	12	....	3	5	24	....	9	9	56
6,750	....	1	7	1	....	....	....	....	....	1	7	3
7,000	14	34	....	35	....	2	3	11	....	7	17	89
7,250	....	....	1	....	....	....	....	....	....	....	1	....
7,500	....	1	2	35	....	2	....	11	....	3	2	52
7,750	....	....	....	....	....	....	....	....	....	....	....	....
8,000	9	31	1	11	....	3	....	13	....	2	10	60
8,250	....	....	....	....	....	....	....	....	....	....	....	....
8,500	....	16	....	1	....	....	....	....	....	....	....	17
8,750	....	....	2	....	....	....	....	....	....	....	2	....
9,000	....	1	....	....	....	....	....	1	....	....	....	2
9,250	....	....	....	....	....	....	....	....	....	....	....	....
9,500	....	....	....	....	....	....	....	....	....	....	....	....
9,750	....	....	....	....	....	....	....	....	....	....	....	....
10,000 and over.....	1	1	....	14	....	....	....	1	....	....	1	16
Total.....	1,042	1,503	1,567	2,776	1,302	2,372	3,600	5,253	991	1,472	8,502	13,376*

*These totals differ from those in Table II, Appendix, as fractions have been omitted in the above table.

TABLE V

MEN'S AND COEDUCATIONAL INSTITUTIONS

Number of Teachers by Professional Rank Receiving Given Salary in 1919–20 and 1926–27 for Each Geographical Division, as Follows:

TABLE V-1, New England States

SALARIES PAID		PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
From	To	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
	To $1,500	4	1	1	...	5	1	139	52	149	54
$1,500	1,749	1	...	7	...	14	5	78	60	100	65
1,750		5	...	7	...	20	6	41	79	73	85
2,000		30	...	10	2	35	17	40	95	115	114
2,250		26	...	6	3	26	29	5	48	63	80
2,500		28	1	11	6	47	52	3	94	89	153
2,750		22	1	4	8	2	37	...	13	28	59
3,000		41	40	4	15	43	79	1	16	89	150
3,250		17	24	2	9	12	32	...	4	31	69
3,500		45	62	...	17	8	52	...	2	53	133
3,750		9	8	1	7	4	8	...	...	14	23
4,000		42	34	...	19	12	21	1	2	55	76
4,250		23	17	...	5	1	12	...	...	24	34
4,500		30	44	4	22	6	8	...	...	40	74
4,750		3	21	...	4	...	1	...	...	3	26
5,000		30	88	...	16	...	4	...	...	30	108
5,250		2	10	...	...	...	...	...	...	2	10
5,500		14	32	...	6	...	...	...	...	14	38
5,750		1	3	...	...	...	...	...	...	1	3
6,000		45	54	...	1	...	1	...	...	45	56
6,250		...	...	...	...	...	...	...	...	...	...
6,500		...	8	...	...	...	...	...	...	...	8
6,750		...	1	...	...	...	...	...	...	...	1
7,000		14	34	...	...	...	...	...	...	14	34
7,250		...	...	...	...	...	...	...	...	...	...
7,500		...	1	...	...	...	...	...	...	...	1
7,750		...	...	...	...	...	...	...	...	...	...
8,000		9	31	...	...	...	...	...	...	9	31
8,250		...	...	...	...	...	...	...	...	...	...
8,500		...	16	...	...	...	...	...	...	...	16
8,750		...	...	...	...	...	...	...	...	...	...
9,000		...	1	...	...	...	...	...	...	...	1
9,250		...	...	...	...	...	...	...	...	...	...
9,500		...	...	...	...	...	...	...	...	...	...
9,750		...	...	...	...	...	...	...	...	...	...
10,000 and over		1	1	...	...	...	...	...	...	1	1
TOTAL.....		442	533	57	140	235	365	308	465	1,042	1,503*

*These totals differ from those in TABLE III-1-3, Appendix, as fractions have been omitted in the above table.

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE V-2, Middle Atlantic States

SALARIES PAID		PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
From	To	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
	To $1,500	5	1	3	...	17	...	232	54	257	55
$1,500	1,749	27	1	3	...	36	1	96	170	162	172
1,750		43	2	18	1	51	7	46	240	158	250
2,000		50	4	25	6	75	39	44	325	194	374
2,250		52	21	10	5	15	51	8	142	85	219
2,500		80	27	3	15	59	89	2	75	144	206
2,750		27	27	1	18	18	64	1	24	47	133
3,000		81	60	20	46	52	118	12	14	165	238
3,250		11	21	1	16	4	55	1	7	17	99
3,500		65	138	4	16	9	85	...	5	78	244
3,750		17	16	25	13	...	14	...	...	42	43
4,000		21	94	3	16	5	20	...	1	29	131
4,250		18	33	3	3	1	4	...	...	22	40
4,500		19	50	3	61	2	24	...	...	24	135
4,750		6	21	5	6	...	...	...	...	11	27
5,000		47	102	...	30	...	...	...	...	47	132
5,250		20	7	...	13	...	...	...	...	20	20
5,500		25	32	...	23	...	...	...	...	25	55
5,750		2	9	...	...	...	...	...	...	2	9
6,000		7	81	...	2	...	1	...	...	7	84
6,250		14	1	...	...	...	...	...	...	14	1
6,500		4	12	...	...	...	...	...	...	4	12
6,750		7	1	...	...	...	...	...	...	7	1
7,000		...	35	...	...	...	...	...	...	...	35
7,250		1	...	...	...	...	...	...	...	1	...
7,500		2	35	...	...	...	...	...	...	2	35
7,750		...	...	...	...	...	...	...	...	....	...
8,000		1	11	...	...	...	...	...	...	1	11
8,250		...	...	...	...	...	...	...	...	...	...
8,500		...	1	...	...	...	...	...	...	...	1
8,750		2	...	...	...	...	...	...	...	2	...
9,000		...	...	...	...	...	...	...	...	...	...
9,250		...	...	...	...	...	...	...	...	...	...
9,500		...	...	...	...	...	...	...	...	...	...
9,750		...	...	...	...	...	...	...	...	...	...
10,000 and over		...	14	...	...	...	...	...	...	...	14
TOTAL.....		654	857	127	290	344	572	442	1,057	1,567	2,776*

*These totals differ from those in the TABLE III-4-6, Appendix, as fractions have been omitted in the above table.

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE V-3, Southern States

SALARIES PAID	PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
From To	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
To $1,500	99	10	10	16	22	4	146	105	277	135
$1,500 1,749	88	13	6	6	48	18	62	104	204	141
1,750	65	20	14	14	36	24	14	162	129	220
2,000	108	46	31	22	38	103	10	130	187	301
2,250	50	43	13	24	20	82	...	23	83	172
2,500	100	93	19	58	6	97	...	13	125	261
2,750	36	29	12	45	7	37	...	6	55	117
3,000	63	260	8	68	1	18	...	2	72	348
3,250	43	81	8	25	...	4	...	...	51	110
3,500	49	181	4	22	...	10	...	...	53	213
3,750	13	89	1	5	...	...	...	...	14	94
4,000	26	106	...	4	...	1	...	...	26	111
4,250	3	13	...	...	...	...	...	...	3	13
4,500	13	62	...	1	...	...	...	...	13	63
4,750	...	10	...	...	...	...	...	...	...	10
5,000	10	34	...	...	...	...	...	...	10	34
5,250	...	...	...	...	...	...	...	...	...	...
5,500	...	7	...	...	...	...	...	...	...	7
5,750	...	3	...	...	...	...	...	...	...	3
6,000	...	9	...	...	...	...	...	...	...	9
6,250	...	...	...	...	...	...	...	...	...	...
6,500	...	3	...	...	...	...	...	...	...	3
6,750	...	...	...	...	...	...	...	...	...	...
7,000	...	2	...	...	...	...	...	...	...	2
7,250	...	...	...	...	...	...	...	...	...	...
7,500	...	2	...	...	...	...	...	...	...	2
7,750	...	...	...	...	...	...	...	...	...	...
8,000	...	3	...	...	...	...	...	...	...	3
8,250	...	...	...	...	...	...	...	...	...	...
8,500	...	...	...	...	...	...	...	...	...	...
8,750	...	...	...	...	...	...	...	...	...	...
9,000	...	...	...	...	...	...	...	...	...	...
9,250	...	...	...	...	...	...	...	...	...	...
9,500	...	...	...	...	...	...	...	...	...	...
9,750	...	...	...	...	...	...	...	...	...	...
10,000 and over	...	...	...	...	...	...	...	...	...	...
TOTAL.....	766	1,119	126	310	178	398	232	545	1,302	2,372*

*These totals differ from those in the TABLE III-7-9, Appendix, as fractions have been omitted in the above table.

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE V-4, Middle Western States

SALARIES PAID		PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
From	To	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
	To $1,500	174	12	17	3	88	12	427	133	706	160
$1,500	1,749	242	42	16	5	107	54	265	299	630	400
1,750		168	83	23	14	105	57	134	397	430	551
2,000		284	151	45	12	155	180	50	443	534	786
2,250		82	137	39	38	74	134	10	136	205	445
2,500		174	268	59	66	83	243	6	103	322	680
2,750		72	151	50	42	9	107	...	14	131	314
3,000		130	300	68	80	10	137	...	15	208	532
3,250		31	89	6	49	...	29	...	3	37	170
3,500		82	187	23	73	1	51	...	...	106	311
3,750		21	73	1	28	...	2	...	...	22	103
4,000		109	176	1	54	...	3	...	1	110	234
4,250		19	37	...	12	...	1	...	...	19	50
4,500		71	126	...	12	...	...	...	...	71	138
4,750		5	26	...	...	...	...	...	...	5	26
5,000		31	123	1	...	...	...	...	...	32	123
5,250		...	11	...	...	...	...	...	...	...	11
5,500		8	50	...	...	...	4	...	...	8	54
5,750		...	2	...	...	...	...	...	...	...	2
6,000		16	100	...	...	...	...	...	...	16	100
6,250		...	2	...	...	...	...	...	...	...	2
6,500		5	24	...	...	...	...	...	...	5	24
6,750		...	...	...	...	...	...	...	...	...	...
7,000		3	11	...	...	...	...	...	...	3	11
7,250		...	...	...	...	...	...	...	...	...	...
7,500		...	11	...	...	...	...	...	...	...	11
7,750		...	...	...	...	...	...	...	...	...	...
8,000		...	13	...	...	...	...	...	...	...	13
8,250		...	...	...	...	...	...	...	...	...	...
8,500		...	...	...	...	...	...	...	...	...	...
8,750		...	...	...	...	...	...	...	...	...	...
9,000		...	1	...	...	...	...	...	...	...	1
9,250		...	...	...	...	...	...	...	...	...	...
9,500		...	...	...	...	...	...	...	...	...	...
9,750		...	...	...	...	...	...	...	...	...	...
10,000 and over		...	1	...	...	...	...	...	...	...	1
TOTAL.....		1,727	2,207	349	488	632	1,014	892	1,544	3,600	5,253*

*These totals differ from those in the TABLE III-10-12, Appendix, as fractions have been omitted in the above table.

MEN'S AND COEDUCATIONAL INSTITUTIONS

TABLE V-5, Western States

SALARIES PAID From	To	PROFESSORS 19–20	PROFESSORS 26–27	ASSOCIATE PROFESSORS 19–20	ASSOCIATE PROFESSORS 26–27	ASSISTANT PROFESSORS 19–20	ASSISTANT PROFESSORS 26–27	INSTRUCTORS 19–20	INSTRUCTORS 26–27	TOTAL 19–20	TOTAL 26–27
To	$1,500	32	3	...	...	11	...	102	38	145	41
$1,500	1,749	58	10	7	...	19	3	60	53	144	66
1,750		28	6	12	3	45	5	52	77	137	91
2,000		59	28	19	6	51	38	16	79	145	151
2,250		34	31	14	8	37	49	2	46	87	134
2,500		53	36	27	31	25	125	1	10	106	202
2,750		29	33	...	25	3	33	...	1	32	92
3,000		60	90	1	34	3	58	...	...	64	182
3,250		33	47	17	62	...	7	...	...	50	116
3,500		14	79	3	29	...	...	...	...	17	108
3,750		1	21	...	18	...	...	...	...	1	39
4,000		6	87	...	4	...	...	...	...	6	91
4,250		...	4	...	1	...	...	...	...	...	5
4,500		37	61	...	...	...	...	...	...	37	61
4,750		4	3	...	...	...	...	...	...	4	3
5,000		9	36	...	...	...	...	...	...	9	36
5,250		1	3	...	...	...	...	...	...	1	3
5,500		4	10	...	...	...	...	...	...	4	10
5,750		...	3	...	...	...	...	...	...	...	3
6,000		2	16	...	...	...	...	...	...	2	16
6,250		...	...	...	...	...	...	...	...	...	...
6,500		...	9	...	...	...	...	...	...	...	9
6,750		...	1	...	...	...	...	...	...	...	1
7,000		...	7	...	...	...	...	...	...	...	7
7,250		...	...	...	...	...	...	...	...	...	...
7,500		...	3	...	...	...	...	...	...	...	3
7,750		...	...	...	...	...	...	...	...	...	...
8,000		...	2	...	...	...	...	...	...	...	2
8,250		...	...	...	...	...	...	...	...	...	...
8,500		...	...	...	...	...	...	...	...	...	...
8,750		...	...	...	...	...	...	...	...	...	...
9,000		...	...	...	...	...	...	...	...	...	...
9,250		...	...	...	...	...	...	...	...	...	...
9,500		...	...	...	...	...	...	...	...	...	...
9,750		...	...	...	...	...	...	...	...	...	...
10,000 and over		...	...	...	...	...	...	...	...	...	...
TOTAL.....		464	629	100	221	194	318	233	304	991	1,472*

*These totals differ from those in the TABLE III-13-15, Appendix, as fractions have been omitted in the above table.

TABLE VI

WOMEN'S COLLEGES

Number of Institutions, Number of Persons in Faculty, Total Salaries Paid, and Average Salaries Paid, in 1919–20 and 1926–27, by Class and Geographical Division

DIVISION AND CLASS	NUMBER OF INSTITUTIONS INCLUDED	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
New England States								
Class A	3	360.01	433.57	$706,313	$1,197,796	$1,962	$2,763	40.8
Class B	1	78.5	95.	125,887	257,465	1,604	2,710	69.
Class C	..	.....	.....	.....	.....	.....	.....	....
Total	4	438.51	528.57	$832,200	$1,455,261	$1,898	$2,753	45.
Middle Atlantic States								
Class A	2	175.5	307.25	$465,143	$994,092	$2,650	$3,235	22.1
Class B	3	69.33	129.95	123,165	340,270	1,777	2,618	47.3
Class C	3	105.67	133.75	205,900	420,600	1,949	3,145	61.4
Total	8	350.50	570.95	$794,208	$1,754,962	$2,266	$3,074	35.7
Southern States								
Class A	5	226.5	389.5	$427,170	$967,859	$1,886	$2,485	31.8
Class B	3	31.	48.	48,660	106,450	1,570	2,218	41.3
Class C	14	201.	287.8	278,827	633,818	1,387	2,202	58.8
Total	22	458.5	725.3	$754,657	$1,708,127	$1,646	$2,355	43.1
Middle Western States								
Class A	..	.....	.....	.....	.....	.....	.....	....
Class B	..	.....	.....	.....	.....	.....	.....	....
Class C	5	99.95	129.2	$132,588	$278,490	$1,327	$2,155	62.4
Total	5	99.95	129.2	$132,588	$278,490	$1,327	$2,155	62.4
Western States								
Class A	..	.....	.....	.....	.....	.....	.....	....
Class B	1	29.	47.6	$42,640	$120,280	$1,470	$2,527	71.9
Class C	..	.....	.....	.....	.....	.....	.....	....
Total	1	29.	47.6	$42,640	$120,280	$1,470	$2,527	71.9
Total								
Class A	10	762.01	1,130.32	$1,598,626	$3,159,747	$2,098	$2,795	33.2
Class B	8	207.83	320.55	340,352	824,465	1,638	2,572	57.
Class C	22	406.62	550.75	617,315	1,332,908	1,518	2,420	59.4
TOTAL	40	1,376.46	2,001.62	$2,556,293	$5,317,120	$1,857	$2,656	43.

TABLE VII

WOMEN'S COLLEGES

Number of Institutions, Number of Persons in Faculty, Total Salaries Paid, and Average Salaries Paid, in 1919-20 and 1926-27, by Professional Rank and Class for Each Geographical Division, as Follows:

TABLE VII-1, New England States, Class A Number of Institutions—3

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	81.41	97.16	$240,545	$392,175	$2,955	$4,036	36.6
Associate Prof..	55.5	94.	118,840	291,000	2,141	3,096	44.6
Assistant Prof..	73.1	111.16	135,295	273,316	1,851	2,459	32.8
Instructor.....	150.	131.25	211,633	241,305	1,411	1,839	30.3
TOTAL.....	360.01	433.57	$706,313	$1,197,796	$1,962	$2,763	40.8

WOMEN'S COLLEGES

TABLE VII-2, New England States, Class B Number of Institutions—1

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	27.	32.5	$54,937	$123,450	$2,035	$3,798	86.6
Associate Prof..	25.	16.5	37,700	46,800	1,508	2,836	88.1
Assistant Prof..	3.	16.	4,350	34,400	1,450	2,150	48.3
Instructor.....	23.5	30.	28,900	52,815	1,230	1,761	43.2
TOTAL.....	78.5	95.	$125,887	$257,465	$1,604	$2,710	69.

WOMEN'S COLLEGES

TABLE VII-3, Middle Atlantic States, Class A Number of Institutions—2

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor	34.5	52.	$148,716	$270,500	$4,311	$5,202	20.7
Associate Prof..	31.5	35.5	72,999	147,917	2,317	4,167	79.8
Assistant Prof..	34.	70.25	89,296	236,225	2,626	3,363	28.1
Instructor.....	75.5	149.50	154,132	339,450	2,041	2,271	11.3
TOTAL.....	175.5	307.25	$465,143	$994,092	$2,650	$3,235	22.1

WOMEN'S COLLEGES

TABLE VII–4, Middle Atlantic States, Class B Number of Institutions—3

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	43.	51.7	$89,940	$172,345	$2,092	$3,334	59.4
Associate Prof..	3.	11.	4,925	25,225	1,642	2,293	39.6
Assistant Prof..	10.	26.	13,750	63,700	1,375	2,450	78.2
Instructor.....	13.33	41.25	14,550	79,000	1,092	1,915	75.4
TOTAL.....	69.33	129.95	$123,165	$340,270	$1,777	$2,618	47.3

WOMEN'S COLLEGES

TABLE VII–5, Middle Atlantic States, Class C Number of Institutions—3

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	52.5	64.75	$121,450	$254,900	$2,313	$3,937	70.2
Associate Prof..	13.5	14.	31,200	48,550	2,311	3,468	50.1
Assistant Prof..	13.	20.5	18,900	54,100	1,454	2,639	81.5
Instructor.....	26.67	34.5	34,350	63,050	1,288	1,828	41.9
TOTAL.....	105.67	133.75	$205,900	$420,600	$1,949	$3,145	61.4

WOMEN'S COLLEGES

TABLE VII–6, Southern States, Class A Number of Institutions—5

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER. CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	75.	102.	$189,140	$354,250	$2,522	$3,473	37.7
Associate Prof..	20.	35.	41,580	103,750	2,079	2,964	42.6
Assistant Prof..	41.5	90.	72,550	214,149	1,748.	2,379	36.1
Instructor.....	90.	162.5	123,900	295,710	1,377	1,820	32.2
TOTAL.....	226.5	389.5	$427,170	$967,859	$1,886	$2,485	31.8

WOMEN'S COLLEGES

TABLE VII-7, Southern States, Class B — Number of Institutions—3

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor	21.	25.	$34,760	$61,750	$1,655	$2,470	49.2
Associate Prof.	2.	7.	2,800	13,600	1,400	1,943	38.8
Assistant Prof.	2.	9.	1,850	17,100	925	1,900	105.4
Instructor	6.	7.	9,250	14,000	1,542	2,000	29.7
TOTAL	31.	48.	$48,660	$106,450	$1,570	$2,218	41.3

WOMEN'S COLLEGES

TABLE VII-8, Southern States, Class C — Number of Institutions—14

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor	143.5	141.1	$215,397	$368,550	$1,501	$2,612	74.
Associate Prof.	12.	42.5	16,000	96,875	1,333	2,279	71.
Assistant Prof.	22.	41.	24,900	71,880	1,132	1,753	54.9
Instructor	23.5	63.2	22,530	96,513	959	1,527	59.2
TOTAL	201.	287.8	$278,827	$633,818	$1,387	$2,202	58.8

WOMEN'S COLLEGES

TABLE VII-9, Middle Western States, Class C — Number of Institutions—5

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor	52.2	68.7	$77,918	$161,640	$1,493	$2,353	57.6
Associate Prof.	10.	10.	13,500	21,400	1,350	2,140	58.5
Assistant Prof.	6.	13.	7,400	27,350	1,233	2,104	70.6
Instructor	31.75	37.5	33,770	68,100	1,064	1,816	70.7
TOTAL	99.95	129.2	$132,588	$278,490	$1,327	$2,155	62.4

WOMEN'S COLLEGES

TABLE VII-10, Western States, Class B Number of Institutions—1

RANK	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT. OF INCREASE
	1919–20	1926–27	1919–20	1926–27	1919–20	1926–27	
Professor.....	12.5	17.	$21,650	$51,885	$1,732	$3,052	76.2
Associate Prof..	....	4.5	.....	11,400	....	2,533	....
Assistant Prof..	4.	13.2	6,700	31,400	1,675	2,379	42.
Instructor.....	12.5	12.9	14,290	25,595	1,143	1,984	73.6
TOTAL.....	29.	47.6	$42,640	$120,280	$1,470	$2,527	71.9

TABLE VIII

WOMEN'S COLLEGES

Number of Teachers Receiving Given Salary in 1919–20 and 1926–27, by Geographical Division

SALARY PAID From	To	NEW ENGLAND		MIDDLE ATLANTIC		SOUTHERN		MIDDLE WESTERN		WESTERN		TOTAL	
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927
To	$1,500	132	18	90	9	202	57	76	3	12	1	512	88
$1,500	1,749	84	48	51	31	64	50	11	13	5	4	215	146
1,750	.....	31	48	31	42	73	151	7	21	7	5	149	267
2,000	.....	83	71	27	104	50	109	3	42	2	6	165	332
2,250	.....	15	27	16	64	19	65	....	20	....	4	50	180
2,500	.....	38	75	21	33	30	82	2	13	....	12	91	215
2,750	.....	7	31	6	26	1	20	....	9	....	3	14	89
3,000	.....	26	43	30	50	11	104	....	5	....	4	67	206
3,250	.....	8	31	40	16	....	33	....	1	....	1	48	82
3,500	.....	9	39	22	37	3	19	....	....	....	5	34	100
3,750	.....	2	12	....	18	1	11	....	....	....	....	3	41
4,000	.....	....	58	....	33	2	12	....	....	....	....	2	103
4,250	.....	....	4	....	5	....	3	....	....	....	....	....	12
4,500	.....	....	6	....	34	....	1	....	....	....	....	....	41
4,750	.....	....	....	1	3	....	3	....	....	....	....	1	6
5,000	.....	....	11	4	37	....	1	....	....	....	....	4	49
5,250	.....	....	....	....	3	....	....	....	....	....	....	....	3
5,500	.....	....	3	1	7	....	....	....	....	....	....	1	10
5,750	.....	....	....	....	....	....	....	....	....	....	....	....	....
6,000	.....	....	....	7	3	....	....	....	....	....	....	7	3
6,250	.....	....	....	....	....	....	....	....	....	....	....	....	....
6,500	.....	....	....	....	3	....	....	....	....	....	....	....	3
6,750	.....	....	....	....	....	....	....	....	....	....	....	....	....
7,000	.....	....	....	....	1	....	....	....	....	....	....	....	1
7,250	.....	....	....	....	....	....	....	....	....	....	....	....	....
7,500	.....	....	....	....	1	....	....	....	....	....	....	....	1
7,750	.....	....	....	....	....	....	....	....	....	....	....	....	....
8,000	.....	....	....	....	7	....	....	....	....	....	....	....	7
8,250	.....	....	....	....	....	....	....	....	....	....	....	....	....
8,500	.....	....	....	....	....	....	....	....	....	....	....	....	....
8,750	.....	....	....	....	....	....	....	....	....	....	....	....	....
9,000	.....	....	....	....	....	....	....	....	....	....	....	....	....
9,250	.....	....	....	....	....	....	....	....	....	....	....	....	....
9,500	.....	....	....	....	....	....	....	....	....	....	....	....	....
9,750	.....	....	....	....	....	....	....	....	....	....	....	....	....
10,000	and over	....	....	....	....	....	....	....	....	....	....	....	....
Total	.....	435	525	347	567	456	721	99	127	26	45	1,363	1,985*

*These totals differ from those in Table VI of Appendix, as fractions have been omitted in the above table.

TABLE IX

WOMEN'S COLLEGES

Number of Teachers by Professional Rank Receiving Given Salary in 1919–20 and 1926–27 for Each Geographical Division, as Follows:

TABLE IX-1, NEW ENGLAND STATES

SALARIES PAID		PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
FROM	TO	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
	To $1,500	..	..	10	..	2	..	120	18	132	18
$1,500	1,749	1	..	12	1	37	1	34	46	84	48
1,750		4	..	3	..	10	2	14	46	31	48
2,000		17	..	41	..	20	33	5	38	83	71
2,250		4	..	6	..	5	21	..	6	15	27
2,500		29	..	7	12	2	58	..	5	38	75
2,750		7	2	..	23	..	6	..	..	7	31
3,000		26	7	..	33	..	3	..	..	26	43
3,250		8	6	..	25	..	..	..	..	8	31
3,500		9	22	..	15	..	2	..	..	9	39
3,750		2	11	..	1	..	..	..	..	2	12
4,000		..	58	..	..	..	..	..	..	..	58
4,250		..	4	..	..	..	..	..	..	..	4
4,500		..	6	..	..	..	..	..	..	..	6
4,750		..	..	..	..	..	..	..	..	..	..
5,000		..	10	..	1	..	..	..	..	..	11
5,250		..	..	..	..	..	..	..	..	..	..
5,500		..	3	..	..	..	..	..	..	..	3
5,750		..	..	..	..	..	..	..	..	..	..
6,000		..	..	..	..	..	..	..	..	..	..
6,250		..	..	..	..	..	..	..	..	..	..
6,500		..	..	..	..	..	..	..	..	..	..
6,750		..	..	..	..	..	..	..	..	..	..
7,000		..	..	..	..	..	..	..	..	..	..
7,250		..	..	..	..	..	..	..	..	..	..
7,500		..	..	..	..	..	..	..	..	..	..
7,750		..	..	..	..	..	..	..	..	..	..
8,000		..	..	..	..	..	..	..	..	..	..
8,250		..	..	..	..	..	..	..	..	..	..
8,500		..	..	..	..	..	..	..	..	..	..
8,750		..	..	..	..	..	..	..	..	..	..
9,000		..	..	..	..	..	..	..	..	..	..
9,250		..	..	..	..	..	..	..	..	..	..
9,500		..	..	..	..	..	..	..	..	..	..
9,750		..	..	..	..	..	..	..	..	..	..
10,000 and over		..	..	..	..	..	..	..	..	..	..
TOTAL		107	129	79	111	76	126	173	159	435	525*

*These totals differ from those in the Table VII-1-2, of Appendix, as fractions have been omitted in the above table.

WOMEN'S COLLEGES

TABLE IX-2, MIDDLE ATLANTIC STATES

SALARIES PAID FROM TO	PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
To $1,500	15	..	2	1	14	2	59	6	90	9
$1,500 1,749	22	1	2	..	15	..	12	30	51	31
1,750	6	2	10	1	6	1	9	38	31	42
2,000	3	2	16	4	..	19	8	79	27	104
2,250	9	7	2	2	1	17	4	38	16	64
2,500	9	7	7	5	2	11	3	10	21	33
2,750	3	15	3	2	..	3	..	6	6	26
3,000	25	18	..	9	1	15	4	8	30	50
3,250	6	6	1	..	18	9	15	1	40	16
3,500	18	13	4	8	..	7	..	9	22	37
3,750	..	..	..	8	..	10	..	..	..	18
4,000	..	24	..	..	..	9	..	..	..	33
4,250	..	3	..	1	..	1	..	..	..	5
4,500	..	13	..	9	..	12	..	..	..	34
4,750	1	3	..	..	..	..	..	..	1	3
5,000	4	37	..	..	..	..	..	..	4	37
5,250	..	1	..	2	..	..	..	..	..	3
5,500	1	..	..	7	..	..	..	..	1	7
5,750	..	..	..	..	..	..	..	..	..	..
6,000	7	3	..	..	..	..	..	..	7	3
6,250	..	..	..	..	..	..	..	..	..	..
6,500	..	3	..	..	..	..	..	..	..	3
6,750	..	..	..	..	..	..	..	..	..	..
7,000	..	1	..	..	..	..	..	..	..	1
7,250	..	..	..	..	..	..	..	..	..	..
7,500	..	1	..	..	..	..	..	..	..	1
7,750	..	..	..	..	..	..	..	..	..	..
8,000	..	7	..	..	..	..	..	..	..	7
8,250	..	..	..	..	..	..	..	..	..	..
8,500	..	..	..	..	..	..	..	..	..	..
8,750	..	..	..	..	..	..	..	..	..	..
9,000	..	..	..	..	..	..	..	..	..	..
9,250	..	..	..	..	..	..	..	..	..	..
9,500	..	..	..	..	..	..	..	..	..	..
9,750	..	..	..	..	..	..	..	..	..	..
10,000 and over	..	..	..	..	..	..	..	..	..	..
TOTAL	129	167	47	59	57	116	114	225	347	567*

*These totals differ from those in the Table VII-3-5, of Appendix, as fractions have been omitted in the above table.

WOMEN'S COLLEGES

TABLE IX-3, SOUTHERN STATES

SALARIES PAID		PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
FROM	TO	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
To $1,500		78	7	11	..	26	4	87	46	202	57
$1,500	1,749	27	6	4	2	13	7	20	35	64	50
1,750		39	13	5	3	20	44	9	91	73	151
2,000		34	21	9	22	5	26	2	40	50	109
2,250		16	16	2	6	1	29	..	14	19	65
2,500		27	29	3	28	..	21	..	4	30	82
2,750		1	6	..	9	..	5	..	..	1	20
3,000		10	98	..	3	..	3	1	..	11	104
3,250		..	23	..	9	..	1	..	..	..	33
3,500		3	17	..	2	..	..	..	..	3	19
3,750		1	11	..	..	..	..	..	..	1	11
4,000		2	11	..	1	..	..	..	..	2	12
4,250		..	3	..	..	..	..	..	..	..	3
4,500		..	1	..	..	..	..	..	..	..	1
4,750		..	3	..	..	..	..	..	..	..	3
5,000		..	1	..	..	..	..	..	..	..	1
5,250		..	..	..	..	..	..	..	..	..	..
5,500		..	..	..	..	..	..	..	..	..	..
5,750		..	..	..	..	..	..	..	..	..	..
6,000		..	..	..	..	..	..	..	..	..	..
6,250		..	..	..	..	..	..	..	..	..	..
6,500		..	..	..	..	..	..	..	..	..	..
6,750		..	..	..	..	..	..	..	..	..	..
7,000		..	..	..	..	..	..	..	..	..	..
7,250		..	..	..	..	..	..	..	..	..	..
7,500		..	..	..	..	..	..	..	..	..	..
7,750		..	..	..	..	..	..	..	..	..	..
8,000		..	..	..	..	..	..	..	..	..	..
8,250		..	..	..	..	..	..	..	..	..	..
8,500		..	..	..	..	..	..	..	..	..	..
8,750		..	..	..	..	..	..	..	..	..	..
9,000		..	..	..	..	..	..	..	..	..	..
9,250		..	..	..	..	..	..	..	..	..	..
9,500		..	..	..	..	..	..	..	..	..	..
9,750		..	..	..	..	..	..	..	..	..	..
10,000 and over		..	..	..	..	..	..	..	..	..	..
TOTAL		238	266	34	85	65	140	119	230	456	781*

*These totals differ from those in the Table VII-6-8 of Appendix, as fractions have been omitted in the above table.

WOMEN'S COLLEGES

TABLE IX-4, MIDDLE WESTERN STATES

SALARIES PAID	PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
FROM TO	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
To $1,500	34	..	7	..	5	..	30	3	76	3
$1,500 1,749	8	2	2	..	1	3	..	8	11	13
1,750	6	5	..	1	..	2	1	13	7	21
2,000	2	25	1	6	..	2	..	9	3	42
2,250	..	9	..	3	..	4	..	4	..	20
2,500	2	11	..	..	..	2	..	..	2	13
2,750	..	9	..	..	..	..	..	..	..	9
3,000	..	5	..	..	..	..	..	..	..	5
3,250	..	1	..	..	..	..	..	..	..	1
3,500	..	..	..	..	..	..	..	..	..	..
3,750	..	..	..	..	..	..	..	..	..	..
4,000	..	..	..	..	..	..	..	..	..	..
4,250	..	..	..	..	..	..	..	..	..	..
4,500	..	..	..	..	..	..	..	..	..	..
4,750	..	..	..	..	..	..	..	..	..	..
5,000	..	..	..	..	..	..	..	..	..	..
5,250	..	..	..	..	..	..	..	..	..	..
5,500	..	..	..	..	..	..	..	..	..	..
5,750	..	..	..	..	..	..	..	..	..	..
6,000	..	..	..	..	..	..	..	..	..	..
6,250	..	..	..	..	..	..	..	..	..	..
6,500	..	..	..	..	..	..	..	..	..	..
6,750	..	..	..	..	..	..	..	..	..	..
7,000	..	..	..	..	..	..	..	..	..	..
7,250	..	..	..	..	..	..	..	..	..	..
7,500	..	..	..	..	..	..	..	..	..	..
7,750	..	..	..	..	..	..	..	..	..	..
8,000	..	..	..	..	..	..	..	..	..	..
8,250	..	..	..	..	..	..	..	..	..	..
8,500	..	..	..	..	..	..	..	..	..	..
8,750	..	..	..	..	..	..	..	..	..	..
9,000	..	..	..	..	..	..	..	..	..	..
9,250	..	..	..	..	..	..	..	..	..	..
9,500	..	..	..	..	..	..	..	..	..	..
9,750	..	..	..	..	..	..	..	..	..	..
10,000 and over	..	..	..	..	..	..	..	..	..	..
TOTAL	52	67	10	10	6	13	31	37	99	127*

*These totals differ from those in the Table VII-9 of Appendix, as fractions have been omitted in the above table.

WOMEN'S COLLEGES

TABLE IX-5, WESTERN STATES

SALARIES PAID		PROFESSORS		ASSOCIATE PROFESSORS		ASSISTANT PROFESSORS		INSTRUCTORS		TOTAL	
FROM	TO	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27	19–20	26–27
To $1,500		..	..	..	..	1	..	11	1	12	1
$1,500	1,749	4	..	..	..	1	..	..	4	5	4
1,750		6	..	..	..	1	2	..	3	7	5
2,000		1	1	..	..	1	2	..	3	2	6
2,250		..	1	..	1	..	2	..	..	..	4
2,500		..	2	..	3	..	6	..	1	..	12
2,750		..	2	..	..	..	1	..	..	..	3
3,000		..	4	..	..	..	..	..	..	..	4
3,250		..	1	..	..	..	..	..	..	..	1
3,500		..	5	..	..	..	..	..	..	..	5
3,750		..	..	..	..	..	..	..	..	..	..
4,000		..	..	..	..	..	..	..	..	..	..
4,250		..	..	..	..	..	..	..	..	..	..
4,500		..	..	..	..	..	..	..	..	..	..
4,750		..	..	..	..	..	..	..	..	..	..
5,000		..	..	..	..	..	..	..	..	..	..
5,250		..	..	..	..	..	..	..	..	..	..
5,500		..	..	..	..	..	..	..	..	..	..
5,750		..	..	..	..	..	..	..	..	..	..
6,000		..	..	..	..	..	..	..	..	..	..
6,250		..	..	..	..	..	..	..	..	..	..
6,500		..	..	..	..	..	..	..	..	..	..
6,750		..	..	..	..	..	..	..	..	..	..
7,000		..	..	..	..	..	..	..	..	..	..
7,250		..	..	..	..	..	..	..	..	..	..
7,500		..	..	..	..	..	..	..	..	..	..
7,750		..	..	..	..	..	..	..	..	..	..
8,000		..	..	..	..	..	..	..	..	..	..
8,250		..	..	..	..	..	..	..	..	..	..
8,500		..	..	..	..	..	..	..	..	..	..
8,750		..	..	..	..	..	..	..	..	..	..
9,000		..	..	..	..	..	..	..	..	..	..
9,250		..	..	..	..	..	..	..	..	..	..
9,500		..	..	..	..	..	..	..	..	..	..
9,750		..	..	..	..	..	..	..	..	..	..
10,000 and over		..	..	..	..	..	..	..	..	..	..
TOTAL		11	16	..	4	4	13	11	12	26	45*

*These totals differ from those in the Table VII-10 of Appendix, as fractions have been omitted in the above table.

TABLE X

SUPPLEMENTARY EARNINGS

Number of Teachers Reporting, Number Supplementing Salary, and Per Cent Supplementing, by Professional Rank, Type, and Location of Institution

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Professor									
Number Reporting	1,045	3,167	4,212	64	452	516	1,109	3,619	4,728
Number Supplementing	828	2,489	3,317	35	249	284	863	2,738	3,601
Per Cent Supplementing	79.2	78.6	78.8	54.7	55.1	55.0	77.8	75.7	76.2
Associate Professor									
Number Reporting	405	879	1,284	30	168	198	435	1,047	1,482
Number Supplementing	323	623	946	14	79	93	337	702	1,039
Per Cent Supplementing	79.8	70.9	73.7	46.7	47.0	47.0	77.5	67.0	70.1
Assistant Professor									
Number Reporting	720	1,333	2,053	59	225	284	779	1,558	2,337
Number Supplementing	535	786	1,321	31	91	122	566	877	1,443
Per Cent Supplementing	74.3	59.0	64.3	52.5	40.4	43.0	72.7	56.3	61.7
Instructor									
Number Reporting	893	1,585	2,478	85	251	336	978	1,836	2,814
Number Supplementing	609	749	1,358	43	73	116	652	822	1,474
Per Cent Supplementing	68.2	47.3	54.8	50.6	29.1	34.5	66.7	44.8	52.4
Total									
Number Reporting	3,063	6,964	10,027	238	1,096	1,334	3,301	8,060	11,361
Number Supplementing	2,295	4,647	6,942	123	492	615	2,418	5,139	7,557
Per Cent Supplementing	74.9	66.7	69.2	51.7	44.9	46.1	73.3	63.8	66.5

TABLE XI

SUPPLEMENTARY EARNINGS

Number of Teachers Supplementing, Amount of Regular Salaries, Number Doing Different Kinds of Work, Amount Earned in Each Kind, and Total Supplementary Earnings, by Type and Location of Institution

DIVISION	REGULAR ANNUAL SALARY		WRITING		EXTRA TEACHING OR SERVICES		OUTSIDE LECTURES		CONSULTING WORK		OTHER WORK		TOTAL SUPPLEMENTARY EARNINGS
	No.*	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	Amount
Men's and Coeducational Institutions													
Urban Institutions	2,295	$8,239,719	714	$529,671	1,703	$1,256,754	437	$118,004	312	$285,745	512	$294,964	$2,485,138
Rural Institutions	4,268	13,108,418	930	447,829	2,936	1,392,475	851	229,082	377	226,643	1,125	553,986	2,850,015
TOTAL	6,563	$21,348,137	1,644	$977,500	4,639	$2,649,229	1,288	$347,086	689	$512,388	1,637	$848,950	$5,335,153
Women's Colleges													
Urban Institutions	123	$385,145	34	$14,027	89	$49,850	18	$5,645	3	$240	34	$7,896	$77,658
Rural Institutions	386	1,869,926	109	43,061	202	90,271	71	19,600	16	6,335	125	45,652	204,919
TOTAL	509	$2,255,071	143	$57,088	291	$140,121	89	$25,245	19	$6,575	159	$53,548	$282,577
TOTAL	7,072	$23,603,208	1,787	$1,034,588	4,930	$2,789,350	1,377	$372,331	708	$518,963	1,796	$902,498	$5,617,730

*Number of teachers giving full information of the amount of their salary and supplementary earnings.

TABLE XII

SUPPLEMENTARY EARNINGS

Number of Teachers Supplementing, Amount of Regular Salaries, Number Doing Different Kinds of Work, Amount Earned in Each Kind, and Total Supplementary Earnings, by Professional Rank for Men's and Coeducational Institutions and Women's Colleges, Urban

RANK	REGULAR ANNUAL SALARY		WRITING		EXTRA TEACHING OR SERVICES		OUTSIDE LECTURES		CONSULTING WORK		OTHER WORK		TOTAL SUPPLEMENTARY EARNINGS
	No.*	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	Amount
Men's and Coeducational Institutions													
Professor	828	$4,068,843	393	$375,249	580	$516,852	245	$70,649	131	$148,300	116	$123,971	$1,235,021
Associate Professor	323	1,242,063	119	52,813	265	208,291	82	23,010	57	51,810	45	39,040	374,964
Assistant Professor	535	1,607,336	134	62,785	423	289,852	69	15,950	73	57,185	110	54,215	479,987
Instructor	609	1,321,477	68	38,824	435	241,759	41	8,395	51	28,450	241	77,738	395,166
TOTAL	2,295	$8,239,719	714	$529,671	1,703	$1,256,754	437	$118,004	312	$285,745	512	$294,964	$2,485,138
Women's Colleges													
Professor	35	$155,700	15	$8,860	27	$23,594	11	$2,155	1	$50	4	$550	$35,209
Associate Professor	14	50,600	6	675	10	6,105	4	390	1	150	3	1,300	8,620
Assistant Professor	31	89,795	9	3,212	19	7,365	2	100	1	40	9	2,110	12,827
Instructor	43	89,050	4	1,280	33	12,786	1	3,000	...	.....	18	3,936	21,002
TOTAL	123	$385,145	34	$14,027	89	$49,850	18	$5,645	3	$240	34	$7,896	$77,658
TOTAL	2,418	$8,624,864	748	$543,698	1,792	$1,306,604	455	$123,649	315	$285,985	546	$302,860	$2,562,796

*Number of teachers giving full information of the amount of their salary and supplementary earnings.

TABLE XIII

SUPPLEMENTARY EARNINGS

Number of Teachers Supplementing, Amount of Regular Salaries, Number Doing Different Kinds of Work, Amount Earned in Each Kind, and Total Supplementary Earnings, by Professional Rank for Men's and Coeducational Institutions and Women's Colleges, Rural

RANK	REGULAR ANNUAL SALARY		WRITING		EXTRA TEACHING OR SERVICES		OUTSIDE LECTURES		CONSULTING WORK		OTHER WORK		TOTAL SUPPLEMENTARY EARNINGS
	No.*	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	Amount
Men's and Coeducational Institutions													
Professor	2,289	$8,197,144	623	$374,709	1,561	$843,787	604	$184,917	227	$169,676	492	$284,566	$1,857,655
Associate Professor	580	1,734,833	130	31,947	423	189,885	105	15,760	59	25,375	134	64,887	327,854
Assistant Professor	723	1,881,349	121	30,119	529	218,469	92	16,450	58	21,267	198	77,530	363,835
Instructor	676	1,295,092	56	11,054	423	140,334	50	11,955	33	10,325	301	127,003	300,671
TOTAL	4,268	$13,108,418	930	$447,829	2,936	$1,392,475	851	$229,082	377	$226,643	1,125	$553,986	$2,850,015
Women's Colleges													
Professor	193	$1,415,446	73	$33,069	103	$51,970	52	$11,960	12	$4,910	44	$23,340	$125,249
Associate Professor	61	173,120	22	7,552	30	14,180	12	4,820	2	1,300	20	5,330	33,182
Assistant Professor	78	179,180	9	1,680	45	16,845	5	2,600	2	125	30	6,962	28,212
Instructor	54	102,180	5	760	24	7,276	2	220	...	.....	31	10,020	18,276
TOTAL	386	$1,869,926	109	$43,061	202	$90,271	71	$19,600	16	$6,335	125	$45,652	$204,919
TOTAL	4,654	$14,978,344	1,039	$490,890	3,138	$1,482,746	922	$248,682	393	$232,978	1,250	$599,638	$3,054,934

Note: Number of teachers giving full information of the amount of their salary and supplementary earnings.

TABLE XIV

SUPPLEMENTARY EARNINGS

Number of Teachers Reporting Who Have Appreciable Unearned Income, Number Supplementing Salary, and Per Cent Supplementing, by Professional Rank, Type, and Location of Institution

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Professor									
Number Reporting	336	731	1,067	16	109	125	352	840	1,192
Number Supplementing	250	547	797	11	63	74	261	610	871
Per Cent Supplementing	74.4	74.8	74.7	68.8	57.8	59.2	74.1	72.6	73.1
Associate Professor									
Number Reporting	82	137	219	12	40	52	94	177	271
Number Supplementing	55	101	156	5	19	24	60	120	180
Per Cent Supplementing	67.1	73.7	71.2	41.7	47.5	46.2	63.8	67.8	66.4
Assistant Professor									
Number Reporting	125	153	278	11	38	49	136	191	327
Number Supplementing	75	93	168	3	11	14	78	104	182
Per Cent Supplementing	60.0	60.8	60.4	27.3	28.9	28.6	57.4	54.5	55.7
Instructor									
Number Reporting	142	158	300	11	31	42	153	189	342
Number Supplementing	71	76	147	4	9	13	75	85	160
Per Cent Supplementing	50.0	48.1	49.0	36.4	29.0	31.0	49.0	45.0	46.8
Total									
Number Reporting	685	1,179	1,864	50	218	268	735	1,397	2,132
Number Supplementing	451	817	1,268	23	102	125	474	919	1,393
Per Cent Supplementing	65.8	69.3	68.0	46.0	46.8	46.6	64.5	65.8	65.3

TABLE XV

SUPPLEMENTARY EARNINGS

Number of Married and Single Teachers Replying, Number Supplementing Salary, and Per Cent Supplementing, by Professional Rank, Type, and Location of Institution

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
MARRIED									
Professor									
Number Reporting	936	2,712	3,648	29	185	214	965	2,897	3,862
Number Supplementing	766	2,222	2,988	22	145	167	788	2,367	3,155
Per Cent Supplementing	81.8	81.9	81.9	75.9	78.4	78.0	81.7	81.7	81.7
Associate Professor									
Number Reporting	323	638	961	9	28	37	332	666	998
Number Supplementing	270	498	768	7	15	22	277	513	790
Per Cent Supplementing	83.6	78.1	79.9	77.8	53.6	59.5	83.4	77.0	79.2
Assistant Professor									
Number Reporting	502	829	1,331	14	32	46	516	861	1,377
Number Supplementing	401	574	975	11	16	27	412	590	1,002
Per Cent Supplementing	79.9	69.2	73.3	78.6	50.0	58.7	79.8	68.5	72.8
Instructor									
Number Reporting	465	637	1,102	20	17	37	485	654	1,139
Number Supplementing	364	367	731	10	7	17	374	374	748
Per Cent Supplementing	78.3	57.6	66.3	50.0	41.2	45.9	77.1	57.2	65.7
Total									
Number Reporting	2,226	4,816	7,042	72	262	334	2,298	5,078	7,376
Number Supplementing	1,801	3,661	5,462	50	183	233	1,851	3,844	5,695
Per Cent Supplementing	80.9	76.0	77.6	69.4	69.8	69.8	80.5	75.7	77.2

RANK	MEN'S AND COEDUCATIONAL INSTITUTIONS			WOMEN'S COLLEGES			TOTAL		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
SINGLE									
Professor									
Number Reporting.....	109	427	536	35	266	301	144	693	837
Number Supplementing.....	62	253	315	13	103	116	75	356	431
Per Cent Supplementing....	56.9	59.3	58.8	37.1	38.7	38.5	52.1	51.4	51.5
Associate Professor									
Number Reporting.....	82	239	321	21	136	157	103	375	478
Number Supplementing.....	53	123	176	7	61	68	60	184	244
Per Cent Supplementing....	64.6	51.5	54.8	33.3	44.9	43.3	58.3	49.1	51.0
Assistant Professor									
Number Reporting.....	218	496	714	45	191	236	263	687	950
Number Supplementing.....	134	211	345	20	73	93	154	284	438
Per Cent Supplementing....	61.5	42.5	48.3	44.4	38.2	39.4	58.6	41.3	46.1
Instructor									
Number Reporting.....	428	940	1,368	65	229	294	493	1,169	1,662
Number Supplementing.....	245	379	624	33	65	98	278	444	722
Per Cent Supplementing....	57.2	40.3	45.6	50.8	28.4	33.3	56.4	38.0	43.4
Total									
Number Reporting.....	837	2,102	2,939	166	822	988	1,003	2,924	3,927
Number Supplementing.....	494	966	1,460	73	302	375	567	1,268	1,835
Per Cent Supplementing....	59.0	46.0	49.7	44.0	36.7	38.0	56.5	43.4	46.7

TABLE XVI

Average Tuition Fees in 1919–20 and 1926–27, Increase in Average Tuition Fees, and Per Cent of Increase over 1919–20, in 257 Endowed Institutions, by Type and Class of Institution and by Geographical Division

TYPE AND GEOGRAPHICAL DIVISION	CLASS A				CLASS B				CLASS C				TOTAL			
	Average Fee In		Increase	Per Cent of Increase	Average Fee In		Increase	Per Cent of Increase	Average Fee In		Increase	Per Cent of Increase	Average Fee In		Increase	Per Cent of Increase
	19–20	26–27			19–20	26–27			19–20	26–27			19–20	26–27		
Men's and Coeducational Institutions																
New England States....	$177	$304	$127	71.8	$121	$234	$113	93.4	$95	$225	$130	136.8	$142	$263	$121	85.9
Middle Atlantic States..	161	289	128	79.5	138	227	89	64.5	110	204	94	85.5	138	243	105	76.1
Southern States.....	129	201	72	55.8	72	127	55	76.4	74	128	54	73.0	81	138	57	70.4
Middle Western States..	115	195	80	69.6	89	160	71	79.8	74	133	59	79.7	84	149	65	77.4
Western States.....	140	227	87	62.1	100	188	88	88.0	81	136	55	67.9	98	171	73	74.5
TOTAL.....	$143	$245	$102	71.3	$97	$174	$77	79.4	$79	$141	$62	78.5	$97	$172	$75	77.3
Women's Colleges																
New England States....	$175	$300	$125	71.4	$200	$350	$150	75.0	$240	$250	....	....	$179	$307	$128	71.5
Middle Atlantic States..	150	400	250	166.7	207	300	93	44.9	208	300	92	44.2	199	314	115	57.8
Southern States.....	182	225	43	23.6	147	180	33	22.4	103	142	39	37.9	115	154	39	33.9
Middle Western States..	....	....	....	....	....	....	....	....	145	212	67	46.2	145	212	67	46.2
Western States.....	....	....	....	....	150	300	150	100.0	....	....	....	....	150	300	150	100.0
TOTAL.....	$174	$294	$120	69.0	$181	$273	$92	50.8	$125	$177	$52	41.6	$146	$220	$74	50.7
TOTAL.....	$149	$253	$104	69.8	$105	$183	$78	74.3	$87	$147	$60	69.0	$105	$179	$74	70.5

TABLE XVII

Median Supplementary Earnings by Rank and Salary Scale of 2,295 Teachers Reporting from Urban Men's and Coeducational Institutions

RANK	SALARY SCALE	NUMBER RECEIVING SALARY	MEDIAN SUPPLEMENTARY EARNINGS
Professor.....	$7,000 and over	116	$1,499
	6,000 to $6,999	118	1,175
	5,000 5,999	141	1,010
	4,000 4,999	233	1,004
	3,000 3,999	186	790
	2,000 2,999	34	572
	TOTAL.....	828	975
Associate Professor.....	5,000 and over	47	1,250
	4,000 $4,999	91	1,039
	3,000 3,999	147	745
	*1,500 2,999	38	650
	TOTAL.....	323	864
Assistant Professor.....	$4,000 and over	43	911
	3,000 $3,999	250	806
	**1,500 2,999	242	544
	TOTAL.....	535	711
Instructor.....	$3,000 and over	25	806
	2,000 $2,999	434	545
	1,000 1,999	150	368
	TOTAL.....	609	485

*1 case below $2,000
**4 cases below $2,000

TABLE XVIII

PROFESSIONAL SCHOOLS OR DEPARTMENTS

Number of Schools or Departments, Number in Faculty, Total Salaries Paid, and Average Salaries Paid, in 1919–20 and 1926–27

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Agriculture								
New England States	4	77.76	109.07	$167,659	$311,166	$2,156	$2,853	32.3
Middle Atlantic States	4	115.3	145.23	233,000	428,570	2,021	2,951	46.
Southern States	9	157.98	243.91	356,884	717,993	2,259	2,944	30.3
Middle Western States	10	600.83	722.33	1,438,159	2,285,986	2,394	3,165	32.2
Western States	5	173.	175.5	435,787	653,047	2,519	3,721	47.7
TOTAL	32	1,124.87	1,396.04	$2,631,489	$4,396,762	$2,339	$3,149	34.6

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Commerce								
New England States	3	49.91	104.61	$170,275	$449,937	3,412	4,301	26.1
Middle Atlantic States	7	139.5	336.33	360,797	1,069,069	2,586	3,179	22.9
Southern States	10	19.5	76.83	57,100	225,330	2,928	2,933	.2
Middle Western States	11	102.52	228.01	257,375	733,357	2,510	3,216	28.1
Western States	7	35.	72.54	84,526	228,298	2,415	3,147	30.3
TOTAL	38	346.43	818.32	$930,073	$2,705,991	$2,685	$3,307	23.2

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Education								
New England States.	..	.....	.....	.....	.....	.....	.....	....
Middle Atlantic States	7	172.08	262.09	$526,848	$1,052,975	$3,062	$4,018	31.2
Southern States.....	19	58.	128.41	152,386	397,670	2,627	3,097	17.9
Middle Western States	17	218.43	351.53	518,365	1,096,807	2,373	3,120	31.5
Western States.....	5	35.	52.7	97,237	185,025	2,778	3,511	26.4
TOTAL.....	48	483.51	794.73	$1,294,836	$2,732,477	$2,678	$3,438	28.4

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Engineering								
New England States.	8	355.54	472.74	$899,690	$1,511,972	$2,530	$3,198	26.4
Middle Atlantic States	15	599.86	755.75	1,343,402	2,141,240	2,240	2,833	26.5
Southern States.....	20	254.92	422.42	562,265	1,173,823	2,206	2,779	26.
Middle Western States	21	1,089.91	1,519.9	2,571,330	4,564,169	2,359	3,003	27.3
Western States.....	9	165.	224.	412,935	756,566	2,503	3,378	35.
TOTAL.....	73	2,465.23	3,394.81	$5,789,622	$10,147,770	$2,349	$2,989	27.2

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Fine Arts								
New England States.	1	7.	17.	$23,550	$58,700	$3,364	$3,453	2.6
Middle Atlantic States	4	82.5	109.83	202,275	322,760	2,459	2,939	19.5
Southern States.....	7	28.	36.	33,125	67,850	1,183	1,885	59.3
Middle Western States	7	51.71	68.66	84,885	159,955	1,642	2,330	41.9
Western States.....	2	18.48	27.	38,770	71,300	2,098	2,641	25.9
TOTAL.....	21	187.44	258.49	$382,605	$680,565	$2,041	$2,633	29.

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Law								
New England States.	3	30.	46.35	$147,038	$343,430	$4,901	$7,409	51.2
Middle Atlantic States	7	38.67	59.08	195,725	363,675	5,061	6,156	21.6
Southern States.....	20	71.33	105.58	204,220	400,326	2,863	3,792	32.4
Middle Western States	19	95.28	124.43	387,075	669,466	4,063	5,380	32.4
Western States.....	8	32.08	52.52	117,956	239,466	3,677	4,560	24.
TOTAL.....	57	267.36	387.96	$1,052,014	$2,016,363	$3,935	$5,197	32.1

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Medicine								
New England States	6	192.54	278.47	$352,035	$643,878	$1,828	$2,312	26.5
Middle Atlantic States	7	207.21	333.45	625,811	1,263,646	3,020	3,790	25.5
Southern States	11	173.75	309.25	499,694	1,105,517	2,876	3,575	24.3
Middle Western States	18	443.26	701.53	1,179,394	2,478,465	2,661	3,533	32.8
Western States	4	72.	94.25	205,217	331,202	2,850	3,514	23.3
TOTAL	46	1,088.76	1,716.95	$2,862,151	$5,822,708	$2,629	$3,391	29.

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Music								
New England States	1	5.6	8.	$20,575	$32,550	$3,674	$4,069	10.8
Middle Atlantic States	2	16.	15.	20,882	28,524	1,305	1,902	45.7
Southern States	8	48.	64.5	68,210	128,250	1,421	1,988	39.9
Middle Western States	11	83.51	105.88	166,560	269,868	1,994	2,549	27.8
Western States	4	18.25	34.	39,727	83,809	2,177	2,465	13.2
TOTAL	26	171.36	227.38	$315,954	$543,001	$1,844	$2,388	29.5

DEPARTMENT	NUMBER OF INSTITUTIONS	PERSONS IN FACULTY REDUCED TO A FULL-TIME BASIS		TOTAL SALARIES PAID		AVERAGE SALARIES PAID		PER CENT OF INCREASE
		1919–1920	1926–1927	1919–1920	1926–1927	1919–1920	1926–1927	
Theology								
New England States	4	35.2	34.42	$140,642	$167,183	$3,996	$4,857	21.5
Middle Atlantic States	2	10.	9.	25,900	31,166	2,590	3,463	33.7
Southern States	5	26.67	34.67	68,340	120,900	2,562	3,487	36.1
Middle Western States	11	39.92	45.97	110,675	163,265	2,772	3,552	28.1
TOTAL	22	111.79	124.06	$345,557	$482,514	$3,091	$3,889	25.8