

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1923, No. 44

OUTLINE OF EDUCATION SYSTEMS
AND SCHOOL CONDITIONS
IN LATIN AMERICA

By GEORGE W. A. LUCKEY
SPECIALIST IN FOREIGN EDUCATION SYSTEMS
BUREAU OF EDUCATION



WASHINGTON
GOVERNMENT PRINTING OFFICE
1923

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.

AT

15 CENTS PER COPY

PURCHASER AGREES NOT TO RESELL OR DISTRIBUTE THIS
COPY FOR PROFIT.—PUB. RES. 57, APPROVED MAY 11, 1923

II

291139

MAY 15 1925

~~IK 83~~

UNJ

~~B~~

1923

44-60

L

114

A6

1923

44-60

CONTENTS.

PART I.—SOUTH AMERICA.

	Page.
Introduction.....	1
Argentina.....	2
Brazil.....	9
Chile.....	18
Bolivia.....	26
Colombia.....	32
Ecuador.....	37
Paraguay.....	44
Peru.....	49
Uruguay.....	55
Venezuela.....	60

PART II.—MEXICO, CUBA, AND CENTRAL AMERICA.

Mexico.....	<u>67</u>
Cuba.....	74
Central America.....	80
Guatemala.....	82
Honduras.....	87
Nicaragua.....	92
Salvador.....	96
Costa Rica.....	102
Panama.....	106

III

OUTLINE OF EDUCATION SYSTEMS AND SCHOOL CONDITIONS IN LATIN AMERICA.

PART I.—SOUTH AMERICA.

INTRODUCTION.

The countries included under the term "Latin America" are so extensive and important, and the effects of the World War, direct and indirect, on all systems of education have been so disturbing, that one is at a loss to know how best to treat the subject of foreign education systems in the space at command. The purposes of the report tend to modify the nature of the material used and to necessitate the omission of material probably of more vital interest to others. Another annoying difficulty in the preparation of a satisfactory report has been the changing condition of education systems in many of the leading countries. The reorganization of national systems of education, as necessitated or suggested by the war, has not progressed far enough to become stabilized and to offer material of permanent value.

Without some knowledge of previous conditions one can not understand nor appreciate progress. It has seemed advisable, therefore, to present briefly the working conditions or essential features of the systems of education as a background from which to observe progress. The writer has endeavored to keep in mind the gradation steps and promotion requirements of the public-school systems leading to graduation, degrees, and the highest educational rewards; and such other features as tend to show the condition and direction of educational movements. The desirable data are not always to be had, and other material may be substituted not as a matter of choice, but of necessity.

In the first part of the report the important countries of Argentina, Brazil, and Chile have been treated somewhat more in detail, and the other countries of South America less so, in order to avoid the unnecessary duplication of similar facts. In the second part of the report, the education systems of Mexico and Cuba have been stressed and the countries of Central America given less in detail. With the exception of Brazil, in which the official language is Portuguese, the official language of Latin America is Spanish, and to teach in the public schools of any of these countries it is quite essential to have a ready command of the language of the schools.

During the past few years there has been quite an educational awakening in the Latin American countries; and, notwithstanding the discouraging financial conditions, creditable progress has been made.

In general, there have been marked tendencies toward standardization of instruction and centralization of authority, placing more responsibility in the conduct of schools in the Federal Government; giving less attention to the humanities, literary and classical education of the old régime, and more attention to the practical (natural and social) realities.

Greater effort has been made to popularize education and extend its benefits to the masses. New provisions have been made in the primary education with the thought of reducing the illiteracy of the people, which is still unusually large. In many republics a new impetus is occurring in industrial, commercial, agricultural, technical, and professional education. Special effort is also being made to create a more efficient class of teachers, to extend their preparation, and to increase their emolument. In many States there is an effort to extend the courses of study leading to degrees and professional diplomas and to bring all private schools (church and lay) under Government inspection and supervision. In a number of the republics the law requires that only citizens be employed as teachers in the public schools. In many countries annual school statistics are not kept, even census taking may be rare, and one must fall back in obtaining reliable data to earlier periods in which such data are to be had or accept estimates which are not always reliable.

THE EDUCATION SYSTEM, INCLUDING PROGRESS, OF ARGENTINA.

GENERAL FEATURES.

The Republic of Argentina is divided into 14 Provinces, 10 Territories, and 1 Federal District (Buenos Aires). It contains 1,153,118 square miles, and its population in 1920 was 8,533,332, divided between male and female in the proportion of 54 to 46. The school population, covering the ages of 6 to 14, was 1,766,053, with an attendance enrollment of 1,076,045. In the same year the illiteracy in the population over 7 years of age was given as 35 per cent.

The system of public instruction includes the usual divisions of primary, secondary, and higher education, and is under the immediate control and direction of the Minister of Justice and Public Instruction, a member of the cabinet. In 1919 there were 9,268 primary schools, of which 7,801 were public and 1,467 private, with 36,615 teachers and 1,190,231 pupils. There were 42 national colleges (secondary schools), with 1,244 teachers and 11,022 students; 33 corresponding private institutions, with 398 teachers and 2,959 students; 82 normal schools, with 1,843 teachers and 14,202 students; 37 special schools (commercial, industrial, arts, blind, etc.), with 1,034 teachers and 11,081

pupils. Eighty-two per cent of the teachers in the primary schools were women, 53 per cent in the normal schools, and 9 per cent in the colegios attended mostly by boys. The girls, for the purposes of secondary education, seem to elect the normal schools, which perform the double duty of preparing for higher education and for the profession of teaching.

By concession the Provinces are allowed the privilege of directing their own primary schools, but since these are heavily subsidized by the Government their management must conform to a certain extent to the wishes of the Federal Government advisory board. Under the special law known as the "Ley Lainez," the Government is permitted to establish Federal schools on petition wherever needed in the Provinces. As most of the Provinces are poor, the result of the Federal subsidy and the power to supplement the State schools give the central board a strong prestige in the matter of control. In some of the Provinces there are more Federal schools than provincial, and it is generally conceded that the Federal schools accomplish the better educational results. All schools, both public and private, are more efficient in the larger cities and more densely populated districts.

ADMINISTRATION.

Primary and secondary education of Argentina are either directly or indirectly under the control of the department of justice and public instruction. The minister is aided in the direction of primary education by a national advisory board (Consejo Nacional de Educacion) and local district boards, all members of which hold their positions by appointment. In secondary education the administration is more centralized and the minister is assisted by the Federal board of general inspection (Inspeccion General de las Escuelas Secundarias). There are only 42 national colleges (colegios nacionales) in the Republic, 10 of which are in the Federal capital and the others in the larger cities of the near-by Provinces. Hence administration of them by a central board becomes less difficult. Higher education has been left wholly in the control of the National Government. There is no department of the Argentine Government responsible for the university, the connection being directly with the President of the Republic.

The administration of the provincial schools is under the same centralized plan as that of the National Government, all boards receiving appointments through the political party in power. This dual system of educational administration between State and Federal boards gives opportunity for serious difficulties—to illustrate: In June, 1921, with little previous warning, a decree was issued by the President closing all schools, public and private, primary and secondary, in the Republic of Argentina because of a threatened plague of the grippe. Without questioning the authority of the chief executive

or the necessity of the local situation, which no doubt varied considerably in a country 2,000 miles in length, the decree was observed at once and the schools, both provincial and Federal, throughout the Republic were closed. There were exceptions, however, and one was especially noticeable. In the Province of Buenos Aires, which begins at the very limits of the capital city, the provincial schools received orders from the State government that the classes would continue until an investigation was made, and if found necessary authority to close would be forthcoming from the proper State authorities.

Private schools, church and lay, covering about one-fifth of primary education and nearly one-third of secondary education, are independently managed, but are subject to Federal supervision and must conform to the standardized curriculum.

PRIMARY EDUCATION.

The full course of the State and Federal primary schools is six years in length, covering the first six grades, and prepares the pupil for entrance into the normal schools and national colleges. Education is secular, free, and compulsory from 6 to 14 years of age or until completing the primary grades. The compulsory law, however, is not rigidly enforced, especially in the less populated districts. The more ambitious pupils desirous of secondary education are able to complete the primary grades by their twelfth year and the following five years' course of the better colegios by their sixteenth year, thus obtaining the bachelor's degree after 11 years of schooling.

Coeducation is not common, boys and girls attending separate schools; only in the primary grades are the sexes sometimes taught together. In the primary department the statistics (1919) showed that there were about 3 per cent more girls than boys, while the school census of the same year showed about 8 per cent more boys than girls. In secondary education, including both normal schools, attended mostly by girls, and colegios, attended mostly by boys, there was a slight advantage in the enrollment of girls—i. e., 13,515 girls and 12,927 boys.

One not familiar with the Latin-American systems of education will be surprised at the array of subjects offered in the primary course, which are as follows: Spanish, including reading and writing, arithmetic and geometry, history and geography, nature study—plants, animals, minerals—physiology, physics, and chemistry, drawing, manual training, domestic science, music, physical education. The advisability of teaching such subjects as physics and chemistry in the primary grades will be questioned by many persons, but as only the simplest elements are presented and described, the pupil needs only to memorize the simplest facts in preparation for future examination.

SECONDARY EDUCATION.

There are two special types of secondary schools—the national college (colegio nacional) and the normal school (escuela normal). The two schools are about equally divided as to attendance; the colegios are elected by boys and the normal schools by girls. There are a few mixed schools of both types. The better colegios offer a five years' course based on a six years' primary course, one year less of schooling than that required of the graduate of our senior high school; the normal schools offer courses of two and four years, principally academic, and based on graduation from the six years' primary course, equivalent in point of time to the eighth-grade elementary and the tenth-grade junior high school. Both courses in the normal schools offer work in pedagogy and practice teaching; the two years' course is accepted for emergency teachers in the districts or rural schools, the four years' course is usually elected by girls seeking secondary education or in preparation for primary and secondary teachers. In some schools a fifth year is added, devoted more fully to professional education and practice teaching.

The colegios are the special fitting schools for the universities and other professional institutions; upon the graduate is conferred the bachelor's degree. The normal schools, with a shorter course, do not rank as high, but year for year they are considered the academic equivalent. The subjects of study in the national colegios are: Spanish, French, English, Italian; arithmetic, algebra, geometry, trigonometry; physics, chemistry, botany, zoology, mineralogy, geology, anatomy, physiology, hygiene; history, geography, civics, drawing, physical education, military drill. The subjects of study in the corresponding normal schools are Spanish, French, arithmetic, algebra, geometry, physics, chemistry, history, geography, natural history, psychology, pedagogy, practice teaching, music, drawing, domestic economy (girls), manual training (boys), physical education. It should be mentioned that there are no electives; all subjects in the curriculum are required of all.

There is an increasing number of private secondary schools covering similar ground to the Federal colegios, and a few special preparatory schools of secondary rank, as the commercial colegio operated by the University of Buenos Aires. As all private schools must conform to Government regulations and submit their students to inspection and Government examination for promotion, they do not present any specially different education problem.

HIGHER EDUCATION.

Under this head fall the universities and professional schools. There are national universities in Buenos Aires, Cordoba, La Plata, and Rosario; provincial universities at Santa Fe and Tucuman.

These universities through their different faculties (schools) offer courses varying from two to six years in length. In the University of Buenos Aires, the largest and most representative, the philosophical or arts department offers a four-year course, leading in connection with a thesis to the degree of doctor of philosophy. Thus the student under favorable circumstances is able to obtain the Ph. D., or highest cultural degree, on 15 years of schooling. Student life and organizations are entirely different from those found in similar institutions in the United States. There are no student organizations, no class yells, no college songs, no fraternity groupings, no athletic fields, no college games.

Other faculties or colleges of the University of Buenos Aires are the college of medicine, with a six years' course (pharmacy five years, dentistry four years), which ranks first among the departments of the university and is represented by about half of the student body; the college of law, with a five years' course leading to the doctor's degree; the college of exact sciences, covering courses in industrial, mechanical, and civil engineering, five and six years in length. The college of economics and the college of agriculture and veterinary have been established more recently. Under the college of law and social science a two years' course in foreign diplomacy is offered. In the University of La Plata, the second important university of the Republic, there has been recently established a college of education.

EDUCATION AND SALARY OF TEACHERS.

Teaching in Argentina can hardly be classed under the professions. The primary schools have classes only $3\frac{1}{2}$ hours per day, leaving the teacher free for half the day to seek other employment. In secondary education the teachers are appointed to positions by "catedras" or subjects to be taught, usually one to three. This gives opportunity for teaching to become a temporary side line to other professions. "The statistics of 1920 show that, out of 1,333 teachers in the colegio nacional, 521 were either professional doctors, lawyers, or engineers, not to mention other professions." Students and clerks may thus be engaged for part of the day as the teacher of a subject in the school. This tends to check the growth of the professional spirit which is encouraged by prominent educators.

The requirement of the teacher in the primary school is graduation from the four-year normal schools above described, but only in the cities is this requirement met. Outside of the cities the country has been obliged to authorize teachers after only two years of the normal course and by special-privilege certificates. The majority of primary teachers, however, are normal-school graduates, possessing the title "Maestro normal." In the secondary schools there is no fixed require-

ment, though it is usually demanded that the teachers hold at least a normal-school diploma, and higher studies are encouraged for teachers of secondary instruction. In the university the requirements, according to the regulations of the National University of Buenos Aires, are as follows: "University diplomas, Argentine or foreign, or persons of specially known competence."

TEACHERS' SALARY.

In Argentina the salary of teachers based on the time employed in service is higher than the average in other countries employing full-time teachers. The double control of the primary department between the Federal and provincial school authorities creates an annoying difference in the pay of primary teachers; usually the salary of teachers is much lower under the management of the provincial boards, and in cases difficult to collect. The greater number of primary teachers, however, are under the direction of the national board, and the wages there are fixed and definite. In the primary department of the Federal schools there are three divisions of rank, as follows: The first or lowest, covering the first 5 years of teaching experience; the second, covering the second 5 years of experience; the third or highest, covering teaching experience of more than 10 years. The first pays (at par rate of exchange) \$109, the second \$141, and the third \$161 per month. As mentioned above, the primary-school day is only 3 hours and 20 minutes in length, beginning at 8 o'clock and closing at 11.20, or, if in the afternoon, beginning at 1 and closing at 4.20. There may also be evening sessions, but no teacher is permitted to hold a position in both morning and afternoon session, though she might be permitted to hold a second position in the shorter evening session. There are six days of school per week, making 20 hours of teaching per week at the above salary. For work in the evening session the teacher receives additional pay and is also free to seek other employment at odd hours.

In the secondary schools the "catedra" system of employing and paying teachers by subjects taught is used. There seems to be no difference made for experience, language teachers receiving \$13 per subject per hour, or \$78 a month for a 50-minute period class per day. Other teachers are paid \$16 an hour, or \$96 a month for corresponding periods. Four "catedra" is the maximum allowance officially, but a teacher is free to teach in private schools or engage in business outside of school hours as in the primary department. The salaries of university professors vary in different institutions, but the more usual rate is \$109 per "catedra" or subject taught three or four hours per week.

There is a pension system covering all departments of the public schools, and 5 per cent of the salary of all teachers is reserved each month to be applied to the pension fund. After 25 years of service in the Government schools, the instructor is "jubilado" or pensioned on full salary.

PROGRESS.

The effect of the World War has been felt in Argentina as in other countries, and the financial condition of the country has prevented the Government from devoting large sums of money to most worthy educational projects. But here, as elsewhere, it has been difficult to chill the ardor of educational leaders. Among the worthy educational movements showing progress may be mentioned the following: The forward movement and increasing influence of women in education, overcoming the traditional Latin American culture of the past which guarded the woman in her home as something delicate and in danger of injury if exposed; to stiffen the requirements of teachers and to increase the function of the national colleges to something more than mere fitting schools to the universities and professional schools; the efforts of important business men of Buenos Aires and the Workers' Association organized three years ago, looking to the broader dissemination of scientific economic knowledge along constructive lines among the working classes of the city of Buenos Aires; the improvement in scientific interest in national hygiene and sanitation in which Argentina holds a leading place among the countries of South America; the effort of the Federal Government to reduce the amount of illiteracy among the people, for which a record of children from 6 to 14 who can not read and write is taken by the teacher annually (March and April); the reorganization (1919) of the teachers, association of the Province of Buenos Aires open to delegates from the Federal capital, the Provinces, and Territories, not to mention other lines of interest.

Steps in the education system of Argentina.

School or grade.	Proximate ages.																						
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
Primary school.....	—————																						
Normal school.....							—————																
Secondary school (colegio nacional).....							—————																
University:																							
Liberal arts.....												—————											
Medical school.....												—————											
Law school.....												—————											
College of exact science—including industrial, mechanical, and civil engineering (5 to 6 years).....												—————											

THE STATUS AND MOVEMENT OF EDUCATION IN BRAZIL.

GENERAL STATEMENTS.

Brazil consists in a union of 20 locally independent States, one National Territory (Acre, purchased in 1902) and one Federal District (Rio de Janeiro). It is the largest Republic of the Latin American group, containing 3,275,510 square miles and a population (1920) of 30,645,296, an average of 9.3 per square mile. The school population as given in "Diario Oficial" of February 21, 1922, was 3,571,877 (ages covered not indicated); the school enrollment 1,030,752; the school attendance 678,684, or but 29 per cent of the school population, leaving 71 per cent of the school population unprovided for. The school population as given above represents but 12 per cent of the total population and must cover fewer ages than given in most countries.

There have been many difficulties in the way of popular education, such as the great extent of undeveloped country, sparsely settled with a mixed population, rich in native products; great variation in climate and local conditions; the early form of proprietary government and aristocratic education; national isolation, with the lack of democratic sentiment to stimulate progress in the masses. Conditions, however, are changing for the better, and there is a hopeful outlook. In many of the coastal and larger cities educational conditions are more favorable, but here, too, it is as yet higher education of the few, not the many. In the statistical annual of Brazil, published in 1916, the percentage of illiteracy in the total population varied from 48.1 per cent (city of Rio de Janeiro) to 95 per cent in some of the less favored States, averaging throughout Brazil 74.6 per cent. In 1921 there were in all Brazil 17,295 primary schools, mostly of the one-room type, of which 11,342 were State schools, 2,532 municipal schools, and 3,421 private schools. There were 327 secondary schools with 30,258 pupils, 151 professional schools with 19,294 pupils, 30 normal schools, 25 degree-giving colleges (faculties), and one Federal university (Rio de Janeiro).

SCHOOL ADMINISTRATION.

The school system of Brazil is administered by Federal, State, and municipal authorities. For the most part education is a State affair, controlled and directed by the individual State authorities. This is especially true of primary education, but less so in secondary and higher education. The Federal authority is charged with the administration of education in the Federal District and Territory and the standardizing and direction of secondary and higher education throughout the nation. The municipal authorities have charge and

direction of local school affairs. There is a growing tendency toward centralization of education and of increasing the powers and responsibility of the Federal authorities to include primary education also.

At the head of the Brazilian school system is the Minister of Justice and Internal Affairs, a cabinet member appointed by the President. He is assisted in the administration of public instruction by the superior council of instruction, among the duties of which are: The maintenance of education in the Federal District and Territory; to provide in part for secondary and higher education throughout the Republic, and by means of subsidies, model schools, and an accrediting system to standardize and give direction to all secondary and higher education; besides the technical army and navy schools and those for the various classes of defectives, to maintain the national schools of fine arts, music, mines, agriculture, and veterinary medicine, normal school of arts and trades, agricultural training schools, national institutes for the blind, and for the deaf; colleges (faculties) of law in Sao Paulo and Recife, colleges of medicine in Bahia and Rio de Janeiro, polytechnical school and the Collegio Pedro Segunda in Rio de Janeiro; to exercise general oversight of the coordinated (accredited) institutions, to interpret the school law, and decide on appeals.

The superior council of instruction consists of a president appointed by the President of Brazil, who must not occupy any other official position except that of rector of the university; six directors of official institutions maintained by the Federal Government; one professor of each of such institutions, the latter being selected by the respective faculties. One very important function of this board in the promotion of education is to decide after due investigation regarding applications for coordination or the recognition of institutions as being of equivalent rank in quality of instruction. Graduates of such coordinated secondary schools are granted like privileges to the graduates of the Federal model secondary school, the Collegio Pedro Segunda of Rio de Janeiro.

Education in Brazil is largely an independent function of the States, especially so in primary education. In most States some provision has been made for secondary education and in a few States for higher education. The public instruction maintained by the States is under the immediate direction of the governor, assisted by the general secretary of the State. The general secretary of the State is assisted by a council of education, consisting of the general secretary as chairman and six other members selected by the governor. The States are usually divided into inspection districts having a State academic inspector for each district, appointed by the governor, and usually a medical inspector. In each municipality there is a local school board, consisting of the mayor and two or three local school inspectors, also appointed by the governor. State institutions which

are "coordinated" with Federal schools, even though supported exclusively by the State, must conform to the requirements of the superior council of instruction in Rio de Janeiro.

THE SCHOOL PERIOD.

The school year varies in length and time of beginning among the States and even within the States in different localities, institutions, and cities. The usual date of beginning the primary and normal schools is from the 1st of February to the middle of March and of closing from the 15th of November to the 15th of December; the date of opening the secondary and higher schools is from the 1st to the 15th of April, and of closing from the 15th to the last of November. There are two semesters per year separated by a two to four weeks' vacation sometime in June. The long vacation falls in December and January. The length of the school year is from 7 to 10 months; the usual length being 9 months; a few of the favored municipalities, as Rio de Janeiro, maintain a session of 10 months. The length of the school day varies in different neighborhoods, but is usually from four to five hours in length, and the school week consists of six days. Owing to the insufficiency of school facilities, in many localities there are two separate sessions of school per day, usually of three or four hours each. Since promotion depends wholly upon examination, the time element and school attendance is not stressed as in this country.

PRIMARY EDUCATION.

The length of the primary course is from two to five years, though in the great majority of States throughout the Republic it does not exceed three years. There is a growing sentiment to extend the length of the primary course to four or five years, but owing to the discouraging amount of illiteracy and the limited school facilities, the prevailing thought is to retain the present course or shorten it in order to increase the school attendance and reduce illiteracy. The primary school age is from 7 to 12 or 13; in a few municipalities there is now compulsory attendance covering these ages, or until completion of the three-years' primary course. In all States primary education is free but not compulsory; in a few cities provision is made for kindergarten education.

There are five special types of primary schools: Isolated schools (escolas isoladas) consisting of one room with a single teacher, representing about 90 per cent of the whole; combined schools (escolas rounidas), a number of isolated schools brought together without changing the plan of organization; grouped schools (grupes escolares), representing the union of several isolated schools in one graded school, usually under a director and the teachers covering one instead

of three grades; model schools (*escolas modelos*), perfected primary schools, often operated in conjunction with normal schools; complementary schools (*escolas complementares*), which are advanced primary schools of two or three years' course, based on the two or three years' ordinary primary course. Considering the length of the primary course, the subjects of study may seem rather ambitious to one not familiar with the system; they are: Portuguese (reading, writing, etc.), arithmetic, geometry, geography, history, natural science, drawing, manual training, gymnastics. There are boys', girls', and mixed schools. The last are permitted to admit children only from the ages of 6 to 10, while the separate schools admit children up to 15 years of age.

SECONDARY EDUCATION.

There are two main types of public secondary schools in Brazil: The collegios (*gymnasios, lyceus*), principally with a five years' course, attended mostly by boys, and the public normal schools with the usual four years' course, attended mostly by girls, from 75 to 95 per cent, in preparation as teachers. Both schools require for entrance the completion of the advanced primary course covering five years of schooling and an entrance examination. The students of the normal schools must be between 14 and 25 years of age, and those of the collegios over 11 years. The collegios lead to the bachelor's degree in some cities—as Bahia—on a six years' course to the master's degree, and fit for the university and better professional schools, to enter which the matriculation examination is also required. Some of the better private lyceus, covering both primary and secondary education, lead to the bachelor's degree in a nine years' course. The normal schools give a shorter academic course and some instruction in theory and practice of teaching leading to the teachers' certificate. In many communities the normal schools furnish the only public secondary schools for girls and are attended by many girls not in preparation for teachers. The subjects of study and time requirement in the normal schools and collegios are shown in another part of this report.

The Collegio Pedro II (National Secondary School), maintained by the Federal Government, is divided into two sections, a boarding school and a day school, and is considered the model in the field of secondary education. There are 40 other "coordinated" secondary institutions throughout Brazil, 21 State and 19 private schools, rated as on a par with the Collegio Pedro II by the Superior Educational Council, which body keeps them under inspection to insure the maintenance of the standard. Only these "coordinated" institutions are permitted to hold final examinations and award diplomas.

TRADE SCHOOLS.

The trade schools maintained by the Federal Government in Rio de Janeiro and other important cities are of two types—primary and secondary, open for boys only. The lower-grade schools aim to prepare trade apprentices and to give primary instruction and the maximum of training in the trade taught. In the secondary trade schools the student either perfects himself in one of the fine arts or in a trade which requires expert skill, or he increases his knowledge in the humanities in order to become a teacher in a primary trade school. The secondary trade courses extend over four years, the normal course over five, covering academic courses much the same as the normal schools, and besides include courses for mechanics, bench workers, plumbers, blacksmiths, metal finishers, machinists, carpenters, cabinetmakers, tailors, and shoemakers.

HIGHER EDUCATION.

Most States of the Union do not possess institutions more advanced than the normal schools and collegios. In a number of the larger cities there are independent "faculties" (colleges) of law, medicine, pharmacy, engineering, and dentistry. In the entire Republic there are nine schools of law, six of medicine, five of engineering, one of pharmacy, two of dentistry, eight of pharmacy and dentistry, one of philosophy and letters, and two of agriculture. There is but one Federal university, the University of Rio de Janeiro, founded in 1920 by the fusion of the schools of medicine, law, and technology of that city, the government of which consists in a rector as chairman, who is also president of the superior council of instruction, and a university council composed of the directors of the three schools, forming the university, and two professors from each of the three schools, elected by the faculties thereof. The matter is earnestly considered (1922) of establishing other universities similar to that of Rio de Janeiro in Sao Paulo, Minas Geraes, Bahia, and Pernambuco by fusing of the faculties in those States.

Higher education is mostly within the hands of the central authority, and through the system of inspection and accrediting all faculties may be placed on the same rank. For matriculation in any of the coordinated faculties one must have completed the five-year course of the collegio and passed the special entrance examination. The full law course covers five years, that of medicine and of engineering six, pharmacy and dentistry three, agricultural engineering and veterinary four. The better Government engineering schools based on 10 years of preparation for entrance, followed by a year's preparatory course, two years of a general course, and three years of a special course in civil, industrial, electrical, architectural, etc., engineering,

compare favorably with such institutions in other countries. Besides the coordinated faculties designated above, there are many more of lower rank not accredited nor coming under Federal supervision.

QUALIFICATION AND PAY OF TEACHERS.

As indicated above, the normal schools quite generally in the larger municipalities and more densely populated States perform the double duty of furnishing secondary education and of preparing teachers for the better primary schools. In some cities, as Rio de Janeiro, Recife, Sao Paulo, etc., only normal graduates are employed as teachers; but in less favored States and in rural and urban primary schools in most States the examination requirement for teachers can be met by graduates of the "Escola Complementar" covering six, or at most but seven, years of schooling. Primary teachers are usually of four classes, as follows: The lower or first class representing beginning teachers in districts remote from railroads and conveniences; the second class in districts near railroads; the third class in districts served by railroads; the fourth class in municipalities.

The program and course of study are planned to be uniform in quality throughout, but the salaries increase and the teaching service improves from the first to the fourth class. Beginning primary teachers are appointed to the first class only from a graded list of eligibles. After one year of teaching the teacher may be promoted to the second or third class, and after two years of teaching she may be promoted to the fourth class, provided she qualifies in a competitive examination before the committee of the council of education. The salary schedule varies somewhat among the States; that of Pernambuco, which is typical, is as follows: Assistant teacher, 1:440\$ (milreis)—at the present rate of exchange 5\$ (milreis), equal \$1 United States currency, or 1:440\$, equal \$288; first-class teacher, 2:160\$ (\$432); second-class teacher, 2:400\$ (\$480); third-class teacher, 2:880\$ (\$576); fourth-class teacher, 3:600\$ (\$720).

The usual salary of teachers in the normal schools and collegios is 5:760\$ (\$1,152) per annum, except teachers of manual training and domestic science subjects, in which the salary is 4:320\$ (\$864). In higher institutions full professors receive 9:600\$ (\$1,920) and substitute professors receive 6:900\$ (\$1,380). Professors usually spend at most but three hours per week in teaching, and are otherwise occupied as practicing lawyers, journalists, authors, physicians, engineers, etc. They are able men, but their chief activity is not their teaching. This practice of engaging teachers by subjects taught is common throughout Latin-America, both in secondary and higher education. The school attendance of students is also modified by it. There is little or no professional spirit, as we know it, in student or teacher. Teachers of the State normal schools and collegios are appointed by the governor from an eligible list of experienced teachers obtained through competitive examination, all of whom must be citizens and at least 21 years of age.

ART AND TRADE SCHOOLS.

There are three schools of fine arts in the city of Rio de Janeiro, as follows: Escola das Bellas Artes, maintained by the Federal Government, giving courses in painting, sculpture, design, and architecture; Lyceu das Artes e Officios, supported by private initiative and Government appropriation, more elementary than the first, giving rudimentary instruction in painting, drawing, modeling, and designing; Instituto Nacional de Musica, maintained by the Federal Government, offering courses in instrumental and vocal music.

There are a number of trade schools in Rio de Janeiro, some maintained by the city and several by the Federal Ministry of Agriculture. These take students with only a primary education and instruct them in the trades and in the domestic arts. Some attempt to give a primary education along with manual training. In these schools only the rudiments of drawing are taught, and no courses in industrial designing are given.

FORWARD MOVEMENT.

During 1921 the Minister of Justice and Internal Affairs called an interstate conference on primary instruction which met in Rio de Janeiro, October 12, 1921. Among the important recommendations of this national conference were the following:

1. The Federal Government is competent to collaborate with the States in the matter of primary education, and may participate by conceding subsidies to State, municipal, and private schools in return for the privilege of inspection and coordination.
2. The State should undertake to maintain schools already existing, and elevate State expenditures for primary instruction to at least 10 per cent of its total revenue, reserving for a school fund 2 per cent of any annual surplus. Federal subsidies would be limited to primary schools created in the future, the amount of such to vary from 30 to 70 per cent of the cost of operation of such schools.
3. The National Congress is recognized as having joint powers with State congresses to decree compulsory attendance. Such compulsory attendance should be effective within a radius of 2 kilometers around the schools. Private enterprises employing minors should provide such minors with primary education.
4. Primary schools to be created or subventioned by the Federal Government should be of two classes, urban schools having a four-year course, and rural schools having a three-year course; also night schools for adults, giving a one-year course.
5. The Federal Government should establish in each State schools for backward pupils and should train normal teachers especially for this work.
6. The Federal Government should establish a normal school or subsidize an existing normal school in each State, entering into agreement with State Governments for the standardization and coordination of all normal-schools. All normal-schools should give a two-year course, normal school students should be at least 15 years of age, and should have completed the secondary (gymnasial) courses in official or coordinated schools; * * *
7. The Federal Government should, furthermore, establish one or more superior normal schools for the training of inspectors and normal-school teachers.

8. A national school fund should be established, consisting of contributions from National, State, and municipal taxes, to be deposited in the National Treasury at the disposition of the national council of education. * * *

9. Primary instruction should be given only in the national language. Geography and history of Brazil must be taught, even in private schools, by Brazilian-born teachers. No school, public or private, should teach a foreign language to children under 11 years of age, excepting individual instruction given at home and at schools attended only by foreigners.

Another important congress of secondary and higher education was called to meet in connection with the Centennial Anniversary Celebration in Rio de Janeiro, September, 1922. Among the principal subjects scheduled for consideration were the following:

1. Should a ministry of public instruction be established, and should there be created in the Federal Capital a council of education to study Brazilian educational problems in general?

2. Should the Federal Government, by agreement with the States, participate in primary, secondary, and professional education throughout the country?

3. What should be the nature of the University of Rio de Janeiro, and should universities similar thereto be established in the States of Sao Paulo, Minas, Bahia, and Pernambuco?

4. Should secondary education be given a classical stamp?

The schedule of studies of the three years' complementary course, embracing 24 classes of 50 minutes each per week (six days per week), is as follows:

	Hours.		Hours.
Portuguese.....	11	Drawing.....	6
French and elements of Latin.....	11	Manual training.....	6
Geography and history.....	9	Gymnastics.....	8
Mathematics.....	8		
Physics and natural science.....	7	Total number of hours.....	72
Music.....	6	of 24 per week per year.	

Weekly schedule of the four-year normal school.

Subjects.	Prescribed hours.			
	First year.	Second year.	Third year.	Fourth year.
Portuguese.....	3	3	2	
French.....	3	3		
Civil government.....	2	2	2	2
Instruction in method of teaching.....			3	3
Geography and map drawing.....	3			
Geography of Brazil.....		3		
Arithmetic.....	3			
Arithmetic and algebra.....		3		
Geometry.....			3	
History of the world.....		3		
History of Brazil.....			2	
Political economy and civil government.....				2
Physics and chemistry.....			4	
Natural science.....			3	2
Hygiene.....				3
Drawing.....	3	3		
Music.....			3	3
Physical culture.....	3			
Domestic science.....	3	2	1	2
Domestic economics.....			1	2
Manual labor.....			1	1
Total hours per week.....	23	22	24	20

Time schedule of the standard secondary school (the Collegio Pedro II of Rio de Janeiro).

Subjects.	Hours per week each year.				
	I	II	III	IV	V
Portuguese.....					
French.....	3	3	3		
English or German.....	3	3	3		
Latin.....			3	2	3
Geography (general).....	3	3	3		
Geography of Brazil and cosmography.....	3				
History (universal).....		3			
History of Brazil.....					
Arithmetic.....					1
Algebra and plane geometry.....		3			
Solid geometry and trigonometry.....			3		
Physics and chemistry.....				3	
Natural history.....				3	3
Philosophy.....					3
Literature.....					3
Drawing.....					3
Physical training.....	3	3	3	4	
Total hours per week (50-minute periods).....	2	2	2	2	2
	17	20	20	17	18

The above is the required standard secondary course to which all coordinated (accredited) secondary institutions, both public and private, must conform.

Weekly program of instruction of the Pernambuco High School (Gymnasio Pernambuco.)¹

Subjects.	Hours per week each year.				
	First.	Second.	Third.	Fourth.	Fifth. ²
Drawing.....					
Portuguese.....	2	2	1	1	
Latin.....	3	3	3		
French.....	3	3	3		
English.....	3	3	3		
German.....			3		
Geography.....			3	3	3
Gymnastics.....	3				3
Chorography.....	2	2	2	2	
Arithmetic.....		3			
Plane geometry.....		3			
Geometry and trigonometry.....			3		
Algebra.....			3	3	
Physics and chemistry.....			3		
Universal history.....				3	3
Brazilian history.....				3	
Natural history.....					3
Psychology and logic.....					5
Total hours per week.....	16	19	24	18	20

¹ This is a coordinated (standardized) high school covering practically the same course as that given in the model Federal high school in Rio de Janeiro (Collegio Pedro Segundo).

² The regular students of the high school require five years to complete the course and receive the diploma, but special students by carrying more hours per week are able to complete the course in two or three years and meet on examination the entrance requirement to the professional schools. For this reason not more than a third of the high school students are regular; the others are specials taking up the work by subjects and generally completing the course in three years or less.

Subject and time schedule of the six years' gymnasium—Sao Paulo, Brazil.

Subjects.	Hours per week each year.					
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.
Arithmetic and algebra.....	4	3				
Algebra, geometry, and trigonometry.....			4	4		
Mechanics and astronomy.....					3	
Physics and chemistry.....					4	3
Geography.....	3	3	2			
Natural history and anthropology.....					2	5
Portuguese.....	3	3	2	2		
French.....	4	3	2	1		
Italian.....	2	2	2			
English.....		3	3			
Latin.....			3	3	1	
German.....				3	3	2
Greek.....				3	3	3
Literature.....					2	2
Universal history.....				3	3	
Brazil history.....						3
Psychology and logic.....						6
Drawing.....	3	2	2	2		
Gymnastics.....	1	1	1	1	1	1
Total hours per week.....	20	20	21	24	25	25

All subjects are required: there are no electives. The course leads to the bachelor's degree or even the master's degree, and the students are nearly all boys who must have reached the age of 11 before entrance.

Steps in the education system of Brazil.

School or grade.	Proximate ages.																
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Lower primary { Rural.....	—————																
{ Urban.....	—————																
Upper primary { Rural.....		—————															
{ Urban.....		—————															
Escola complementar.....		—————															
Normal school.....																	
Collegio, gymnasio, lyceu.....																	
Privata combined school.....																	
Medical school.....																	
Law school.....																	
Engineering school.....																	

With the exception of law, each school or division given above has different lengths of courses, whether in rural, urban, or better city conditions.

There is an age limit required on entering the normal schools of at least 14, in some States of 15, though the previous schooling required can be completed in five years.

THE EDUCATION SYSTEM OF CHILE.**GENERAL FEATURES.**

The Republic of Chile is composed of 23 Provinces and one Territory (Magallanes). It consists of a narrow strip of land in southwestern South America, from 50 to 250 miles wide (averaging about 100 miles), and about 2,700 miles long, containing 289,829 square

miles. The population in 1920 (last census) is given as 3,754,723; male, 1,866,751; female, 1,887,972; or about 13 to the square mile. The estimated school population in 1920 was 750,000, with an enrollment in public and private schools of 401,171—346,386 in the public primary schools and 54,785 in the private primary schools. In 1920 there were 3,214 public primary schools and 7,361 teachers; 429 private primary schools and 991 teachers; 15 public normal schools, with 2,206 students, which had increased to 2,346 in 1922, and 434 teachers; 153 public and 139 private secondary schools, with 32,880 and 20,006 students, respectively; 11 public commercial schools with 176 teachers and 2,990 pupils; 7 vocational schools, including 28 shops with 1,934 pupils, 541 boys and 1,393 girls. There were also 71 agricultural schools and 8 evening schools for adults, with 1,248 students, which were held in connection with the normal schools, and 26 others held in connection with the secondary schools.

In the statistics of 1922 the public primary schools were given as 3,317, an increase over 1920 of 103, with an enrollment in the month of August of 393,945 and an average attendance of 287,808.

Owing to the great variation in climate, topography, and environmental conditions, it has been exceedingly difficult to develop a unified system of education, although the educational system of Chile is more centralized than that of any of the other South American republics.

ADMINISTRATION.

The system of public instruction of Chile includes the usual divisions of elementary, secondary, and higher education, and, with the exception of certain specialized schools,¹ is under the immediate direction of the Minister of Public Instruction and is practically uniform in organization throughout the Republic. Public education is free, supported by State and local authorities, and since August 26, 1920, compulsory from 7 to 13, or until completing the fourth year of primary education.

Private schools reaching about one-third the children in elementary education and nearly half those in secondary education are almost as important as the public schools. The greater number of private schools are conducted by orders of monks or nuns; but a few are under the direction of American missionary societies; others are conducted by German and other nationalities or by private Chilean citizens for gain. Since, in order to be admitted to the University of Chile or to enter a profession, it is necessary to pass the Government examinations, the courses of the private schools are modeled on the courses prescribed by the Chilean Government. These schools are likewise

¹Schools of arts and trades, agricultural, mining, and professional schools for women are controlled by the Ministry of Industry. The war college, military academy, school for noncommissioned officers, technical profession and primary schools for enlisted personnel are under the Ministry of War.

subject to Government inspection and control. Notwithstanding the centralized direction and control of the public-school system, there is still considerable individual variation in quality and practice of different schools throughout the Republic.

ELEMENTARY SCHOOLS.

The elementary schools are of two types: The ordinary primary schools, covering a course of four years, common throughout the rural and smaller urban districts; the superior primary schools, covering a course of six years and found only in the better urban districts. The latter are usually superior in both quantity and quality of instruction, though the curriculum covering the first four years is virtually the same as that of the ordinary primary school. The instruction of the primary schools is divided into grades of two years each, or two grades in the four-year primary and three grades in the six-year primary. There may be a fourth grade added to the latter, usually consisting of one year and covering courses in agriculture, mining, trades, business, or other practical subjects, depending on the part of the country where situated. There are also trade schools for both boys and girls and day and night schools for adults covering the first four grades of primary education.

In certain cities—Talea, Linares, Cauquenés, Chillan, Concepcion, Lebu, Angol, and Temuco—the Government supports trade schools where women from 14 to 22 years of age are taught sewing, dressmaking, shirt and corset making, millinery, embroidering, drawing and painting, and cooking. Similar schools for boys (men) are maintained, where various trades, as carpentering and bricklaying, are taught. The courses cover three years and require for entrance a knowledge of reading, writing, and the fundamentals of arithmetic, but in the absence of such knowledge the individual, if old enough, is permitted to enter and to be taught these simple fundamentals along with the industrial subjects. The aim of these schools seems to be to increase the vocational efficiency while decreasing the general illiteracy of the people. Weekly lectures are given throughout the entire course on morality, hygiene, domestic economy, and good manners. The teachers of these schools are required to have been educated in the normal schools for training primary teachers or similar institutions, and the graduates to have elementary education covering the first four years of the primary schools. The latter schools are sufficient to satisfy the requirement of compulsory education and tend to reduce the amount of illiteracy; the census of 1907, the latest available, shows that only 42 per cent of the men and 37.9 per cent of the women could read and write.

There are also industrial, commercial, and agricultural schools of a more advanced nature fitting for foremen in business, industry, or

agriculture. The course is of secondary nature, covering six years primary and three years secondary. The courses are quite practical and aim to meet local needs.

THE SCHOOL YEAR.

The school year in Chile for schools of all kinds consists of 10 months of classes with long vacations. The school year begins March 1-10 and ends January 1-10. There is usually a vacation of about 20 days in September and 3 days in Holy Week; the long vacation includes January and February. The school day in primary schools consists of five hours and the school week of five days—Wednesday and Saturday afternoons being holidays; the school day in secondary schools is six hours, and the school week consists of five and one-half or six days. The class period is from 30 to 50 minutes. The number of credit hours carried per week varies from 20 to 36, in the primary schools the average being about 30 and in the secondary schools 33.

SECONDARY SCHOOLS.

Secondary education in Chile is about equally divided between public and private institutions and covers the period between primary education on the one side and professional and higher education on the other. The principal public secondary schools are known as liceos and cover a course of three to six years. The best of these schools offer a six years' course, based on either a four or six years' primary course. The bachelor's degree is granted to graduates of the public liceos or the private seminaries and institutes of corresponding rank. Graduates of these institutions are prepared for the matriculation examination to the university and better professional schools.

As will be seen through reference to the accompanying graph and time-tables, the plan of secondary education in Chile is very different from that in the United States. The subjects of study are much the same, but in Chile there are no electives, each student is required to take every subject on the schedule. The methods of instruction, depending almost wholly on examination for promotion, are confined more to memoriter and less to laboratory and individual initiative of the pupils than in the corresponding grades of the United States; the number and variety of subjects studied and the number of class hours per week are greater in Chile.

PRIVATE SECONDARY SCHOOLS.

As mentioned above, about half of the secondary education in Chile is under private direction. These schools are for the most part church schools. The courses of study are somewhat similar to the courses in the public schools, the students of both must pass

the same examinations in order to enter a university or profession. The course is usually shorter than in the public liceo, with more attention given to religious instruction, more to language and literature, less to science and mathematics, and on the whole better adapted as a fitting school to higher education as now constituted though not so well adapted as a finishing school to life.

These schools vary in length and quality, but the usual length of the better private secondary schools (colegios, seminarios, institutos) is 9 or 10 years—1 year kindergarten, 3 years primary, and 6 years of the so-called secondary education. Graduates of the better of these private schools, as of the public six-year liceos leading to the bachelor's degree, are, under the United States accrediting system of promotion, usually granted, on entrance to higher institutions, credit equivalent to that of graduates of our senior high schools. In the main the quality of instruction is inferior to the better Government liceos. In both public and private education there are separate schools for boys and girls. The schools of the latter are quite similar to those of the former, especially in elementary education, except in the vocational, health, and physical education subjects. Most of the private secondary schools have a primary school attached and give both elementary (preparatory) and secondary instruction.

QUALIFICATION AND SALARY OF TEACHERS.

Provision is made in the school law for the qualifications and salaries of elementary and secondary teachers, who are required to be graduates of normal schools for the better positions in the secondary schools. The supply of fully trained teachers, however, is not sufficient to meet the needs, and others are provided on examination. There are also in many communities part-time teachers, lawyers, and others, who teach a few subjects in the school while carrying the work of their professions. The elementary teachers are divided into three classes, and provision is made for promotions. The salaries of these teachers are to be from 2,400 to 6,000 pesos per year (a peso represents normally about 20 cents United States currency, but at present only 10 to 11 cents).

The teachers in the public "liceos" receive a salary of 750 pesos per month with a bonus of 30 per cent, which makes 995 pesos per month. Thus the salary of a secondary teacher is normally about \$199 per month, but at present only about \$103. After five years of service the teacher receives an increase equal to five-fortieths of his salary as service pay and thereafter one-fortieth additional for each year of service. In the private schools the teachers are paid about one-half as well as in the public schools. In the schools conducted by the religious orders the teachers are principally monks or nuns, who are members of the orders and receive no salary. In

some religious schools, as the Seminary of Concepcion, the priests receive salaries. Aside from the Government professors (secondary teachers) the standard price for teaching seems to be about 5 pesos per hour.

The normal schools provided for the training of elementary teachers have a course of six years, divided into three grades of two years each. They require for entrance completion of the 6 years of superior primary school, thus requiring of the candidate for graduation 12 years of schooling, the same as the high schools of the United States. The course is considered slightly inferior to the course in the better public liceos, covering about the same subjects, however, with the addition of professional subjects and practice teaching. The salary of the teachers of the normal schools varies from 3,000 to 7,000 pesos yearly. Under the new law (1920) the teachers are to be paid 3,000 pesos yearly for each chair or branch taught. This chair consists in from 6 to 11 hours of instruction per week, and no teacher can hold more than three chairs. Provision is also made for increase of pay on length of service.

The Pedagogical Institute of Santiago, where most of the secondary teachers are trained, covers a course somewhat equivalent to the new teachers' colleges in the United States—graduates are classed as Government professors.

HIGHER EDUCATION.

The only public university of Chile is that at Santiago, which has a school of medicine, law, engineering, pharmacy, architecture, dentistry, education (Institute of Pedagogy), and fine arts. There is also a private university (Catholic) at Santiago, which has a school of agriculture, law, mathematics, and architecture. There is another university and several professional schools at Concepcion, the University of Concepcion—a private institution founded in 1919 by the people of Concepcion with some aid from the Chilean Government. It has already organized the following schools: Pedagogy (English), dentistry, pharmacy, and industrial chemistry. Each of these schools offers a ~~three~~ three years' course. Entrance to the above institutions is on examination and covers about the amount of schooling offered in the liceos. The School of Naval Engineering of Talcahuano is the school where the engineer officers of the Chilean Navy are trained. It requires for entrance an examination which may be successfully passed after 9 or 10 years of schooling. The course covers five years and includes special attention to mechanical engineering, drafting, and mathematics. It offers good courses in physics and chemistry and is specially strong in English. The course is directed toward the training of men for engineers on ships, but many of its graduates become engineers or architects in civil life.

EDUCATION IN MAGALLANES.

The Territory of Magallanes is larger than any of the Provinces, covering more than 65,000 square miles, though sparsely settled, containing about 30,000 inhabitants, 22,000 of whom reside in Punta Arenas. The instruction is confined to primary and secondary grades. There are 12 fiscal schools, supported by the national treasury, with an enrollment of 1,576, and 20 territorial schools, with an enrollment of 1,450. Private schools total 14, including one night school for boys and young men, with an enrollment of 350. The private day schools have an attendance of over 1,000. The census of children in the territory between the ages of 5 and 13 years shows 3,164 boys and 3,096 girls, a total of 6,260.

Ten of the fiscal schools and eight of the territorial schools are in Punta Arenas. Of the 10 fiscal schools, 2 are superior primary and 2 are lyceums for secondary instruction, 1 each for girls and the same number for boys. As in the Provinces the usual primary school (rural) covers a period of four years, the superior primary (better urban conditions) covers a period of six years, the lyceums (secondary schools) cover a period of four to six years. The best lyceums now in the territory cover but five years and accept for entrance pupils from the fourth and even from the third year primary school. There are no schools at present in Magallanes that extend the instruction beyond secondary education. For higher education one must go to other parts of Chile.

PROMOTION SYSTEM.

The system of public instruction in the Territory of Magallanes is identical with that followed in the Provinces of Chile, including the superior direction by the Ministry of Public Instruction. In the matter of promotions examinations play a more important roll than in corresponding positions in the United States. To illustrate, in the secondary schools examinations are conducted by boards of three graduate teachers named by the Minister of Public Instruction, and promotion is based on averages of grades in each study. The examinations in practically all studies are both oral and written, and the examiners record their decisions with balls of three colors, red, white, and black. The red ball signifies distinction and has a value of two points; the white ball signifies approbation and has a value of one point; the black ball signifies rejection and has no value. Pupils fail of promotion when there is recorded against them in two studies an average of at least two-thirds (two black balls and one white ball). Those who fail have the privilege of a second examination at the opening of the next school year. The passing mark is usually low, in many cases not exceeding 40 per cent.

For more detailed information on the courses of study and steps in the process of education in the school system of Chile, see the accompanying graph and time-tables.

Weekly schedule of secondary education, Liceo of Concepcion, Chile.

Subjects.	Years of course and hours per week.								
	Preparatory course.		Liceo proper.						
	I	II	1	2	3	4	5	6	
Penmanship and drawing.....									
Spanish.....	4	7	5	3	3	2	2	2	
Mathematics.....	6	6	4	4	4	4	3	3	
Natural science.....	5	5	4	4	4	4	3	3	
History and geography.....	4	4	2	2	2	2	2	2	
Singing and gymnasium.....		4	3	3	3	3	3	3	
Religion.....	3	3	3	3	3	3	3	3	
Manual training.....	2	2	2	2	2	1	1	1	
French.....			2	2	2	2	2	2	
English, German or Italian.....			4	3	3	3	3	3	
Physics.....				4	4	4	3	3	
Chemistry.....						2	2	2	
Civics.....						2	2	2	
Philosophy.....						2	2	2	
Total number of hours per week.....	24	31	29	30	30	32	31	33	

Weekly schedule of the principal private (Catholic) secondary school—Externado del Seminario de Concepcion—Chile.

Subjects.	Hours per week each year.							
	Preparatory.		Seminary.					
	I	II	1	2	3	4	5	6
Religion.....								
Reading.....	6	4	4	3	3	3	2	3
Spanish.....	3	3						
French.....	3	3	6	6	6	6	4	
English.....	3	3	3	3	3	3	2	6
History ¹	3	3	3	3	3	3	3	5
Mathematics.....	16	8	8	8	6	6	15	
Penmanship and drawing.....	6	6	6	8	8	6		
Natural history.....	3	3	3	2	2	2		
Physics.....					2	2	5	
Chemistry.....						2	6	
Political economy.....							2	6
Civics.....							2	
Physical geography.....								4
Cosmography.....								4
Philosophy.....								4
Total hours per week.....	33	33	33	33	33	33	33	33

¹ History is combined with geography in the preparatory course, and the fifth year designated history is a course in history of literature. All students of the school have gymnasium together one hour per day throughout the course.

The two time-tables just given represent fairly well the usual requirement in the better secondary schools. The course is rather heavily loaded, the preparatory covering in two years the required four years primary, making it possible for bright students to complete the entire course in eight years. The courses fit for the university and professional schools and lead to the bachelor's degree.

Steps in the education system of Chile.

School or grade.	Proximate ages.																	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ordinary primary school.....	—————																	
Superior primary school.....						—————												
Private primary school, usually combined with private secondary schools (seminario).....	—————																	
Public secondary schools (liceo).....							—————											
Government trade school (girls) ¹								—————										
Industrial school (boys) ²									—————									
Agricultural school.....										—————								
Normal schools (escuelas normales).....											—————							
University:																		
Pedagogy, pharmacy, dentistry.....																		
Medicine.....																		
Law.....																		
Naval engineering.....																		

¹The usual length of the Government trade schools for girls is three years, but the ages of the student vary from 12 to 21 or older. Entrance requirements are shown elsewhere.

²An industrial school for adults (men) requires an age limit of 19 for entrance, though the scholarship requirement may be met by the five years primary or less.

EDUCATION IN BOLIVIA.

GENERAL STATEMENT.

Bolivia consists of a great inland plateau, low alluvial plains, extensive swamps, and heavily timbered districts of west central South America. Its principal cities lie some 12,000 feet above the level of the sea, but many of the natives inhabit the lowlands to the south and east. The area of the Republic is 514,595 square miles, the population, census of 1900, was 1,744,568 (present estimate, 1922, is 2,820,119) or about 3.4 (census) and 5.4 (present estimate) per square mile. Of the census population, 50.9 per cent were Indian, 26.7 per cent mestizos, 12.7 per cent white, 0.21 per cent negro, and 9.4 per cent unclassified. The small per cent of the ruling classes, the scattered and tribal condition of the masses, the lack of means of communication and transportation in rural districts, the great variety of topography and climate make the education of the people an exceedingly difficult problem.

The language of the schools and of the country is Spanish, but there are at least three important native languages, Quichua, Aymard, and Guarani, which interfere with the introduction and general use of Spanish.

There are no school-census statistics available, but according to the estimated population there must be over 300,000 children between the ages of 7 and 15. From the official reports of 1922 the entire school attendance was given as 63,228: primary school attendance was 57,134; secondary, 3,343; special schools, 1,836; university,

915. The estimated per cent of illiteracy was given as about 85 per cent, found mostly in the rural districts among the native Indians and mixed races.

There are both public and private schools, the latter of which are important, being patronized by the wealthier classes, who can afford the extra expense. The private schools are conducted mostly by convents and other religious organizations, missions, and the like. They are under Government supervision and are required to conform to the Government course of study, etc., but in many respects are considered to offer superior advantages to the public schools of the same community. Since the private schools present no new problems not covered in the public schools, principal attention has been given to a description of the public-school system.

While in theory the Government Department of Education provides for the support of both rural and urban schools, in practice but little provision seems to have been made for education in rural districts, and the majority of children in school attendance are in the cities, representing probably less than 15 per cent of the population. The lack of provision for education in the rural districts is due to many causes: Lack of funds to support the entire school system; the scattered condition of the population (mostly Indian) in the rural districts; the indifference of the Indian parents to the education of their children and the belief among the upper classes that an educated Indian is unfitted for the work he is expected to do; the system of large landownership, immense estates worked by Indian tenants, the proprietor and family living in the city under more favorable opportunities of education.

SCHOOL ADMINISTRATION.

The school system of Bolivia is centralized and controlled by the Government under the immediate direction of the Minister of Public Instruction and Agriculture. Subject to the approval of the President of the Republic, the minister appoints the inspectors general of primary and secondary schools, the directors of schools and rectors of universities, and special teachers from other countries who present documentary evidence of their competence and ability to teach in Bolivia. There are eight States or Departments, and under the decree of July 30, 1921, the school administration of each Department is directed by a university council composed of six members and the secretary general in the office of the university rector, as follows: President, the rector of the university of the Department; other members, the deans of the faculties of law and medicine; the director of the institute or normal school, if any; a director of other establishments, secondary, technical, or superior; a director of a public primary

school; a director of a private colegio; and a representative of the students appointed by themselves who may or may not be a student of a public institution. In districts where but one or no faculty exists and wherein there is no normal school, the deans and directors, respectively, will be replaced by directors of other institutions, superior, secondary, or technical, and, in the absence of these, members appointed by the executive power.

Each Department is organized as a separate educational district with the board of education (university council) at its head. The university councils acting under the authority of the Minister of Public Instruction and the Federal Government have control, direction, and general supervision of all education in the departmental districts. There are subordinate boards of education, as the provincial and municipal councils, through which the university councils may come into more direct touch with the people. But the principal units of action are the university councils which regulate the hours of school, distribute school material, supervise discipline, make annual reports of educational progress in the departments, approve school expenditures, and in general control the conduct of the school system of the departments, subject to the approval of the Minister of Education.

PRIMARY EDUCATION.

Primary education is free and, according to law, compulsory, though the provision is not as yet enforced. Owing to the lack of funds, there are but few properly fitted primary schools. Most primary education is given in rented buildings.

Primary instruction is under the care of the municipalities and the State. The full course is six years, but in many localities a shorter course is given. In 1908 four years of primary education were required to fit for entrance into the colegios. This was increased to six in 1918, but was reduced to five in 1921 and still continues with that number. There are both urban and rural schools. It is the former that are being described; the latter are few and quite variant in length of course, subject matter, and quality of instruction. The school age, according to the law of 1908, begins at six years. In a few cities opportunity for kindergarten instruction preceding primary education is offered. The subjects covered in the first three years of primary work are reading, writing, arithmetic, drawing, music, physical exercise, elementary manual training; the next three years add physiology and hygiene, history, geography, and elementary science.

In primary education boys and girls are provided for in separate schools. As a rule there are six hours in the school day and five and

half days per week, Saturday afternoon being a school holiday. There are few or no textbooks, all instruction in the primary schools being given orally by the teacher. Primary schools are also conducted by religious orders and by missions.

SECONDARY EDUCATION.

Secondary instruction is given in schools called "colegios nacionales or liceos," which offer a six-year course based on five years of primary instruction for entrance, leading on graduation to the diploma of bachiller en ciencias or en letras (bachelor of science or letters) and fitting for entrance into the universities and professional schools. There are 14 Government colegios, 5 clerical institutions, and 5 private liceos offering complete secondary instruction.

Secondary instruction is neither free nor compulsory; there is an annual fee of 10 to 15 bolivianos (1 boliviano equals \$0.39 gold). Textbooks are not common, as the teachers are in the habit of using the lecture method, but the students are required to keep notebooks covering the work of the entire year. Examinations are held on the completion of individual subjects and again on completing the entire six years' course. The latter examination is conducted by three examiners in each subject who are appointed by the rector of the university, president of the university council, from the teachers of the different secondary schools of the city. As in primary education, most of the secondary schools are noncoeducational. In a few cities, however, coeducation is being tried in secondary schools. Girls are admitted to the examinations for the degree of bachiller, and if successful, are permitted to attend the university and special schools with the boys. A small number of girls are attending the schools of medicine and law, and a larger number attend the normal and commercial schools. The subjects of study are found under the time schedule.

PREPARATION AND SALARY OF TEACHERS.

In Bolivia there are five special normal schools for the training of teachers—three for the training of rural teachers, situated in appropriate places, with special curricula to meet the needs of the rural communities; one for urban teachers at Sucre, and one for the training of teachers for secondary, normal, and commercial schools, called the "Instituto Normal Superior," at La Paz. The requirements for entrance to all the normal schools except the last are similar to those for the secondary schools. The course may be a year less and not as strong academically, but offers work in theory and practice of teaching. Graduates of the superior normal school receive the title of

normal professor; those of the urban normal school, normal master; and those of the rural normal schools, rural preceptor.

The average salary of the regular teachers in the primary schools is about 2,000 bolivianos per year, corresponding at normal exchange to \$778; at present exchange to about \$600. The highest-paid teachers in the primary schools receive 2,880 bolivianos, the lowest 1,200. The principals of primary schools receive an average of about 3,600 bolivianos, and the highest are paid 4,800.

In the secondary schools, the average salary is about 2,800 bolivianos, the highest 3,000 and the lowest 2,400. Teachers of special subjects through teaching in several schools simultaneously may receive larger salaries. Principals or directors of secondary schools receive an average salary of about 5,400 bolivianos.

The average salary of professors in the professional, technical, and normal schools is about 2,800 bolivianos, the highest 3,600 and the lowest 2,400. Many of the teachers of the secondary and higher schools devote but part time to teaching, while pursuing the regular activities of their profession or business. The professor in a law school averages two hours of teaching a day; in the normal, medical, and other professional schools, about three hours.

Pensions are paid to those teachers in the Government public schools who have been employed for 25 consecutive years, or 35 nonconsecutive years. The pensions are 100 per cent of their last salary. Those who have rendered service as teachers for at least 10 years have a right to pensions if they become physically incapacitated, and receive two-thirds of the salary of their last post, provided they have held this post for three years or shall have been promoted from the next lower position. Those who have taught 10 years who shall have attained the age of 65 years are pensioned with half the salary of their last post.

SPECIAL SCHOOLS.

There are a number of special schools of both secondary and university rank. The former, however, do not prepare for university entrance, but for various lines of commerce and industry. They offer work of secondary rank, but usually less academic and more technical, and in some cases prepare for higher technical schools of university rank. There are commercial schools, a school of mines, a manual training school, conservatories of music, and professional schools for girls which teach largely sewing and domestic science. The tuition is the same as that of the secondary schools. The school year is from January to October, covering 36 weeks of work. Examinations are held from the 10th to the 25th of October.

HIGHER EDUCATION.

There are three universities in Bolivia, one at La Paz, with faculties of medicine, law, theology, pharmacy, dentistry, and commerce; another at Sucre, with faculties of medicine, law, theology, and pharmacy; a third at Cochabamba, with faculties of law and theology. There are separate faculties of law at Oruro, Potosi, Santa Cruz, and Tarija, and a faculty of theology at Santa Cruz. There is a Government mining school, including the beginning of an engineering school, at Oruro; an institute of agronomy, a school of commerce and surveying, and a trade school at Cochabamba; a commercial institute, a military school, two trade schools, and a conservatory of music at La Paz.

Formerly to enter the law school the double diplomas, bachelor of science and of letters, were required, now (1922) one of the degrees is sufficient; but one is also necessary to enter schools of medicine, pharmacy, dentistry, commerce, civil and mining engineering. The school of dentistry offers a course of three years; midwifery, three years; pharmacy, four years; medicine, seven years; law, five years; commerce, two and three years. There is growing interest in the secondary and higher education of women, and added provision is being made in coeducation. Students of merit are frequently sent abroad by the Government to complete their education. Foreign teachers are sometimes engaged as supervisors, principals, or teachers of special subjects.

Schedule of the public secondary school of Bolivia.

Subjects.	Hours per week each year. ¹						Total.
	I.	II.	III.	IV.	V.	VI.	
<i>Required.</i>							
Spanish language and literature.....	5	5	5	4	4	4	27
Mathematics—arithmetic, algebra, geometry..	5	4	4	4	4	4	25
History.....	2	3	3	3	3	3	17
Geography.....	2	3	3	2	2	1	13
Natural history.....	2	3	3	2	1	1	12
Physics.....				2	3	3	8
Chemistry and mineralogy.....				2	3	3	8
Moral instruction and philosophy.....					1	3	4
French or English.....	4	4	4	4	3	3	22
English or French.....				3	3	3	9
Drawing and penmanship.....	2	2	2	2	2	1	11
School games and gymnastics.....	4	4	4	4	3	3	22
<i>Elective.</i>							
Manual training.....	1	1	1	2	2	2	9
Music and singing.....	1	1	1	1	1	1	6
Religious instruction.....	1	1	1				3
Total required hours per week.....	26	28	28	32	32	32	.....

¹ The class period or hour varies from 30 to 45 minutes and the school year from 32 to 40 weeks, averaging 36 weeks.

Steps in the education system of Bolivia.

School or grade	Proximate ages																	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Rural primary school.....	—	—	—	—	—													
Urban primary school.....	—	—	—	—	—	—												
Secondary school (public colegio).....						—	—	—	—	—	—							
School of commerce.....										—	—	—	—	—	—			
School of law.....												—	—	—	—	—		
School of pharmacy.....													—	—	—	—	—	
School of dentistry.....														—	—	—	—	
School of medicine.....															—	—	—	—

EDUCATION IN COLOMBIA.

GENERAL STATEMENT.

All statistics of the country are but estimates and vary considerably with the reports of different writers. Owing to boundary disputes with neighboring Republics, the estimated area of Colombia varies from between 440,000 to 477,000 square miles, and the estimates of population vary from about five to six millions or more. The census taken in 1871 showed a population of 2,951,323, of which 10 per cent were white, 15 per cent Indian, 40 per cent mestizos, and 35 per cent Negroes and their mixture with the other races.

There is no school census available, and the statistics of school attendance at hand are but estimates. The school age is from 7 to 15, between these ages there must be at least 600,000 to 700,000 children. The estimate of enrollment in all public and private schools for 1919 was 364,573, with an attendance of 304,690. The number of primary schools was 5,633, with an enrollment of 336,882 and an attendance of 279,717; secondary schools 278, with an enrollment of 22,216 and an attendance of 20,135; professional schools 38, with an enrollment of 3,732 and an attendance of 3,310; industrial schools 40, with an enrollment of 1,743 and an attendance of 1,528.

With extended coast lines, broad wooded plains and pasture lands, high plateaus, and inaccessible mountain regions, the topography and climate of Colombia are unusually varied. For this reason, coupled with the undeveloped state and lack of appropriate means of communication, the country has made but little progress in education. The total isolation of communities, Provinces, and Departments from one another tends to develop local interests and to interfere with the development of a national system of education. The natural resources of the country are great, and the intelligence of the leaders above question, but the condition of education is disappointing.

The illiteracy is large (between 80 and 90 per cent), and, with the exception of a few of the larger cities and more favored communities, no adequate provision has been made for the education of the people.

SCHOOL ADMINISTRATION.

At the head of the education system of Colombia, acting in behalf of and amenable to the National Government, is the Minister of Public Instruction, with large executive and appointive powers. He is one of the eight cabinet officers and exercises supervision and control over the public schools, high schools, colleges, and special institutes, as the National School of Commerce, the National School of Fine Arts, and the National Academy of Music. He is also in charge of the national library, the national museum, and the astronomical observatory; and intervenes in matters of health with sanitary and public health boards. Agricultural education and most of industrial and commercial education, however, are directed by the Department of Agriculture and Commerce, the head of which is also a cabinet officer.

There is also a national council of education. At the head of each of the 14 State departments is the director general of public instruction, and at the head of school affairs in the territories is a school inspector or supervisor. There are local, departmental, and national school inspectors, and municipal boards of education. The Departments and municipalities, as well as private individuals, can maintain establishments of primary and secondary education, but both public and private secondary schools must conform to regulations and apply to the Ministry of Public Instruction for the right to issue the diploma of bachiller (bachelor).

SCHOOL YEAR.

The school year extends from the first of February to the first or last of November, with a number of church holidays. The school year covers about nine months of 5½ days per week, 22 days per month, 3 to 5 hours per day.

PRIMARY EDUCATION.

Primary education is gratuitous but not compulsory. Boys and girls are provided for in separate schools or at different times of the day in the same school. Since primary education is largely a departmental matter and differs somewhat among the Departments, the statements here are confined to the Department of Magdalena (Santa Marta), which is typical of the average condition.

There are two courses of study, one for rural schools and the other for urban schools. In the rural schools are two plans—the one called "alternate," whereby boys attend each day from 7 to 10 a. m. and girls from 12 to 3 p. m.; the other, in which separate schools are maintained for each sex. In urban conditions there are separate schools for each sex, the course of study being divided into three parts, called elementary, intermediate, and superior. The hours of instruction are from 8 to 11 a. m. and from 2 to 4 p. m. The length of the course in both rural and urban schools is three years; but very few children, especially in rural communities, continue in school for three years, and more than half of the children throughout the Republic do not attend school at all. Monthly ratings of the pupils based on class work are provided, but promotions from grade to grade and at the end of the course are based on formal, public examinations by an examining board at the close of the school year and on the completion of the primary course. Few, if any, of the graduates of the primary schools enter the secondary schools for further education, which would be possible only on meeting the required matriculation examination.

About equal provision in primary education is made for both boys and girls, and the attendance does not vary much between the sexes. Of primary education three-fourths or more is publicly provided and less than one-fourth privately provided; in secondary education the proportion is changed, only about one-third of the secondary schools being publicly provided and two-thirds being maintained by private venture—church or lay. Less than half of the school buildings are municipally owned, the majority being rented for school purposes and poorly adapted to such needs. Subjects of study in rural schools are reading, writing, arithmetic, religion, geography, good manners, sewing, and less arithmetic for girls; in urban schools, religion, reading, writing, drawing, singing, object lessons, calisthenics, arithmetic, sewing for girls, geography, and history of Colombia, elementary science, and notions of physics.

SECONDARY EDUCATION.

Secondary education is under the immediate direction and control of the National Government. It is given in Governmental normal schools, of which there are usually two in each Department, one for boys and one for girls; colegios, liceos, and institutos. The latter institutions have sprung up as special fitting schools for higher and professional education, and are all pay schools (open to both internes and externs) attended by ambitious students of the better classes. The usual type is the national colegio, which usually maintains both primary and secondary courses; the former of three or four years and the latter of five or six years, the entire course of nine years leading,

on successful examination, to the bachelor's degree in letters or science. This is the usual form of secondary education and is quite distinct from and independent of the primary schools. The time element leading to the bachelor's degree is three years short of that required for graduation from our high schools, but the pupils are, on beginning, probably a year older, of a selective class, and the subject matter, in some lines, is more extended, though considerably less so in others.

The secondary schools are usually divided into two classes, especially during the later years of the course, technical and classical. The course of the former includes more of science and mathematics; of the latter, more of language, philosophy, and the humanities. The technical course leads to the degree *bachiller en ciencias* (bachelor of science), the classical course leads to the degree *bachiller en letras* (bachelor of letters). Both courses cover nine years of schooling and are considered of about equal rank. In some instances they are combined, at least for the first four years of the *colegio*; one such schedule (the National School of Commerce, Bogota) is submitted herewith. The normal schools are maintained primarily for the training of primary teachers, but they also furnish secondary education to boys and girls who have no thought of becoming teachers. They require for entrance the same preparation as the *colegios* and, as the other Government secondary schools, offer a five years' course leading on graduation to a teacher's diploma. Owing to the attention given to professional subjects, the normal schools are not considered of equal academic rank with the national *colegios*.

HIGHER EDUCATION.

There are two Federal institutions of college rank, the National University of Bogota, with schools of law, medicine, dentistry, and engineering; and the National School of Mines of Medellin. There are also a number of State or Departmental universities, as follows: The University of Bolivar, at Cartagena; the University of Antioquia, and the recently founded (1919) Women's University, at Medellin; the University of Narino, at Pasto; the University of Cauca, at Popayan; and the University of Magdalena, at Santa Marta. In Bogota, the capital, are also National schools of agriculture, fine arts, and the conservatory of music. Entrance to the above universities is on examination after graduation from the *colegios* or secondary schools.

Weekly schedule of the Government normal schools.

Subjects.	Hours per week each year. ¹					
	I	II	III	IV	V	Total.
<i>Literary.</i>						
Religion.....	3	3	2	2	2	12
Pedagogy:						
Theory.....		1	3	3	3	10
Practice.....		1	3	5	6	15
Spanish and rhetoric.....	6	5	4	3	3	21
French.....	3	3	3	2	1	12
English.....			3	3	2	8
Geography.....	3	3	2	2	1	11
History (Colombian and universal).....	3	2	2	2	2	11
Writing.....	2	2	2	1	1	8
Drawing.....	2	2	2	2	2	10
<i>Science.</i>						
Arithmetic.....	3	3	2	2	2	12
Bookkeeping.....			2	2	2	6
Geometry.....	2	2	2	1	1	8
Physics and chemistry.....	1	1	2	2	2	8
Biology:						
Hygiene, agriculture, horticulture, etc.....	1	1	2	2	2	8
Practice, gardening, etc.....	1	1	1	1	1	5
Manual work (for girls).....	2	2	2	2	2	10
Civics and political economy (boys).....						
Domestic science (girls).....			1	1	1	3
Music.....	3	3	2	2	2	12
Callisthenics.....	2	2	2	2	2	10
Total hours per week and course.....	37	37	44	42	40	200

¹ The usual length of the recitation period is 50 minutes, but the numbers of hours per week are double those permitted in corresponding grades in the United States.

Weekly schedule of colegio,¹ combined course—technical and classical.

Subjects.	Hours per week each year.						Total.
	I	II	III	IV	V	VI	
<i>Letters.</i>							
Religion.....	2	2	2	2	2	2	12
Spanish language and literature.....	3	5	5	5	2	2	22
Geography and cosmography.....	2	2	2				6
Colombian and general history.....	2	2	2	2	2	2	12
Penmanship.....	2	2	2				6
Drawing.....	1	1	1	1	1	1	6
French.....	3	3	3	3	3	3	18
English.....			3	3	3	3	12
Latin.....					2	1	3
Philosophy: Logic and metaphysics.....					3	3	6
<i>Science.</i>							
Mathematics:							
Arithmetic.....	6	4	4				14
Accounting.....				3			3
Algebra.....		1	2	3	3	3	9
Geometry.....		1	2	2	2	3	10
Natural science:							
Zoology and botany.....	2	2	2				6
Mineralogy and geology.....					2	2	4
Physical science:							
Chemistry.....		1	1	3	3	3	11
Physics and cosmography.....		1	1	4	4	4	14
Total hours per week and course.....	23	26	30	31	32	32	174

¹ It will be noted that there are fewer recitation periods in the six years colegio than in the five years normal school. The length of the recitation periods is the same in either case, between 45 and 60 minutes.

Steps in the education system of Colombia.

School or grade.	Proximate ages.														
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Primary schools:															
Rural.....	—	—	—												
Urban.....	—	—	—												
Secondary schools:															
Separate.....															
Combined with primary.....	—	—	—	—	—	—	—	—	—						
University:															
Law faculty.....															
Dentistry.....															
Medical faculty.....															

The usual length of both rural and urban schools is three years, divided into elementary, intermediate, and superior grades. Promotion from grade to grade both in the primary and secondary schools is the result of a public examination by the government examining board.

EDUCATION IN ECUADOR.

GENERAL STATEMENT.

Ecuador, crossed by the equator, from which it derives its name, lies between latitude 2° north and 6° south. It is bounded on the north by Colombia, east by Brazil and Peru, south by Peru, and west by the Pacific Ocean. It is also crossed from north to south by the Andes Mountains, separating within the Republic into two distinct ranges, with a high plateau of table land between them. The country may be divided into three distinct sections—the coast, west from the foothills of the Andes to the Pacific Ocean; the inter-Andean, embracing the mountains and the interlying plateaus and valleys; and the trans-Andean country. Thus situated in the heart of the tropics, with virtually no change of season, neither winter nor summer, but with all degrees of elevation from the low coastal marshes to the perpetually snow-crowned peaks of the Andes; few, if any, countries of the world possess greater variety of climatic and topographical conditions; the heat of the tropics to the frigidity of the perpetually snow-capped Andes can be experienced by a short journey inland. These different elevations of temperature, uniform within narrow limits, affect the life, habits, industry, and education of the people.

The area of Ecuador is usually given as 116,000 square miles, though more than twice as much is claimed, owing to boundary disputes. The estimated population varies considerably with the different estimates, but is more frequently given (1923) as about 2,000,000 inhabitants, divided in the proportion of 60 per cent Indian,

30 per cent mestizos; 7 per cent white, 3 per cent negro and mulatto. There is no census directory of the number of children of school age, but from the school report of 1922 the following items are of interest: The number of pupils enrolled in primary education is 108,920 (60,712 boys and 48,208 girls); the number in attendance, 93,865 (52,493 boys and 41,372 girls); the number of schools, 1,718 (State 1,374, municipal 159, private 185); the number of teachers in these schools, 2,548 (1,075 men and 1,473 women). The different types of primary schools were given as follows: Advanced, 47 (23 boys and 24 girls); intermediate, 333 (183 boys and 150 girls); elementary, 1,338 (453 boys, 451 girls, 434 mixed). Of the 2,548 teachers in the primary schools, 222 are normal-school graduates, 263 are of the first class, 120 of the second class, 1,003 of the third class, and 940 without title or permanent certificate. In 1919 there were 15 national colegios (national secondary schools)—one for each Province—with an enrollment of 1,639 students; and three universities, one at Quito, one at Guayaquil, and one at Cuenca, with a total enrollment of 744 students.

Public primary education is secular, free, and according to law compulsory between the ages of 6 and 12. There are the usual three divisions of education—primary, secondary, and higher. The Government supports and directs all, but principal attention is given to primary education. Each rural parish is required to maintain at least one school for boys and one for girls, and, if 20 children are found to live 5 or more kilometers from the center of the parish a mixed school will be established in the neighborhood; if 40 children are so situated, two schools will be established, one for boys and one for girls. The primary schools are of three types—elementary or one-teacher schools; intermediate or schools having two or more teachers; and superior having five or more teachers and offering work covering the fourth to the eighth grades inclusive. The first two are far more common and more representative of the public-school system.

The length of the school year is given as 36 weeks, of 5 days per week (Thursday and Saturday afternoons and Sunday are school holidays), and 4 to 6 hours per day. The vacation period in the interior Provinces follows the yearly examinations, which occupy the whole month of July; in the coastal Provinces the yearly examinations fall in the month of January and the annual vacation follows in February and March.

SCHOOL ADMINISTRATION.

The authorities in school administration are as follows:

1. The Superior Council, composed of the Minister of Public Instruction, president; the rector of the University of Quito; a delegate

elected by the universities of Guayaquil and Cuenca, and the faculty of law at Loja; the rector of the institute "Mejia," and the director of instruction for the province of Pichincha.

2. The Minister of Public Instruction.

3. The provincial school council, composed of the director of instruction, chairman; two secondary-school teachers from the capital of the Province, named by the respective administrative board; and two citizens named by the county government.

4. The directors of instruction and their deputies are responsible for school management, hygiene, attendance, and have authority to compel country magnates to maintain schools on their estates.

5. The school visitors. The number is determined by the superior council and nominated by the respective provincial schools councils, with authority over public primary schools, municipal and private schools, schools of art and commerce, orphanages, etc.

6. Rectors of universities and colegios.

7. The administrative boards.

8. The university faculties.

9. The parochial boards of inspectors, consisting of three responsible householders in each parish, who report monthly on the conduct of the teachers, indicate where schools ought to be established, and give all necessary information to the directors of instruction.

The school law assigns to each of the above bodies the usual functions of such officers and places the sole responsibility for the administration of the function on the particular body concerned.

The superior council is at the head of the entire school system and in conjunction with the Minister of Education has control of all education; issues and approves regulations, and authorizes the creation of colegios, training and special schools; appoints rectors of colegios; nominates provincial directors of instruction; elects university professors and secondary school teachers; grants degrees and prizes to authors; decides legal difficulties; prepares programs and approves estimates, methods, textbooks, etc. The Minister of Education has also independent functions, as promoting public libraries, museums, natural history collections, and other educational institutions; organizing teachers' conferences; preparing educational bills for the presentation to Congress, etc.

The provincial educational council, subordinate to the Superior Council, stands in the same relation to the province as that of the Superior Council to the Nation. Among its expressed duties are to nominate in January of each year school visitors of the Province and to remove for cause the same; to require the fulfillment of the laws, decrees, and regulations concerning public primary instruction; to see to establishing necessary schools; to license the establishment of private schools; to examine, license, appoint and remove primary

teachers; to supervise primary schools, establish adult evening schools; to formulate budgets and control finance, etc. The directors of instruction, like the Minister of Education, have separate functions of their own and must possess the qualification required of candidates for rectors of schools of secondary education to be eligible to appointment. They are also required to give undivided attention to the service of the office.

PRIMARY EDUCATION.

As mentioned above, there are three types of primary schools—elementary, intermediate, and superior. About 78 per cent of all primary schools are of the first type, 19 per cent of the second, and 3 per cent of the third. The elementary primary may be found in any part of the country, but it is almost the only school found in rural conditions. It covers at least the lowest section—first and second grades—and may on permission carry the work of the middle and upper sections, in which case but one grade of the middle and upper sections can be carried at the time, as shown in the time schedule herewith presented. The intermediate primary in most cases covers the full six grades and leads on examination to entrance in the normal schools and colegios. (The compulsory age is from 6 to 12, which is covered by the intermediate school. The superior primary, which must have at least one teacher for each grade, covers five years, or the fourth to the eighth grades, inclusive. For entrance into the superior primary pupils must be 9 years old and have satisfactorily passed the first three grades of primary education. Mixed schools are rare and found only in rural communities where the limited number of children does not justify two schools. Mixed schools are invariably taught by women teachers.

Weekly schedule of a one-teacher elementary primary school (boys).

Subjects.	Lowest section.		Middle section.	Upper section.
	First grade.	Second grade.		
Moral and civic instruction				2
Spanish language.....	10	10	6	7
Arithmetic.....	4	4	4	4
Geometry.....				1
History.....			1	2
Physical and natural sciences.....			2	2
Study of the surroundings.....			2	
Geography.....				2
Singing.....			1	1
Writing.....			2	1
Physical exercise.....	2	2	2	2
Drawing.....			2	2
Manual training.....	2	2	2	2
Dressmaking ¹				
Total.....	18	18	24	28

¹ The corresponding girls' school and mixed school are similar throughout with the exception of manual training for boys and dressmaking for girls. Both middle and upper sections carry but one grade each at a time by alternating.

Weekly schedule of the intermediate primary (boys).

Subjects.	Hours per week each year.					
	I	II	III	IV	V	VI
Moral and civic instruction.....					2	2
Spanish language, reading, etc.....	10	9	7	7	5	5
Arithmetic.....	4	4	4	4	4	4
Geometry.....					2	2
History.....				1	2	2
Physical and natural science.....				2	4	4
Study of the environment.....			3			
Geography.....				1	2	2
Singing.....			1	1	1	1
Physical exercise.....	2	2	3	3	3	3
Writing.....		2	2	1	1	1
Drawing.....		1	2	2	2	2
Manual training (boys).....	2	3	2	2	2	2
Dressmaking (girls) ¹						
Total.....	18	20	24	24	30	30

¹ The intermediate school for girls is similar in subject matter and time requirement to that for boys with the exception of dressmaking, which is substituted for manual training.

STATUS AND SALARY OF TEACHERS.

There are three normal schools in Ecuador—One at Guayaquil for girls; two at Quito, one for boys and one for girls. Entrance to the normal schools is based on graduation from the sixth-grade primary. The course covers five years, four years of academic studies and a fifth year devoted to the theory and practice of education. As indicated above less than 9 per cent of the primary teachers of all grades are normal-school graduates; the rest have obtained certificates on examination or are teaching on emergency certificates.

The primary teaching force is divided into three classes—First, second, and third grades, respectively, corresponding to the three types of schools, superior, intermediate, and elementary. The public-school teachers are appointed by the provincial school council on the basis of a competitive examination. To be eligible to the examination they must meet the following requirements: (1) Be 21 years of age; (2) present a teacher's diploma granted by competent authority; (3) furnish a medical certificate of good health and freedom from incurable or contagious malady or physical defects which tend to incapacitate. Teachers with normal certificates will be given preference. If in case two or more applicants with normal certificates present themselves, choice will be made of the one best qualified for the work.

The minimum annual salary of the teachers who direct a school of the third class will be 360 sucres (the sucre in normal exchange is equivalent to 48.7 cents United States currency); of an intermediate school, 480 sucres; and of a superior school, 720 sucres. The salary of assistant teachers will not be less than two-thirds of the salary assigned to the principal teachers, and in no case will they receive less than 360 sucres. The salary of teachers, however, varies considerably in different communities and in different institutions.

SECONDARY EDUCATION.

Besides the 15 national colegios, secondary schools proper, there are a number of other private secondary schools and special schools covering secondary subjects. The complete course of the secondary schools (colegios nacionales) is of six years in length and leads on completion to the degree of bachelor of philosophy and entrance to the higher professional courses of the universities. It is divided into two sections of three years each, a lower and a higher. To enter the lower section the pupil must be 12 years old, must have finished the six years of the primary school, and pass an entrance examination. To enter the higher section he must have completed the course of the lower. The subjects of the lower section are: Spanish grammar, history, geography, arithmetic, literature, French, English, bookkeeping, hygiene, shorthand, and notions of astronomy. The subjects of the higher section are: Mathematics, history, logic, psychology, ethics, biology, chemistry, physics, geology, drawing, languages, and pedagogy. Courses in commerce may be substituted in the secondary schools, including surveying, agriculture, telegraphy, pedagogy, etc. Those who obtain the degree bachelor of philosophy have the right to be granted the first-grade teacher's certificate.

HIGHER EDUCATION.

Higher education is offered in the Central University of Quito (founded in 1787), the universities of Guayaquil and Cuenca, and in the law school of Loja. The University of Quito includes the following faculties: Jurisprudence and sociology; medicine, surgery, pharmacy, dentistry; pure and applied science; mathematical, physical, and natural science; philosophy and literature. The two universities of Guayaquil and Cuenca possess faculties of medicine, pharmacy, and jurisprudence. Students to enter the faculties of law and medicine must hold the degree of bachelor of philosophy, which is granted on graduation from the six years' colegio; for other faculties a special diploma of less requirement is sufficient. The rectors of universities and colegios are appointed for four-year terms; the latter must be over 30 years of age, a layman of good conduct, and hold a degree of bachelor of philosophy; the former, in addition to these qualifications, must possess the doctor's degree in one of the above-mentioned faculties. Professors on the staff are appointed for 10 years; interim professors for four years. Professors and teachers who have served for 15 years have the right to retire on half pay; after 25 years, on full pay, or on pension equal to their last annual salary. Writing an acceptable textbook adds from one to five years toward the pension period according to its importance. The universities are now coeducational.

The 744 university students for the year 1920 were distributed as follows: Law, 297; medicine, 261; science, 69; pharmacy, 46; dentistry, 37; obstetrics, 23; nursing, 11. The State supports university instruction by an annual subsidy of 80,000 sucres, which, added to the other revenue assigned to this branch, amounts to a total of 641,335.57 sucres. There are at Quito a military school; the National Conservatory of Music; the National Academy of Fine Arts; and a well-equipped vocational school, offering courses in typography, binding, photogravure, carriage manufacture, carpentry, mechanics, shoemaking, saddlery, tailoring, engraving, tanning, and ceramics. There are also vocational schools at Tulcan and Portoviejo; a Government agricultural school at Ambato; a national library and an astronomical laboratory in Quito.

FORWARD MOVEMENTS.

There is growing interest in vocational education, including industry, commerce, agriculture, and physical welfare; in creating new normal schools and a school of education, in connection with the reorganized faculty of philosophy and letters of the Central University, for more efficient training of secondary teachers. The Government is interested in and supports a number of scholarships, granted to meritorious students to be used in further study both at home and abroad. Quite a number of foreign teachers have been called to assist in building up a more modern school system. Fourteen German professors were contracted with at the end of December, 1921, and 11 at the end of January of 1922 for positions in the two normal schools in Quito. The contracts cover five years, and all the professors began work in March.

Steps in the education system of Ecuador.

School or grade.	Proximate ages.														
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Primary school:															
Elementary.....	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Intermediate.....															
Superior.....															
Normal school ¹															
Secondary school (colegio), lower section.....															
Secondary school (colegio), upper section.....															
Secondary school (colegio), combined.....															

¹ The scholastic requirement for entrance to the normal school is completion of the six years primary school, but there is also an age limit of 17, which accounts for the blank space in the chart between the closing of the primary and the beginning of the normal.

EDUCATION IN PARAGUAY.

GENERAL STATEMENT.

Paraguay is one of the two inland republics of South America. It is surrounded by the three important Republics of Argentina, Brazil, and Bolivia, with which its education system has many points in common, though not so advanced nor so well organized. The area of Paraguay is given (1921) as 196,000 square miles (there are still important boundary disputes with Bolivia), and the population (estimated) as 1,000,000, or 5.1 persons per square mile. In climate it is subtropical. The southern two-thirds lies within the Temperate Zone, and the northern one-third lies within the Tropical Zone. The topography of the country, low in the south and elevated (mountainous) in the north, is such as to produce, in the main, a healthful climate. The more settled parts of the Republic lie east of the Paraguay River, while to the west is a part of the Gran Chaco regions or grass-covered plains. The luxuriant growth of timber and native products have not been conducive to education and industry.

The large majority of the inhabitants are Indian (principally Guarani) and mestizos. The white population represents from 6 to 8 per cent, made up of the following peoples in the order named: Argentines, Italians, Brazilians, Spanish, German, French, Uruguayans, English. These live principally in Asuncion, the capital, and in the larger cities. There are the usual three divisions of education—primary, secondary, and professional.

SCHOOL ADMINISTRATION.

Under the President of the Republic as one of the five cabinet members is the Minister of Justice, Worship, and Public Instruction. The minister has the administration of justice and all matters pertaining thereto; the supervision of the Roman-Catholic churches and clergy; the charge and direction of all public and private schools as well as special institutions, such as the National University, the School of Agriculture, the National Library, the National Museum, the School of Arts and Crafts, the Industrial School, the civil register for the registration of births, deaths, marriages, and the preparation of vital statistics.

Acting under and in conjunction with the Minister of Public Instruction is the national council of education, which acts as the functioning body of all education. Next under the national council of education and directly subject to it are regional councils of education covering the various local school districts and having charge of primary education in their respective districts. Normal and secondary schools are dependent on the national council of education. The duties of the regional councils of education are as follows: To

see to the fulfillment of education laws, regulations, and orders; to watch the progress of schools; to keep statistics of the schools and matters pertaining thereto; to pay salaries, as the money is received; to advance in every possible way the progress of education, the improvement of teachers, the founding of libraries, the holding of conferences, etc. Each regional council of education is composed of four members: A president appointed by the Chief Executive who is also director general, for the schools of his region and holds office for four years; two members also appointed by the President of the Republic on nomination of the national council of education for terms of one year, though eligible to reappointment; and a secretary appointed by the national council of education.

Each regional council of education is supplied with a number of school inspectors determined annually by the national council of education. The presidents of the regional councils, as director generals of public education in their respective districts, represent the regional boards in public acts before public and educational authorities; authorize payments, accounts, and reports; oversee the inspection of schools; make personal inspection at least once a year and report to the general directorate of schools; and go to the capital in January of each year to report and receive instruction for the new year. The district inspectors work under orders of the regional councils and the regional directors, who are clothed with the immediate authority of primary instruction.

THE SCHOOL TERM.

The official school year extends from January to December, inclusive, but the school session opens on the 15th of February and closes on the 15th of December. The regular term of the grade schools is of eight months, though owing to vacations and other recesses the actual sessions are usually about seven months per year. The primary school sessions (urban) are generally from 8 a. m. to 12 noon for girls and from 1 p. m. to 5 p. m. for boys. The recitation period varies from 30 minutes in the primary schools to 45 or 50 minutes in the higher grades of the secondary schools. The summer months are December, January, February; and the winter months, June, July, August. The first two are the hottest and the last two the coldest.

PRIMARY EDUCATION.

According to the constitution primary instruction is obligatory between the ages of 7 and 12 (girls) or 14 (boys), but owing to the lack of school funds, buildings, and teachers, the compulsory provision does not seem to be enforced. Most educational work, of whatever grade, is found only in the cities and towns. The complete

primary course covers six years or grades. It fits for full entrance into the national colegios and normal schools. In 1919 there were 1,268 public primary schools employing 1,808 teachers (653 men and 1,155 women), with 78,399 pupils (44,137 boys and 34,262 girls), 75 private schools with 141 teachers and 4,021 pupils (2,173 boys and 1,848 girls).

The course of study, including the time given to each subject, is found in the table under the title Schedule of the complete primary school of Asuncion, Paraguay. This course represents the most-favored situations and is far in advance of that found in rural conditions, both in subject matter and years of the course. The Government is specially interested in extending the rudiments of primary education to the people in rural conditions. For this purpose the President of the Republic, in an address to Congress, 1921, said in part:

It is time that rural primary instruction should take a practical turn. The schools most needed are those devoted to the study of agriculture, cattle raising, and agricultural industries. The success of the rural districts depends on the agricultural development of the country and that of the cattle industry. The benefits of science must be utilized to the advantage of the individual as well as of the whole community.

Schedule of the complete primary school of Asuncion, Paraguay.

Subjects.	Class period per week in each year. ¹						
	I	II	III	IV	V,	VI	Total.
Reading and writing.....	6	8	8	6	6	6	40
Arithmetic.....	5	6	6	5	5	5	32
Geometry (simple notions).....				2	2	2	6
Spanish.....	5	6	6	4	4	4	29
Useful information.....	4	4	3				11
Civic and moral instruction.....		4	2	2	2	2	12
Geography of Paraguay.....			3	2			5
Geography, American and European.....					2		2
Geography, Asia, Africa, Oceania.....						2	2
History of Paraguay.....				2	2		4
History (general).....						2	2
Music and singing.....	1	2	2	2	2	2	11
Gymnasium.....	1	2	2	2	2	2	11
Manual training.....	2	2	2	2	2	2	12
Drawing.....				2	2		6-185
Total recitation periods per week ¹	24	34	34	31	31	31	30 5/6

¹ It should be observed that the recitation periods represent 30 minutes or less, making but half as many hours per week.

The above is the standard program of but few of the best public primary schools.

SECONDARY EDUCATION.

Secondary education is provided by the Government in three public secondary schools, "colegios nacionales," one located in Asuncion; one in the city of Villarica; one in Pilar. There are a few private secondary schools, and the normal schools cover in part secondary subjects. In 1919 (the latest information available) there were connected with the three public secondary schools 46 teachers and 740

students. According to the decree of 1919, the curriculum of the secondary schools is divided into two cycles: The first, covering four years of general subjects; the second, covering the last two years of special subjects. The last two years, offered only in the Colegio Nacional of Asuncion, are required to obtain the bachelor's degree and for entrance into the university faculties of law, medicine, and engineering. When in practical operation the last two years as planned in the decree (1919) will be given under three groups: (a) Humanities; (b) natural sciences; (c) mathematics and physical sciences. All courses lead to the bachelor's degree in the appropriate field, as "bachiller en letras, ciencias naturales, or matematicas."

Latin is required to enter the school of law, and German to enter the school of medicine. To enter the schools of pharmacy, dentistry, obstetrics, veterinary, notary, surveying, and agriculture the diploma obtained on completing the first cycle of four years is sufficient, in which case there is a slight shifting of subjects required from the present combined course as presented under "Schedule of the Colegio Nacional of Asuncion."

Schedule of the National Colegio of Asuncion, Paraguay (1922).

Subjects.	Class periods ¹ per week in each year.						Total.
	I	II	III	IV	V	VI	
Spanish language and literature.....	5	5	3	3	3	3	22
French.....	5	5	3				13
German or Latin.....				5	5	5	15
Arithmetic.....	4	4					8
Algebra.....			4				4
Geometry.....				3	3		6
Trigonometry, topography, and cosmography.....						4	4
History.....	3	3	4	4	4		18
Geography.....	3	2	2	4	4		7
Botany and geology.....				4			4
Anatomy, physiology, and hygiene.....					3		3
Zoology.....						2	2
Common law.....							2
Physics.....				3			3
Chemistry.....					4	4	8
Drawing and penmanship.....					3	3	6
Gymnasium.....			2	2			4
Civics and practical ethics.....	2	2	2	2	2	2	12
Psychology and logic.....		2	2				4
Moral and general philosophy.....					4		4
Civil government and political economy.....						3	3
						2	2-152
Total class periods per week.....	22	23	22	26	31	28	25½

¹ The class periods in the above colegio are 45 minutes and the school year 36 weeks. In the new régime the course, at least in the last two years, will vary slightly from the above by offering in the different groups less of some subjects and more of others.

PREPARATION AND SALARY OF TEACHERS.

There are six normal schools located at Asuncion, Villarica, Concepcion, Encarnacion, Barrero Grande, and San Juan Bantista, with 27 male and 195 female students in 1919. They require for entrance the completion of the six grades primary school and offer a four-years' course equivalent in academic subjects to the first cycle of

the colegio plus six periods in pedagogy and one year of satisfactory classroom practice in the normal schools.

There are no specified qualifications for teachers either in primary or secondary schools or the university. The salaries are usually so low that teachers are compelled to devote part of their time to other pursuits in order to earn a livelihood. The salaries of primary teachers in Asuncion range from 300 to 750 Paraguayan paper pesos per month (the Paraguayan paper peso, normal exchange, is equivalent to about 19½ cents in the United States currency), while professors in the secondary schools receive approximately 2,000 Paraguayan paper pesos per month for weekly classes of 15 hours. The Paraguayan paper peso is at present (1922) equivalent to about 2 cents United States currency.

The school law of 1921 divides the primary school teachers into four classes—normal professors, normal teachers, elementary normal teachers, and teachers. The first three classes hold diplomas of graduation; the last is without professional titles. Appointment and promotion are the result of competitive examination in which the professional rating, amount and quality of experience are given special weight. Under a provision in the new law primary-school administrators and teachers may not be discharged as long as they conduct themselves properly, nor may they be transferred by the director general without the permission of the national council of education. A teacher's pension system is provided in the law, and provision is also made for the future salaries of teachers. Teachers' salaries are to be calculated according to professional standing, length and record of service on the following basis: First class, normal professors, 2,000 pesos (the Paraguayan gold peso, normal exchange, is equivalent to about 97 cents in United States currency); second class, normal teachers, 1,000 pesos; third class, normal elementary teachers, 800 pesos; and the fourth class, teachers without titles, 400 pesos. All titled teachers are eligible to 2½ per cent increase of salary every 5 years up to 20 years of service, if they satisfactorily fulfill their duties.

HIGHER EDUCATION.

There is the National University of Paraguay at Asuncion, which contains faculties or schools of law, medicine, pharmacy, obstetrics, engineering, social science, and notary. There is also in Asuncion the Paraguayan Institute of Fine Arts—painting and music. The Government maintains in Asuncion a commercial school, military and military aviation schools, schools for vocational training, arts and trades, industry, drawing, radiotelegraphy, and dressmaking, most of which rank below the best secondary schools. The national library, the national archives, the natural history museum, the botanic-zoological garden are under the care of the department of

public instruction. The Government frequently sends students to Europe and the United States for various kinds of higher technical education.

Steps in the education system of Paraguay.

School or grade.	Proximate ages.																	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Complete primary school.....																		
Normal school.....																		
Secondary school (first cycle).....																		
Secondary school (complete).....																		
University:																		
Law.....																		
Medicine.....																		
Engineering.....																		

EDUCATION IN PERU.

An unusually interesting experiment in the reorganization of the school system of the Republic of Peru has been in operation for the past three or more years. In 1910 the President of Peru, Augustia B. Leguia, invited four educators of the United States, Dr. Harry E. Bard, Joseph Macknight, Joseph B. Lockey, and Dr. Albert A. Giesecke, to aid the Peruvian educators in a complete reorganization of the educational system, adapting it to modern conditions and local needs. Doctor Bard became "Consultor al Ministro de Instruccion," Joseph Macknight was appointed director of the Men's Normal School, Joseph B. Lockey, inspector of the Department of Lima, and Doctor Giesecke was made rector of the State University of Cuzco. Miss Grace Carnahan was appointed, also, as inspector of girls' schools of Lima. Out of this combined effort and study of educators grew the revised school law of 1920, the workings of which will be observed with more than passing interest.

Following the passage of the law, Doctor Bard was again commissioned by President Leguia to return to the States to select a committee of 25 educators, who with himself would act in conjunction with Dr. Oscar C. Barros, Minister of Justice and Public Instruction, and other school officers and educators of Peru, in carrying out the provisions of the new school law and readjusting its application to the education of the people. The new school law supersedes that of 1901, and consists of 571 articles grouped as follows:

- (a) Primary section, authorities in education administration.
- (b) Primary education, current and vocational.
- (c) Secondary education.
- (d) Higher education, University of San Marcos of Lima.
- (e) Technical schools of higher education in Lima.
- (f) The "Centro Estudiantil Universitario."
- (g) The three other State universities of Peru—Cuzco, Arequipa, Trujillo.
- (h) Private universities.

Members of the American Educational Mission were assigned to service in the education system of Peru under the following heads: Director of examinations and studies; director of libraries and school museums; director of school construction; three regional school directors; directors of the superior school of industrial arts, the superior school of commerce, the superior school of pedagogical science, the superior school of agriculture, and the superior school of engineering, constituting the university of technical schools.

Under the Minister of Justice, Worship, and Public Instruction, Dr. Harry E. Bard, who had been called as a leader in the movement, was made director general of education of the entire country and rector of the University of Technical Schools. After serving for a brief period in these capacities, he resigned from office in March, 1922, and Dr. Lester M. Wilson, who had been called from this country in the capacity of director of examinations and studies, was appointed to the office of director general of education, still retaining his former position. There have been a number of changes from the original mission, some of which have been quite disappointing.

The reorganization of the school system, while well advanced, is still in the transitory period and is apt to be considerably modified before taking on permanent form. The new school law may be found to be too far in advance of the needs and wishes of the people to be immediately operative and appreciated. However, the outlook is promising, and if the experiment succeeds it will doubtless be followed by other countries in remodeling their education systems.

GENERAL STATEMENTS.

The Republic of Peru embraces 533,916 square miles and contains an estimated population of 4,620,000, mostly Indian (57.6 per cent) and mestizos (24.8 per cent), with about 14 per cent white and a few negroes and Asiatics. The estimates of the number of children between 7 and 15 vary considerably, but the number is probably close to 500,000. According to the message of the President, July 28, 1922, the primary school attendance for the year 1921 was 202,828, an increase of 8,127 over the former year. There were in 1920, 29 Government colegios, or secondary schools, with 372 teachers and 6,669 pupils, and the central University of San Marcos at Lima, the State universities at Arequipa, Cuzco, and Trujillo. The law of February 5, 1921, created the University of Technical Schools, comprising superior schools of engineering, agriculture, commerce, industrial arts, and pedagogy. By the law of February 5, 1921, elementary education is free and compulsory between the ages of 7 and 14.

ADMINISTRATION.

The education system of Peru is highly centralized. At the head of the system is the President of the Republic, representing the Government, having controlling, appointive, and directive powers. Under the President and appointed by him is the Minister of Justice and Education, a cabinet officer, whose chief function is to cooperate with the President in direction and administration of school affairs, in recommending or approving of the appointment of the leading school officers and professors, and immediate direction of and authority over the under school officers of the Republic. There is a national (advisory) council of education of seven members appointed by the President for terms of seven years, one member going off the board every year. There is also a national examining board consisting of two members appointed by the Minister of Education on the recommendation of the director of examinations and studies; the latter officer is ex officio member and chairman of the board.

Under the Minister of Education, the chief administrative official is the director general of education, and in each of the three divisions of the Republic, north, central, south, there is a regional director of education, bringing the administration of education in direct contact with the people of the local communities. The regional directors are charged with the administration, supervision, and inspection of both primary and secondary education throughout the territory of their jurisdiction; appointing and removing, subject to review by the director general of education, assistant inspectors, directors and professors of colegios, directors and teachers of primary schools, the communal fiscal school board of which he is chairman and third member. He supervises the primary and secondary school budget, authorizes the opening of private schools and colegios, requiring them to conform to standard curricula; gathers and reports on school statistics and other information for the director general of education, prepares courses of study, and directs in the methods of teaching.

The term of the regional director is four years, the same as that of the director general. The duties of the office covering the region represented are similar to those of the director general for the entire country. Immediately under the director general of education is a group of seven directors or chiefs of sections of special divisions of education who with the director general form a functioning board for the promulgation of education. From the standpoint of school administration and supervision the office of director general of instruction is the most important educational position in the Republic.

At the head of each university is the rector, and at the head of each school or faculty is the dean. In the older institutions the

rectors receive their appointment through the vote of the faculties or university council; in the newer universities the appointment is made by the President of the Republic or the Minister of Justice and Education.

There have been added recently, under the new régime, new school officers known as school agents, whose functions are not clearly defined. They are appointed by the regional directors, one for each province, from normal or the best-trained teachers, who usually, in addition to the office of teacher, become sort of supervisor of the teaching and school work of the province. The office of school agent is without salary, since it is to be filled by one receiving pay for another Government position. It thus makes use of a few carefully selected teachers in a double capacity.

PRIMARY EDUCATION.

The regular primary school covers a five-years' course divided into two cycles—the first grade or common primary of two (rural) or three years (urban), and the second grade or vocational primary of two years; to the latter may be added two additional years when and where the requirements justify. The new requirements even more than the old tend to modernize and vocationalize both primary and secondary education. In communities where the illiteracy is large, effort is made to establish primary schools of the minimum two-years' course, giving to children the barest rudiments of common education, in which knowledge of the Spanish language is made the basis. Children over 14 are excluded from the primary schools. If they desire to continue primary education they do so in adult schools or in special schools provided for vocational training.

Primary schools of the second grade may be established separately under their own direction and independent of the regular primary schools. It is also authorized that the second-grade or vocational primary school be maintained as a section in connection with every national colegio, to which may be added also a first-grade or common primary section, but in the latter case the pupils of the first and second primary must be kept separate and taught in different sections.

Coeducation, while practiced in some communities, is not common; both primary and secondary schools are for boys only, girls only, or mixed. Completion of the five-years' primary course entitles to full entrance into the colegios. Subjects of study are moral, religious, and civic education; Spanish, including reading, writing, orthography, and the rudiments of grammar; nature study, manual training in garden or shop (boys), domestic science (girls); arithmetic, and simple notions of geometry; elements of history and geography; drawing and music. All rural schools are required to establish school

gardens in which to demonstrate lessons on agriculture and country life. In city schools wherever the circumstances permit school gardens are also established and shops and laboratories that will adjust the instruction to the needs of the community. The length of the school year in favored conditions is 10 months—February to November, inclusive—and the week $5\frac{1}{2}$ (primary) to 6 days (colegio).

SECONDARY EDUCATION.

Secondary education is offered in the colegios nacionales and covers a course of five years for both boys and girls. Of the 29 national colegios but 4 are for girls only, and but few girls are in attendance on the colegios. The national colegios are of two types, general and vocational. The former fits for entrance to the arts faculty of the university, wherein after 2 additional years of study (12 in all) is obtained the bachelor's degree and eligibility to entrance in the professional schools of medicine, law, and political science; the latter offers training in agriculture, arts and trades, domestic economy, commerce, and normal training and fits for practical life or advanced training in these lines. The vocational secondary schools may be joined as annexes to regular colegios or they may be set up as independent establishments under the name of agricultural, industrial, and commercial colegios, normal schools, arts and crafts, technical institutes, and analogous names. They may cover but three years of vocational training in addition to the second-grade vocational primary, or they may cover in part or complete all subjects of the common colegios.

The national secondary schools (colegios), as the primary schools, are divided into two cycles, the first of which, covering three years, is devoted to fundamental and practical subjects of immediate utility; the second cycle, of two years, is devoted to an extension of the subject matter of the first and gives more attention to application. The subject matter in the different types of colegios is much the same, though, as the names imply, greater stress is placed in the one on vocational subjects, in the other on cultural subjects. Subjects of study are Spanish language and literature, English, or French; geography and history, general and local; mathematics including arithmetic, elements of algebra, geometry, trigonometry; physical and natural science including the elements of physics, mechanics, chemistry, anatomy, physiology, zoology, botany, mineralogy, geology; religious, moral, civic, and economic education; psychology; drawing and modeling; manual training; music; physical education. In the colegios for girls more attention is given to civic education and less to mathematics, physical and natural sciences; domestic science, home and pedagogical instruction is added.

For entrance into the regular colegios one must be 12 years of age and must pass the examination showing the completion of the five years primary. There are few, if any, regular teachers in the colegios devoting their whole time to teaching; at least the greater number of instructors of the national colegios are practicing lawyers, doctors, engineers, priests, merchants, etc., who devote but part time to teaching while carrying on at the same time the interests of their professions or trades. The new law provides for overcoming this difficulty by giving more attention to the professional training of teachers for both primary and secondary education and increasing the tenure, emoluments, and favors for professionally prepared teachers. There are a number of private institutions offering both primary and secondary education. These are subject to the supervision and control of the regional director and must conform to the Government curricula.

HIGHER EDUCATION.

In addition to the University of San Marcos, Lima, and the State universities at Arequipa, Cuzco, and Trujillo, and the new University of Technical Schools mentioned above, the Government maintains special academies of music and fine arts and a number of military schools of either secondary or college rank and three agricultural and four normal training schools of secondary grade. The University of Technical Schools, created by the new law, took over the former engineering college and provides for superior schools of engineering, agriculture, industrial arts, commerce, and pedagogy. The old and renowned University of San Marcos has faculties of theology; jurisprudence; medicine; mathematical, physical, and natural sciences; political and economic sciences; philosophy, history, and letters. The three State universities above mentioned offer courses of the same general nature as those of San Marcos.

Graduates of the national colegios on examination are eligible to entrance in the university faculty of philosophy and letters, wherein after two years of study they may be granted the bachelor's degree and on two additional years the degree doctor of letters. For admission to the schools of law and medicine the candidate must possess the bachelor's degree in letters and science obtained by two years of study beyond the colegio. Two additional years of study lead to the degrees bachelor of law or of medicine and three more years to doctor of law or of medicine. The full courses in mining, and industrial and construction engineering require five years beyond the colegio.

Steps in the education system of Peru.

School or grade.	Proximate ages.															
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Primary school:																
Rural.....																
Urban.....																
Vocational.....																
Secondary school:																
Vocational.....																
General.....																
Normal school.....																
University:																
Philosophy and letters.....																
Course in surveying.....																
Course of pedagogy.....																
College of engineering.....																
College of law.....																
College of medicine.....																

EDUCATION IN URUGUAY.

GENERAL STATEMENT.

The Republic of Uruguay is the smallest of the South American Republics, comprising 72,210 square miles and an estimated population (1922) of 1,564,000, one-third of which is in Montevideo and the small Department of which it is the capital. Uruguay, which is composed of 19 Departments, is a triangular strip of country lying between the southeastern point of Brazil and Argentina. It is bounded on the north by Brazil, on the east and south by the Atlantic Ocean and the Rio de la Plata, and on the west by the Uruguay River, which separates it from the Republic of Argentina. It consists, in the main, of broad undulating grass-covered plains fringed with hills and low mountain ranges in the north and low alluvial tracts in the southwest. Situated in the south temperate zone but 7° south of the Tropics, bordering the ocean and surrounded on three sides by water, it possesses a mild and even temperature, rarely falling below 35° Fahrenheit in winter or rising above 86° in summer. It is reputed to be, on the whole, one of the most healthful countries of the globe.

It possesses great agricultural possibilities still undeveloped, but the chief industry is that of live stock, the raising of cattle and sheep. The majority of the inhabitants are Indians and mestizos, but there is a larger proportional white population than in many of the other South American Republics. The public schools are secular, and the education system in most respects is quite similar to that of the adjoining republics.

The school statistics of 1920 give the number of public primary schools as 1,005; private, 195; the number of pupils enrolled in public schools, 106,892; boys, 55,513; girls, 51,379; in private schools, 17,115; the number of teachers employed, 428 men, 2,726 women. Of the 106,892 pupils enrolled in the public schools, 43,809 (24,025 boys and 19,784 girls) were in rural schools, and 63,083 (31,488 boys and 31,595 girls) were in urban schools.

ADMINISTRATION.

According to the new constitution (1918), the executive power of Uruguay is divided between the President of the Republic and a national administrative council consisting of nine members, six of the majority party and three of the largest minority party. Both the President and the members of the council are elected by popular vote, the former for four years and the latter for six years. The President appoints and controls the Ministers of Foreign Affairs, of War and Marine, and of the Interior; the council appoints and controls the Ministers of Finance and Industry, Public Works, Public Instruction, Labor, and Charities and Public Health.

All State and public schools are in charge of the general board of primary instruction composed of the Minister of Public Instruction, president; the national inspector of primary instruction, first vice president; a second vice president and three other members; and a general secretary, all being appointed by the national administrative council. The duties of the general board of primary instruction are as follows: To direct primary instruction in the entire country; to examine, appoint, and dismiss teachers; to publish an educational magazine and reports; to choose and furnish textbooks; to supervise programs and rules of schools; to study and make suggestions to the executive authority as to reforms in organization of systems and methods used. The national inspector visits the public schools of the Republic and makes an annual report, which must be approved by the Minister of Public Instruction before it is published.

In each of the 19 Departments is a committee of primary instruction composed of five members as follows: A member of the administrative council of the municipality as president; the departmental inspector as vice president, and three resident members elected by the council for three years. These committees are charged with the administration and supervision of schools in the respective departments. There are subinspectors who assist both the national inspector and the departmental inspectors in inspection and organization of schools.

SCHOOL YEAR.

The school year varies slightly in the number of days, hours per day, number and length of class periods per day and week, according to the grade and institution. However, the usual length of the school year is 180 days, five days per week, of 4½ to 5 hours per day, and a class period varying from 30 to 45 minutes.

PRIMARY EDUCATION.

Primary education is free and obligatory, covering at least the first three grades or years. The Government also furnishes the necessary textbooks and school supplies. The public primary schools are classified as rural and urban, the former covering a course of three years and the latter a course of five, six, or seven years. Most of the children in the rural schools stop with the first grade and less than one-fourth finish the third grade. The subjects in the rural schools are as follows:

First year: Reading, writing, arithmetic, language, agriculture, history of Uruguay, drawing, singing, and object lessons.

Second year: As in the first, with the addition of geography, physiology, constitution, and morality.

Third year: As in the second, with the addition of geometry.

The ordinary urban primary school covers a course of five years, the lower primary of three years, and the upper primary of two years. From the fifth year the pupils are ready to take the entrance examination to the liceos or secondary schools. In Montevideo there is an advanced primary school covering seven grades designated as follows: Lower primary, three grades; middle primary, two grades; superior, two grades. The courses of study in the ordinary and advanced primary schools are practically the same for the first five years, the advanced primary adding a sixth and even a seventh if desired. The subjects of study in the advanced primary, including the years when offered, are as follows: Reading, first to seventh, inclusive; writing, first to seventh, inclusive; arithmetic, first to seventh, inclusive; language, first to seventh, inclusive; object lessons, first to fifth, inclusive; animals, plants, minerals, first and second, inclusive; physiology, first to seventh, inclusive; morality, first to seventh, inclusive; customs, first to fifth, inclusive; urbanity, first to seventh, inclusive; drawing, first to seventh, inclusive; singing, first to sixth, inclusive; history, third to seventh, inclusive; handwork, first to sixth, inclusive; physics, third to seventh, inclusive; constitution, third to seventh, inclusive; geography, fourth to seventh, inclusive; geometry, fourth to seventh, inclusive; chemistry, fifth to seventh, inclusive; geology, sixth and seventh, inclusive; mineralogy and manual training, in the seventh grade only.

PREPARATION OF TEACHERS.

There are eight normal schools in the Republic, two of which, one for either sex, are located in Montevideo. Men and women attend different schools, as is customary throughout the Republic. Teachers in private schools are not required by law to possess certificates or show other proof of competency, but an inspector visits private schools for the purpose of ascertaining whether or not the instruction given is contrary to the laws and morals of the Republic. To teach in the public schools, it is necessary to hold a Government diploma or certificate corresponding to the grade requirement of the particular school. There are three grades of teachers' certificates—the first-grade primary and rural covering the lower primary and three-year rural schools, the second-grade primary meeting the requirements for teaching in the urban primary schools of five grades; the third-grade primary required for teaching in the higher primary of six or seven grades.

The normal schools offer three courses meeting the requirements for the above certificates—a four-years' course leading to the first-grade certificate; a five-years' course leading to the second-grade certificate; a six-years' course leading to the third-grade certificate. Entrance into the normal schools is on examination based on the completion of the five-year primary school. Teachers' certificates are also obtained on passing corresponding examinations to the normal-school graduates before an examining committee appointed by the general board. The annual salaries paid teachers are: First grade and rural, 720 pesos (the peso, normal exchange, is about \$1.04 United States currency); second grade, 840 pesos; third grade, 1,200 pesos. After 25 years' service teachers can retire on full salary, and at death half the pension passes to the wife or mother.

All teachers must pass the prescribed examination in agriculture, which is a compulsory subject of study. In addition to the usual academic subjects, the four-years' normal course gives instruction in pedagogy, and the six-years' normal course gives instruction in philosophy, critical pedagogy, and history of education.

SECONDARY EDUCATION.

Secondary education is offered in State "liceos," in semiofficial institutions, and in private schools conforming to the official regulations. There is at least one secondary school (liceo) in each of the 19 Departments; 22 departmental liceos and 4 at the capital. The liceos offer a four-year general course and require for entrance an examination based on the completion of the fifth-year primary school. The subjects of study are Spanish, French, English or German, history, civics, natural history, physics, chemistry, mathematics, draw-

ing, commerce, industry, geography, cosmography, hygiene, and physical training. Graduation from these four-year liceos leads to the certificate of "suficiencia liceal" (secondary studies) and entitles to entrance in the schools of commerce, notary, agriculture, veterinary science, or the advanced two-year preparatory course leading on graduation to the bachelor's degree and entrance to the professional schools of law, medicine, engineering, architecture, and surveying. Entrance to the schools of pharmacy and dentistry requires but one year in the preparatory school. There are six preparatory schools in connection with the liceos of Salto, Paysandu, Melo, Mercedes, and two at Montevideo. The courses of study in these advanced liceos or preparatory schools are planned with reference to the requirements of the different professional schools of law, medicine, engineering, etc. The liceos and preparatory schools had an enrollment in 1919 of 4,943 students.

HIGHER EDUCATION.

The institutions of higher education are located in the capital, principally in connection with the University of Montevideo itself. The university is made up of faculties of medicine including a department of dentistry, law and social science, mathematics, engineering, architecture, commerce, veterinary science, agriculture, and complete secondary instruction. The latter is a boys' secondary school and acts as a model for all secondary instruction. It receives students of 12 years of age on examination after passing the fifth-grade primary, and offers a six-year course leading to the bachelor's degree and entrance to the appropriate professional school of the university. The university proper is coeducational, and there has been established in Montevideo a school of secondary and preparatory instruction for women, corresponding to the men's secondary school of the university above mentioned, where the dean as well as all the instructors are women. These schools are quite similar in subject matter, instruction, and requirements.

The principal professional schools of the university vary in length of course from four to six years—dentistry four, law and architecture five, medicine and engineering six. The Government supports at Montevideo a school of arts and crafts, two schools of agriculture and veterinary surgery, a national school of commerce, the museum of natural history, the historical museum, a pedagogical museum, a school of dramatic art, a military school, and a national library containing over 60,000 volumes. There are in addition a number of private schools located in Montevideo, which is well supplied with educational institutions. Considerable attention is now given to the promotion of agricultural education and to physical education and welfare.

Steps in the education system of Uruguay.

School or grade.	Proximate ages.																
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Primary school:																	
Rural.....																	
Lower urban.....																	
Primary school, urban:																	
Ordinary.....																	
Advanced.....																	
Normal school:																	
Elementary.....																	
Superior.....																	
Secondary school:																	
Ordinary.....																	
Advanced.....																	
Junior colleges, commerce, agricultural, veterinary.....																	
Science, notary, etc.....																	
University:																	
Faculty of dentistry.....																	
Law and architecture.....																	
Medicine and engineering.....																	

EDUCATION IN VENEZUELA.

GENERAL STATEMENT.

The United States of Venezuela, consisting of 20 autonomous and politically equal States, two Territories, and a Federal District, is the northernmost Republic of South America. It was formerly a part of Colombia (separated in 1830) and in racial characteristics quite similar to that Republic, as described elsewhere. Geographically it is divided into three districts—the vast plains and river valleys of the Orinoco, the dry and healthful plateaus to the south and east of the Orinoco and the region of Maracaibo, and the mountain section formed by the two divisions of the Andes and the Parima range of mountains to the east and south.

The area of Venezuela is 393,976 square miles, and the population, census of 1921, was 2,411,952, or 6.1 persons per square mile. Most of the white and controlling classes live under urban conditions, where the advantages of education are more favorable. No census material covering the number of children of school age, the number enrolled in school, and the average attendance is available; however, the attendance is small, especially in rural districts, as compared with most countries. Primary education is free, whether public or private, and according to law obligatory from 7 to 14 or until completing the first four grades of the primary school. The compulsory provision of the law does not seem to be enforced either in rural or urban situations. As in many other Latin American Republics, the illiteracy of the people is large, and only the selected few have the ambition to push on to higher education.

The schools are both public and private. The former are created and maintained by the Federal Government, the individual States,

and the municipalities. The latter are established and operated by individuals and are not subject to any of the rules or regulations governing the public schools. However, the Government reserves the right to examine the students before issuing official diplomas. This function is under the control of the several States, and the examinations are usually held in the respective schools by the official examiners.

The public-school system is divided into the usual divisions of primary—lower and upper; secondary—colegios and liceos, including normal and special; and higher, mostly professional, education. The new school law, 1921, provides for subprimary or maternal schools, including day nurseries and kindergartens, in which the Federal Government is specially interested. The same law provides for compulsory physical education of all pupils and students under 21. The special schools, given under the division of secondary education, include agriculture, art, industry, trade, commerce, and other analogous branches. Under higher education are included faculties of medicine, political science, theology, mathematics and physical sciences, biological sciences, philosophy and literature.

Most of the private schools, some of which are subsidized by the Government, are conducted by religious orders of the Catholic church.

The school year, consisting of 180 to 190 days, extends from January 7 to December 15. All the days of the school year are to be used for public instruction except Sundays, carnival (prelenten) days, those between the second Friday prior to Easter Sunday and Easter Sunday, inclusive, the month of August, national feast days, and those set apart by the Federal Executive. The length of the school day is limited to four hours in the lower primary and five hours in the upper primary. The recitation period is limited to 30 minutes in the lower primary and 45 minutes in the upper primary.

SCHOOL ADMINISTRATION.

The public primary schools of Venezuela are of three types—Federal, State, and municipal—according to the special authority promulgating them. Each of these bodies has been clothed with special authority of initiative in establishing primary schools, and has done so in the proportion of about 4 Federal to 1 State and 1 municipal. At the head of the entire school system is the President of the Republic. An article in the primary-school law reads as follows:

It is the duty of the Federal Executive to promulgate the internal regulations, the schedules and teaching programs of the primary schools, to issue regulations governing the teachers, and to formulate all other rules which may be necessary for the proper execution of the present law.

The functions of the Federal Executive in all that concerns education are exercised through the Minister of Public Instruction, with

the following exceptions: (1) Primary and arts and crafts instructions in penitentiaries, houses of correction, and establishments of national beneficence are under the jurisdiction of the Minister of the Interior; (2) military, naval and primary instructions in soldiers' barracks are in charge of the Minister of War and Navy.

Under the Minister of Public Instruction, and of which he is president, is the national council of instruction, composed of eight other members as follows: Five members, one for each branch of superior instruction, law, medicine, theology, mathematics, and the physical and natural sciences, philosophy, and literature; one for primary, one for secondary, and one for normal instruction. The national council of instruction, acting under the Federal Executive and Minister of Public Instruction, has direct charge of all education. Each member of the national council of instruction becomes president of a national commission composed of four other members covering the particular field of education represented by the president of the commission. One of the important duties of the national commissions is to provide for and carry out the examination system in all types and degrees of education. To aid in this functioning of the national commissions, subcommittees or delegations are appointed, consisting of three members and three substitutes for primary education and five members and five substitutes for secondary and superior education. There are local municipal boards, school inspectors, teachers, professors, directors, and rectors of special institutions that make up the list of school administrators.

EXAMINATIONS, CERTIFICATES, DEGREES, AND DIPLOMAS.

From the lowest primary to the highest professional, promotions and titles are based on a thoroughly organized Federal examination system. These examinations are held at stated times and on the completing of individual subjects, grades, courses, academic and professional requirements for degrees. There are two types of degrees or diplomas—the academic, bachelor and doctor, and the professional, law, medicine, pharmacy, dentistry, surveying, architecture, engineering, agriculture, veterinary; master of primary instruction, medical surgeon, midwife, manager; professor of secondary, normal, and superior schools. Verification of the ability of the candidates for official titles is within the jurisdiction of a technical board, entitled the national council of instruction. This body appoints a national commission for each branch of superior studies and one for primary, secondary, and normal instruction, respectively. The national council of instruction and the national commissions function in the capital of the Republic. The national commissions are empowered to appoint delegations and in conjunction with these name the examining juries (functioning locally outside of the capital)

charged with the verification of the competency of the candidates for official titles.

School inspection is carried on by the national commissions, which may delegate their power to boards, technical inspectors, and superintendents. The Government has the right to inspect all public institutions at its own discretion and all private ones in dealing with matters of public order, hygiene, and official certification of students.

PREPARATION OF TEACHERS.

Normal instruction is provided for those who wish to enter the teaching profession in two separate normal schools at Caracas, the Federal capital. There are two separate courses, one of three years for the preparation of primary teachers, the other of two years for the preparation of secondary teachers. For entrance to the former the candidate must be between the ages of 15 and 25, possess good health, and the certificate of competency of the complete primary school (six grades); for entrance to the latter, one must have obtained the certificate of competency of secondary instruction or the corresponding bachelor's degree. On graduation from the primary normal school one receives the title "Master of primary instruction"; on graduating from the superior normal school one receives the title "Professor of secondary and normal instruction."

The position of master or teacher in institutions of public instruction is obtained through competitive examinations. When once appointed, masters and professors can not be discharged except for repeated absence, insubordination, bad conduct, or incapacity properly verified. After 20 years of continuous service, masters and professors acquire the right to a pension. Temporary teachers may be employed in primary education with less qualification, but only persons who hold the official title of master of primary instruction may be appointed permanently. Individuals less than 18 or over 60 years of age can not be appointed teachers. Lower primary schools for boys may be taught by teachers of either sex, but girls and mixed schools must be taught by women teachers. The schools are nonco-educational except in communities where but one school and teacher are required, in which case the school is mixed, open to both sexes.

PRIMARY EDUCATION.

The regular primary school is taught in two divisions—the lower primary, covering the first four grades (the latter is supposed to cover a year's work, but it is completed in less time by the bright pupil); and the upper primary, covering the last two grades of the complete (six grades) primary school. The lower and upper primary schools may be taught in separate institutions or combined in one complete primary school. The course in the former is more rudimentary and gen-

eralized, that of the latter more specialized and vocational. This principle of devoting the first years of the course to general information and the last years of the course to special and practical knowledge seems to run through the entire system of education. The complete primary school is usually found only in cities and more favored communities. Only the lower primary is found in general throughout the country, and in rural conditions is modified to meet local needs.

Religion is required to be taught on the request of parents, provided the number of children of the given sect exceeds 10. The course of study of the primary schools is formulated by the Minister of Public Instruction and is uniform throughout the Republic, except as modified in rural and backward communities to meet local conditions. To pass from the lower to the upper primary requires the certificate of completion or a special examination; likewise to pass from the upper primary to the secondary schools requires the certificate of graduation or a special examination.

Subjects of study: Lower primary—Spanish language, reading, writing, numbers, moral and civic instruction, rudiments of local geography and history, elements of manual training or girls' handiwork, rudimentary ideas of the human body, politeness and hygiene, domestic animals and objects of use to man, national hymns and school songs, gymnastic exercise; upper primary—elements of Spanish grammar, arithmetic, geography and history of Venezuela and notions of general geography and history, elementary science, rudiments of drawing and music, and continuation of the subjects of the lower primary.

SPECIAL SCHOOLS.

There are many special schools with varying programs and time requirements created to supply local desires and needs. These are of two types—subprimary and primary, including Government maternal schools—nurseries and kindergartens for children under 7, adult schools for those over 14, schools for the blind, deaf, and mentally deficient; secondary including schools of commerce, industrial arts and trades, music and elocution, sculpture, and nursing. There are three commercial schools—one at Maracaibo, one at Ciudad Bolivar, and one at Caracas. There are two industrial arts and trades schools—one for men and one for women—two for nurses, one for music and elocution, and one for sculpture at the capital.

SECONDARY EDUCATION.

The full course of secondary education covers six years and is based on the completion of the six years' primary school for entrance. It fits for entrance to the university and all professional schools. Like the primary school it is offered in two divisions—a four years' course

covering subjects of general culture, followed by a two years' course of specialized subjects. These courses may be taught in separate schools or combined in the same institution. Usually the colegios offer but the general course, while the liceos have both courses combined. The special course covers subjects of either philosophy and letters preparing for admission to higher education; medical and natural sciences preparing for entrance to the study of medicine and surgery, botany, zoology, and agriculture; mathematical and physical sciences preparing for the higher courses in civil and mining engineering, and architecture.

The prescribed course of the general studies of secondary education covered by the colegios is given under the time schedule found elsewhere. The studies of the specialized course are as follows:

Section of Philosophy and Letters.

First year: Latin, Greek, general literature and history of literature, philosophy, German, freehand drawing.

Second year: Latin, general literature and history of literature, history of philosophy, German, freehand drawing.

Section of Natural and Physical Sciences.

First year: Physics, chemistry, botany, zoology, elements of astronomy, German, freehand drawing.

Second year: Physics, chemistry, mineralogy and geology, general biology, German, freehand drawing.

Section of Physical Sciences and Mathematics.

First year: Physics, chemistry, algebra, plane and solid geometry, German, mechanical drawing.

Second year: Physics, chemistry, rectilinear and spherical trigonometry, elements of topography, elements of astronomy, German, topographic drawing.

Steps in the education system of Venezuela.

School or grade.	Proximate ages.																	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Lower primary school.....	█																	
Upper primary school.....				█														
Complete primary school.....	█																	
Secondary school:																		
Colegio.....							█											
Liceo.....							█											
Elementary normal school.....							█											
Superior normal school.....							█											
University and professional schools:																		
Surveying.....																		
Solicitor.....																		
Veterinary.....																		
Dentistry.....																		
Pharmacy.....																		
Civil engineering.....																		
Theology.....																		
Law.....																		
Medicine.....																		

At the completion of the specialized course the student receives the degree of bachelor (bachelor) of arts or science, which fulfills the entrance requirements to anyone of the corresponding higher institutions.

HIGHER EDUCATION.

There are two universities in Venezuela—the central University at Caracas (closed since October, 1912) and the University of the Andes at Merida. Higher education is also given in separate faculties or professional schools, as the schools of medicine, political sciences, mathematics, physical and natural sciences at Caracas. Higher education is also extended and popularized by the Government through special academies or learned societies, as the Venezuela Academy of the Spanish Language, the National Academy of History, the National Academy of Medicine, the Academy of Political and Social Sciences, the College of Engineers, the National Library, the Museum of Natural History and Archeology, the Museum of Fine Arts, the Educational Museum, the Bolívar Museum, and the Government supported meteorological stations at Merida, Maracaibo, Ciudad Bolívar, and Calabozo.

Schedule of standard colegio of Venezuela, covering the four years of general studies.

Subjects.	Class periods per week in each year.				
	I	II	III	IV	Total.
Spanish language and literature.....	3	3	3		9
French.....	3	3			6
English.....			3	3	6
Beginning Latin and Greek.....			3	3	6
Advanced arithmetic.....	6				6
Elementary algebra.....		6			6
Elementary geometry.....			6		6
Elementary trigonometry.....				2	2
Geography and history of Venezuela.....	6				6
Geography and history of America.....		6			6
Universal geography and history.....			3	3	6
Elementary botany, zoology, mineralogy and geology.....	3	3	3		9
Elementary physics, and chemistry.....			6	3	9
Elementary cosmography and chronology.....				3	3
Elementary philosophy.....			3	3	6
Freehand and mechanical drawing.....	2	3	2		7
Elementary topography and topographic drawing.....				2	2
Total recitation periods per week.....	23	24	32	22	125 ¹

¹ Average.

PART II—MEXICO, CUBA, AND CENTRAL AMERICA.

THE EDUCATION SYSTEM OF MEXICO.

GENERAL INFORMATION.

The Republic of Mexico, forming the southwest boundary of the United States, consists of 28 locally independent States, two Territories, and one Federal District (Mexico City). It contains 767,198 square miles, a population (1910) of 15,160,369—male 7,504,471 and female 7,655,898, or 19.2 per square mile. The school population is not available, but estimating it at 15 per cent of the general population, it would be 2,274,054—male 1,125,670 and female 1,148,384. This is probably an under rather than an over estimate.

The attendance in primary education, which represents about 97 per cent of the total school enrollment, was given in June, 1921 (Minister's report), as follows: Public 711,592—male 369,864, female 341,728; private 108,183—male 55,081, female 53,102; total 819,775—male 424,945, female 394,830, which is about 36 per cent of the school population as estimated above. In the same annual report the total number of primary schools in the Republic were: Public 8,388, private 1,327, total 9,715; the number of primary teachers 20,407—public 17,084, private 3,323—of which 32.6 per cent were male and 67.4 per cent female. Illiteracy is still discouragingly large, averaging throughout the Republic between 70 and 75 per cent.

Public primary education is secular, compulsory (from 7 to 12 or 14), and free, though until recently it was fundamentally religious, voluntary, and under public and private venture.

Article 3 of the new constitution is as follows:

Instruction is free; that given in public institutions of learning shall be secular. Primary instruction, whether higher or lower, given in private institutions, shall likewise be secular. No religious corporation nor minister of any religious creed shall establish or direct schools of primary instruction. Private primary schools may be established only subject to official supervision. Primary instruction in public institutions shall be gratuitous.

Similar enactments are found in many of the new State constitutions, but as yet the law does not seem to be carried into effect. The private schools, church and lay, cover about one-sixth of primary education and more nearly half of secondary and higher. These schools, however, are subject to Government supervision and must conform to the prescribed official curriculum.

THE SCHOOL YEAR.

The school year usually extends from the first of August or September to the last of May or June, July and either June or August being vacation months. In some States and institutions, however, the school year begins the first of January or February and closes the last of October or November. The length of the school year varies in different localities, but averages in the better municipalities about 200 days of 4 to 6 hours per day and 5 to 6 days per week. The class period in the primary schools varies from 20 minutes in the lower grades to 45 minutes in the higher; in the secondary schools it varies from 40 to 50 minutes. Strict attendance is not insisted upon in either primary or secondary education. In the latter schools, especially, the students may not be regular in attendance, appearing only at stated times to pass the promotion examinations, which by intensive study, increasing the number of weekly hours, can be accomplished in less than the scheduled time.

ADMINISTRATION.

Public-school administration is shared both by the States and the Federal Government. The local governments of the States determine the nature of education (especially primary) within their districts, while the Federal Government determines the nature of education in the Territories and Federal District. Furthermore, through financial aid, public libraries, art museums, extension courses, normal and other model schools, the Federal Government gives direction to all education throughout the Republic. It is also responsible for the immediate direction of secondary and higher education, found in but few States and some of the larger municipalities. National education is under the immediate control of the Federal Congress, and State education is under the immediate control of State legislatures.

At the head of the Federal school system is the secretary of public instruction, and at the head of the State school system is the general director (superintendent) of public education. There are both Federal and State school and medical inspectors who assist the head officers in executing the law; but probably the most-influential authority in the administration of education is the town council of the municipalities, both Federal and State, to which primary education of the local district is confided. The town council is chosen by direct vote of the people of the district. The State inspectors and superintendent are appointed by the governor, and the Federal inspectors and the secretary of public instruction are appointed by the President. The latter is also a member of the President's cabinet.

THEORY AND PRACTICE.

In most countries there is considerable divergence between the theory or published scheme of education and the actual practice. This is especially true in Mexico with its mixed population (19 per cent whites, 38 per cent Indians, and 43 per cent mestizos or mixed bloods), where for many years unusual political disturbances and religious upheavals have shaken the very foundations of the Republic. For this reason education is at present in a period of transition and radical readjustment, difficult accurately to describe. The great majority of the people are still without education or any special means of obtaining it. Such education as exists has been imposed on the people from without and above rather than been developed from within and beneath through human needs and initiative. The financial condition of the treasury, the lack of school facilities, the dearth of teachers, and the absence of impelling desire for education on the part of the masses, all militate against better schools.

PRIMARY EDUCATION.

In the published report of education for 1921 the list of primary schools was given as follows: Public primary schools for boys 3,137, for girls 2,315, for both (mixed) 2,936; private primary schools for boys 399, for girls 313, for both (mixed) 615. In attendance the private schools represent about one-sixth of the attendance in public education. The length of the primary school course varies in different parts of the Republic from two to six years. Owing to indifference of parents, the amount of illiteracy, the scarcity of money and teachers, there are many who advocate increasing the number of two-year (rudimentary) schools equipped to give the barest rudiments of reading and writing. The ordinary primary school course is four years and the superior primary school course is six years. The latter is found only in the larger municipalities and represents the required foundation for entrance into the better preparatory (secondary) schools.

The subjects of study differ slightly in different districts and seem more advanced year for year than in this country. As given in the six-year primary course of the State of Chihuahua, they are as follows: Spanish, including reading, writing, grammar, etc.; arithmetic, empirical geometry; history; geography; objective studies; drawing; manual training and domestic science; music; physical training; civics; natural sciences; political economy; first aid to the sick. The recitation periods during the first two years average about 14 hours per week, during the next two years about 17 hours per week, and during the last two years 19 hours per week; about 4,200 hours covering the six-year primary course.

There are a number of private schools and convents that give primary instruction corresponding to the primary work in the public schools. These are under Government supervision and are required to maintain the same standards as the public schools. There is also effort on the part of the Government to encourage "missionary schoolmasters" or voluntary teachers to establish schools covering the barest rudiments of reading and writing to aid in removing the great amount of illiteracy among the people. Some provision has, likewise, been made in the Federal District and a few of the larger cities to establish kindergartens.

SECONDARY EDUCATION.

The *escuelas preparatorias* or secondary schools of Mexico represent several types, as *colegios*, *institutos*, *liceos* and *escuelas normales*, though the former name seems more fitting, since they are attended by only a small number of students, nearly all of whom are in preparation for one of the professional schools of the university. They are modeled somewhat after the French *lycées* and especially planned as fitting schools of higher education. The normal schools, though offering somewhat similar academic courses, have a secondary object of preparing elementary teachers and offer during the last year of the course some pedagogical training.

The courses in both the preparatory and normal schools cover from three to six years, the Federal standard being five years based on the completion of the six-year primary school. In fact the national preparatory course is of indefinite length, its diploma being conferred after the completion of a prescribed number of hours of instruction under certain specific groups of subjects. These subjects may be studied, under certain restrictions, in any order desired by the student and as rapidly as he sees fit. The student is limited to 30 class hours per week, but may thus complete the entire course in a period of three years. Five years, however, is the usual time, and with slower progress six years may be required. Elsewhere we have given the schedule of a typical preparatory school.

Either as separate or affiliated with other preparatory schools is an increasing number of secondary commercial, industrial, engineering, and agricultural schools or courses. These schools are of a more practical nature than the usual type of preparatory schools and aim to meet the practical needs of the community in which they are located. They are found mostly in the Federal District and the more advanced states and cities. They usually require for entrance completion of the six-grade primary and cover two (industrial), three (agricultural, commercial), or two-four-six (engineering) year courses. In most cases these schools prepare for superior instruction in the same field but not in others. There is a present tendency to

place all secondary education under the direct control of the university council and the Federal department of education. Since 1916 all national preparatory schools are authorized to charge the uniform fee of \$5 per month per pupil.

HIGHER EDUCATION.

There are at present in the Republic of Mexico some State universities and professional schools other than the National University of Mexico City, as the medical, engineering, and law schools of Guadalajara; schools of medicine, law, and music (recently organized as a university) of Merida; the State university, comprising schools of law, medicine, engineering, agriculture, fine arts, natural science, and a normal department, of Michoacan at Morelia; schools of law and medicine at Monterey, Puebla, and San Luis Potosi; a school of medicine at Oaxaca; a school of fine arts at Queretara; a school of law at Toluca; and the naval academy at Vera Cruz. However, most of higher education is centralized in the professional schools of the Federal District and the National University of Mexico City as organized in 1910 (founded in 1553). The National University comprises schools of law (five-year course), medicine and pharmacy (four and six years), dentistry (three years), engineering (two-four-five years); advanced studies comparable to arts and sciences of this country (two-three-five-six years), chemical science (two-three-four years), fine arts, music and theatrical.

Students can enter the School of Advanced Studies from the national preparatory schools and on completing the lower two-year course in any line receive a diploma as academic professor in that line (subject). Similarly, a three-year course, embracing one principal and three subordinate subjects, leads to the degree of university professor and qualifies the possessor for instructor in the university in those subjects; a five-year course, with three additional subjects chosen by the student on approval of the faculty, leads to the degree in those subjects of university master; and a six-year course with five additional subjects, two principal assigned by the faculty and three subordinate chosen by the student, leads to the degree of university doctor in the subjects studied. These courses offer a wide range of subjects that may be combined in various groups, but each course in practice is more specialized than the corresponding course in our colleges of liberal arts.

The university extension work is carried on through the faculty of advanced studies, and other functions of encouraging secondary and higher education among the people is centered here. According to the regulation of 1916 the higher institutions of learning, like the preparatory schools, charge tuition of \$5 per month.

Entrance examinations to all these faculties are based on completion of the national preparatory schools; and the first two years in several faculties of the university continue preparatory studies, followed by two, three, or four years of strictly professional subjects. At present the courses of instruction of the different faculties do not lead to the usual degrees but to special diplomas certifying that the courses of instruction offered by the respective faculties have been completed. The different schools of the National University of Mexico City are in the main similar to such institutions elsewhere and do not call for separate treatment. The graduates are from two to four years younger than the graduates of corresponding professional schools in the United States. The teaching and instruction is given more to theory and less to practice and initiative than in the corresponding conditions in this country.

There is one faculty, however, worthy of special mention. It is unique in schools of advanced studies, though not well attended nor thoroughly appreciated. It is entitled the "National faculty of advanced studies" (Facultad Nacional de Altos Estudios) comparable to the college of arts and science of the United States. It offers an extensive cultural course under three main divisions: (1) Humanities, (2) exact science, and (3) political economy. Its aim seems to be to provide opportunity for liberal education and to furnish suitable training for teachers of preparatory schools, normal schools, professional schools, and universities.

QUALIFICATION OF TEACHERS.

The aim is to require of all teachers in the primary and secondary schools a normal-school diploma or graduation from one of the higher professional schools, but in practice, owing to the limited number of qualified teachers, it is far from being realized. In many States wherein the illiteracy is high, rudimentary schools are established and persons of tender years who can read and write are sought to teach others to read and write. The wages of teachers are low as compared with corresponding positions in this country and by no means uniform, varying in the primary schools from \$20 to \$60 per month; in a specially favored position a principal may receive \$100 per month. In both secondary and higher education many of the teachers are employed by subjects and devote but a small part of their time to teaching, while legitimately engaged in another occupation, profession, trade, or business. This practice prevents the development of the teaching spirit so strong and helpful in many countries.

The present administration has been especially interested in reducing illiteracy among the masses and in carrying the rudiments of education and a common language to the native people. For this purpose a congress of educators was called to meet in Mexico City.

September, 1922, to devise ways and means of procuring "missionary schoolmasters" and of equipping them with textbooks and supplies to carry on the needed education among the natives. Another interest has been to collect and to preserve native culture, as well as to establish libraries and furnish them with the classics of the masters printed in Spanish.

*Schedule of a typical national preparatory school (classical course)—"Instituto Científico y Literario, Chihuahua."*¹

Subjects.	Number of hours per subject per grade.					
	First grade.	Second grade.	Third grade.	Fourth grade.	Fifth grade.	Total.
Mathematics.....	240	240				480
Spanish (grammar).....		80	40	120		240
Geography.....				120		120
History—Mexican and universal.....					240	240
Greek roots.....		120				120
English.....		120				120
French.....	120	120				240
Physics (class).....			240			240
Physics (laboratory).....			120			120
Chemistry (class).....				240		240
Chemistry (laboratory).....				240		240
Cosmography.....			120			120
Botany.....				120		120
Anatomy, physiology, zoology.....					120	120
Psychology.....					120	120
Logic.....					120	120
Literature.....				120	120	240
Drawing.....	80	40	40			160
Physical training.....	120	120	80	80	120	520
Music.....	60	60	60	60	60	300
Total per year (grade) and course.....	620	900	700	1,100	900	4,220
Average hours per week per grade.....	15½	22½	17½	27½	22½	21

¹ Besides the classical course, the preparatory school offers a normal course of five years and a commercial course of three years. Since the time element is not stressed, students are able by taking 30 or more hours per week to complete the five-years' course in three. Courses vary but slightly in the different national preparatory schools, all aiming to fit for the university, and are supervised by Government inspectors.

Schedule of typical primary course of study, Chihuahua, Mexico.

Subjects.	Whole number of hours per subject per grade.						
	First grade.	Second grade.	Third grade.	Fourth grade.	Fifth grade.	Sixth grade.	Total.
Spanish, reading, writing, grammar.....	133	167	100	138	150	150	833
Arithmetic.....	133	167	100	133	150	150	833
Empirical geometry.....	40	83	60	80	80	80	423
History.....		50	80	80	80	133	423
Geography.....		50	80	80	80	80	370
Objective studies.....	133	167	100				400
Drawing.....	66	66	80	106	90	90	498
Manual training.....	66	83	80	80	60	60	429
Music.....	40	40	60	60	40	40	280
Physical training.....	66	66	100	80	60	60	432
Civics.....			60	80	50	50	240
Natural science.....				133	150	150	433
Political economy.....					50	50	100
First aid to sick.....					40	40	80
Total per year and course.....	677	939	900	1,045	1,080	1,133	5,774
Approximate hours per week.....	17	24	23	26	26	18½	144

¹Average, 24.

Steps in the education system of Mexico.

School or grade.	Proximate ages.																
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Primary schools (escuelas primarias).....	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Preparatory schools (escuelas preparatorias).....						█	█	█	█	█	█	█	█	█	█	█	█
Engineering schools (secondary grade).....							█	█	█	█	█	█	█	█	█	█	█
Normal schools.....							█	█	█	█	█	█	█	█	█	█	█
Schools of commerce and business.....							█	█	█	█	█	█	█	█	█	█	█
University school of medicine.....													█	█	█	█	█
University school of engineering and applied sciences.....													█	█	█	█	█
University school of chemical science.....													█	█	█	█	█
University school of law.....													█	█	█	█	█
University school of agriculture.....													█	█	█	█	█
University school of advanced studies.....													█	█	█	█	█
University school of dentistry.....													█	█	█	█	█

EDUCATION IN CUBA.

GENERAL STATEMENT.

The new Republic of Cuba (1902), the largest and most western of the West India Islands, has an area of 44,215 square miles and a population of 2,889,004, an average of 60 to the square mile. The inhabitants are about 74 per cent white, mostly Spanish or of Spanish descent, and 26 per cent colored, mostly negro or negro descent. The language of the country is Spanish and the religion dominantly Roman Catholic, though there is complete separation of Church and State and other religions are freely practiced. The prevailing climate is hot and dry, though there is abundance of rainfall, which is not evenly distributed throughout the year and the country. There are 2,500 miles of coast line where the heat remains continuously high in summer but mild and balmy in winter. Inland, owing to the mountainous condition of the country (the altitude varying from 3,000 to 8,400 feet), the climate is milder, and the healthful sea breezes make it quite enjoyable during all seasons of the year. The temperature scarcely falls below 50° Fahrenheit in winter nor rises above 86° in summer, but the average winter temperature of the entire island is about 72° and of summer 82.5°. The average annual rainfall varies in different localities from 40 to 160 inches. The hottest months are July and August, and the wet season from July to September.

Prior to the conditions which led to the establishment of the Republic, education was mostly private, limited in extent, and of a

backward nature. The illiteracy was placed in 1899 at 65 per cent, the number of schools 200, and the number of pupils 4,000. In 1900, under the new régime, the schools had increased to 312 and the number of pupils to 34,597. Since the reorganization of the education system in 1899, modified and readjusted by the school laws of 1909 and 1915, there has been encouraging advancement made in the education system and practice. In 1919, just 20 years after the Treaty of Paris and the beginning of the new régime, the number of schools had increased to over 4,000, the number of teachers to 6,751, and the number of pupils to 334,671. The short administration of the island by the United States Government (1898-1902) left its imprint on the education system, which, especially in primary (elementary) education, conforms more nearly to the education system of the United States than any other Latin-American country.

Public education is directed and supported by the Government. It is secular, free, and compulsory from 7 to 13, inclusive. It covers the usual divisions of primary, secondary, and superior or professional. The unit of school administration is the municipality, which includes the urban community and the contiguous rural territory. The complete urban primary (elementary) school covers a course of eight years and may be preceded in the cities by an efficient kindergarten school. In rural communities the primary school covers but four years. There are six Provinces in the Republic, and each Province is provided, at the capital city, with at least one Government secondary school under the title "Instituto de Segunda Enseñanza Provincial," which, under the present conditions, covers a course of four years, based for entrance on an eight years' primary, and preparing, on examination, for the bachelor's degree and entrance to the professional schools of the university. There are also a number of officially recognized private secondary schools (colegios) which conform more closely to the Latin American type, and as an annex to each provincial institute is a Government normal school of somewhat equivalent academic grade to the secondary schools.

SCHOOL ADMINISTRATION.

At the head of the public-school system of Cuba is the secretary of public instruction and fine arts, a cabinet officer appointed by the President of the Republic. He is intrusted with the execution of all the laws of public instruction in the Republic, the inspection of universities, the administrative instruction of other higher institutions of learning, of institutions of secondary instruction, of normal schools, of arts and trades and other special schools, and of all matters pertaining to education.

Under the secretary of public instruction is the superintendent of public instruction, who, together with the six provincial superin-

tendents of public instruction, one for each Province, constitute the national board of superintendence, charged with the function of school administration and supervision of education throughout the island. There are a number of school inspectors who function in the usual manner of such officers: A Federal school inspector acting in conjunction with the secretary of public instruction; six provincial school inspectors acting for the different Provinces; and municipal school inspectors, one for each municipality or local district.

The next and lowest division of school administration are the boards of education of the municipalities, the local school unit. Each board is composed of seven members elected by the voters of the district. To be eligible to membership on the board one must be a citizen, resident of the municipality, head of a family, and able to read and write. He can not hold any other Government office at the same time with the exception of that of professor of secondary or higher education. The local school inspector is empowered to act with the board of education in an advisory capacity.

SCHOOL YEAR.

The school year extends from the 1st of September to the 31st of the following August; the first school session begins on the second Monday of September and ends on the Friday before the 25th of December; the second term begins on the first Monday after the 1st of January and ends on the Friday before Holy Week; the third term begins on the first Monday after Holy Week and ends when 36 weeks have been completed. The school month is composed of four weeks, the school week of five days (Monday to Friday, inclusive), the school day of five hours exclusive of recess periods in all grades except the first, wherein it is four hours. The university year covers eight months, from the 1st of October to the 31st of May. The daily sessions begin at 7 in the morning and close at 5, in the case of pedagogy 6, in the afternoon. In secondary education the length of the school year is also eight months, covering a period similar to that of the university.

PRIMARY EDUCATION.

Great improvement has been made in primary education in the past 20 years, and school attendance has increased manyfold. There are two types of primary schools—those provided for the rural districts, covering a course of four years, and those for the urban districts, covering courses of six and eight years. It is the aim of the Government to establish a rural school in every community where there are sufficient children to justify. In isolated situations or communities wherein sufficient children are not found to justify the establishment of a school, traveling teachers are provided to carry the

rudiments of education to the homes and the individual children. Promotion from grade to grade in the rural schools depends on the judgment of the individual teachers subject to review by the district inspector. Completing the four years' work satisfies the compulsory school law.

Urban schools are found only in the larger and more important urban communities; the smaller municipalities with the contiguous territory provide for rural schools only. As in other Latin American countries, boys and girls are educated in separate schools, except in communities where there are not sufficient children to justify the establishment of two schools, when a single mixed school will be provided. The teachers of all girls' schools and mixed schools are women only. The subjects of the rural schools are Spanish language, reading, writing, arithmetic, nature studies, play activity and singing, notions of geography, history, hygiene, civics, morals and conduct, agriculture, and drawing and manual training. The eight years' course of the urban school is required for entrance on secondary education, though it is still possible to obtain full entrance into the secondary schools on examination after completing the sixth-grade primary school. The subjects of the eighth-grade primary school are the same and more advanced work on the subjects of the rural schools, with the addition of English, general geography, notions of general history, physiology and hygiene, geometry, natural science, including physics and chemistry, and physical education.

PREPARATION OF TEACHERS.

The normal school law of 1915 provides for two normal schools, one for men and one for women, to be located at Habana, and the capitals of the Provinces of Pinar del Rio, Matanzas, Santa Clara, Camaguey, and Oriente, where instruction is free. These schools are established as annexes to the provincial institutes, or secondary schools. All teachers were required to qualify under the above law, but provision was made to retain teachers who had duly qualified under the law of 1909. Thus about half of the teachers are those who had qualified under the old law.

The normal-school course covers four years and requires for entrance that the student be at least 14 years of age, of good health and moral character, physically qualified to exercise the functions of a teacher, and an entrance examination covering in special cases six and in others eight years' elementary course. Each year the 50 applicants best qualified on competitive examination are admitted. The subjects of study are as follows: Spanish language and literature; arithmetic, algebra, geometry; physics, chemistry, natural history, and agriculture; English, and French or German; drawing, penman-

ship, elementary modeling; anatomy, physiology, hygiene, physical education, games, and sports; music; manual work, and special kindergarten studies (elective); pedagogy, logic, psychology, methodology, school hygiene, and practice.

On graduation the student receives the diploma of normal teacher, or of normal kindergarten teacher. Professors of the normal schools are appointed by the President of the Republic and must be over 21 years of age, possess the degree of doctor of pedagogy of Habana University, or of superior teacher granted by the normal schools of Guanabacoa and Habana, or of a Spanish normal school granted before 1899, if the applicant is a Cuban; or an analogous degree to these, granted by some recognized foreign institution if the applicant is a foreigner. Only normal graduates or professionally trained teachers can be placed in permanent positions; others may be employed temporarily in the absence of professionally trained candidates, but they can not receive permanent employment. Cuban teachers are given the preference in all schools, but well-prepared foreigners, especially those from the United States, frequently find a ready welcome.

SECONDARY EDUCATION:

Secondary education is more closely related to higher and professional education than to primary or elementary education. It is offered in the six public provincial institutes (free except the annual matriculation fee of \$12.50) and in a number of private colegios. To enter the public secondary schools, the pupil must be 13 years of age and prove through an examination that he has completed the eight years primary school, or in special cases the six years primary school. The secondary school covers a course of four years leading on graduation to the degree of bachiller en ciencias y letras (bachelor of science and letters) and fitting for entrance to the university and professional schools. The subjects of study are: Spanish, English or French, geography, history, arithmetic, algebra, geometry, trigonometry, physics, chemistry, natural history, civics, elements of sociology, logic, and psychology. Physical education is compulsory throughout the course. The institutes are authorized to make adjustments of the courses to meet local needs.

HIGHER EDUCATION.

Higher education and professional instruction are offered in the University of Habana, founded in 1721, containing the faculties of arts and science, medicine and pharmacy, and law. In November, 1919, there were 2,272 students enrolled in the university, who were divided as follows: 357 in the faculty of liberal arts and science; 458 in the faculty of law; 1,457 in the faculty of medicine and phar-

macy. The three faculties above mentioned are again divided as follows: The faculty of letters (arts) and science into the schools of letters and philosophy, of pedagogy, of engineering, including electricity, architecture, agronomy; the faculty of medicine and pharmacy into the schools of medicine, of pharmacy, of dental surgery, and of veterinary medicine; the faculty of law into the schools of civil law, public law, and notary.

Entrance to any faculty of the university is based on an age limit of at least 17 and graduation from the four years' course of the secondary school as indicated above. The university courses are of different lengths and offer advanced and professional degrees only. The degrees of doctor of pedagogy, letters and philosophy, mathematics, physico-chemical science, and natural science are granted on a three years' course, 15 years of schooling. The course in medicine requires six years; pharmacy, dentistry, veterinary, midwife, and nursing three each; public law three; civil law four; notary two; chemical and agricultural experts and engineers three and four years; electrical engineers four, civil engineers, architects, and overseers or master workmen five years each.

FORWARD MOVEMENT.

The progress in education for the past 20 or more years has been exceedingly encouraging. New schools have been established in all parts of the Republic. The system of school administration has been simplified and strengthened and the school buildings greatly improved. Special attention has been given to the training of teachers, and the supply, while not yet adequate, is immensely better and not far short of the demand. Up-to-date kindergartens have been established in several cities and a normal school for the training of kindergarten teachers was established at Habana and courses on the subject in other normal schools. Physical education was made a required subject until the close of secondary education. School sanitation and child welfare were looked after by the school authorities and greatly improved. Industrial education has been greatly stimulated and agricultural education stressed in the schools, especially in the rural primary schools, in which it is made a compulsory subject.

On March 19, 1923, at the Quinta de los Molinos, Habana, a short, practical course in agriculture was inaugurated for the school inspectors and teachers of the Province of Habana. The classes are held every Saturday morning from 8 to 10 o'clock and will continue to the end of the school year. The course opened with 105 present, 19 of whom were school inspectors, the remainder, rural and urban teachers, the majority of whom were women. The course was organized by the provincial school inspector and the instruction given by the head of the agronomical school of the university, Señor Jose L. Concepción.

Since the year 1914 agriculture has been included in the curriculum of the rural schools of Cuba, with the object of imparting to the children in rural districts a fundamental knowledge of farming and preparing them to become intelligent agriculturists. The purpose of the courses in agriculture as outlined by the board of superintendents is to teach the pupils to what sources of information an agriculturist may turn for knowledge, advice, or public aid; to foment and stimulate broad lines of rural economy; to increase the love of country life, animals, and plants. The instruction, while simple, is practical and thorough as to fundamental principles.

Each rural school is required to have a field devoted to agricultural experiments which the children shall cultivate themselves under the instruction of the teachers, and this program naturally necessitates the possession of considerable practical knowledge of agriculture by the teachers. The school gardens established for this purpose are provided with the necessary light-weight garden implements—spade, rake, hoe, fork, etc.—and the fundamental principles of gardening are taught. According to the latest statistics (1921), the school gardens under cultivation were 396, as follows: In the Province of Habana, 109; Pinar del Rio, 102; Matanzas, 83; Santa Clara, 49; Oriente, 43; Camaguey, 10. Since 1921 much attention has been given to the training of teachers in the essentials of farming, cropping, gardening, weeding, irrigating, care and cultivation of fruit and other trees in order to make their agricultural instruction more efficient.

Steps in the education system of Cuba.

School or grade.	Proximate ages.																			
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Rural primary school.....	—————																			
Urban primary school.....	—————																			
Secondary school (Instituto de segunda enseñanza).....																				
Habana University: Pedagogy, arts and science, mathematics, etc.....																				
Pharmacy, dentistry, veterinary, etc.....																				
Medicine.....																				
Civil law, electrical engineering, etc.....																				
Civil engineering, architecture, etc.....																				

CENTRAL AMERICA.

Central America comprises the Republics of Guatemala, Honduras, Nicaragua, Salvador, and Costa Rica; the new Republic of Panama has been added to the study for the sake of convenience. In an early day (1524) Guatemala alone comprised all the territory now known as Central America; later (1823) the Government of Guatemala becoming free of both Spain and Mexico, a constituent congress

of the territory set up an independent nation under the title of the Central American Federation, embracing the present States of Costa Rica, Guatemala, Honduras, Nicaragua, and Salvador. The first President of the Federation was Gen. José Arce. The union did not prove practical, the States seceding one by one to form independent republics, and within 20 years the union had been completely dissolved.

After 60 or more years, the small republics, with so many interests in common, began anew the struggle for unification of interests and some form of central organization. In December, 1907, at the Central American Peace Conference, held in Washington, there was established an international court of justice, to continue in operation for 10 years; also an international bureau at Guatemala to promote industry, commerce, and agriculture of the Central American Republics. In 1921 an effort was made to revive the Central American Union by a treaty signed at San Jose, Costa Rica. This treaty has been ratified by the Governments of Guatemala, Honduras, and Salvador, and in accordance with its provisions a constitutional convention was assembled in Tegucigalpa August 20, 1921. A constitution was drafted and ratified by the three countries represented at the convention, resulting in the formation of the Republic of Central America, composed of the above-named countries.

Under the new Government each State retains its autonomy and independence in the management and direction of its internal affairs and will carry on governmental functions not specifically delegated to the new Federation. The constitution of the central Republic places the executive authority in a Federal council, composed of one delegate and one alternate from each State, elected by popular vote, for a term of five years. The delegates choose from their number a president and vice president for a term of one year, the president not being eligible to reelection the following year. The legislative power is vested in a Senate and Chamber of Deputies; the former consisting of three members from each State, appointed by the respective legislatures, and one from the Federal District of the Republic; the latter is composed of one representative and one alternate, elected by popular vote, for every 100,000 inhabitants or fraction thereof in excess of 50,000. Provision is made for a supreme court and such inferior courts as may be created by law. The supreme court is composed of seven judges and three alternates, appointed by the Senate from a list of 21 candidates, 7 from each State. Not all of the Central American Republics have ratified the above Federation and constitution; and the later withdrawal of Salvador and Guatemala from the Federation will prevent its going into effect.

On the invitation of the Government of the United States, December 4, 1922, an important conference on Central American affairs,

participated in by the Governments of Guatemala, Salvador, Honduras, Nicaragua, and Costa Rica, was held in the Hall of the Americas at the Pan American Union building, Washington, D. C. After prolonged deliberations the conference resulted in the approval, February 7, 1923, of a general treaty of peace and amity, 11 conventions, and 3 protocols. The conventions covered the following: The establishment of an international Central American tribunal, of international commissions of inquiry, of free trade, of stations for agricultural experiments and industries, of permanent Central American commissions, unification of protective laws for workmen and laborers, practice of the liberal professions, preparation of projects of electoral legislation, reciprocal exchange of Central American students, extradition convention, and convention for the limitation of armaments.

All education in Central America is under the direct control of the individual republics. Here, as in other Latin American countries, the principal thought in the study has been to present such information as will be found most valuable to the student and teacher in whom the travel spirit is large. With the single exception of Brazil, the language of which is Portuguese, the official language of all other Latin American countries is Spanish.

EDUCATION IN GUATEMALA.

GENERAL STATEMENT.

Guatemala is second in size and first in population of the Republics of Central America, including the new Republic of Panama, presented with the Central American Republics for the sake of convenience. The area of Guatemala is 48,290 square miles, and its present population 2,119,165, or about 44 per square mile. The population is composed principally of native Indians of a high type; fully 60 per cent are pure-blood Indians; the remainder are chiefly mestizos or mixtures of Indians and white races. The whites or descendants of Europeans, mostly Spanish, are few and dwell principally in Guatemala City, the capital, and other principal cities. Much the larger proportion of whites dwell in the capital.

Guatemala is the most northern of the Central American Republics, lying within the Tropics between 13° and 18° north latitude. In the main it is bounded on the north and west by Mexico, on the south by the Pacific, and on the east by Salvador, Honduras, Caribbean Sea, and British Honduras. With the exception of its narrow but long strip of coast line on the Pacific and the shorter but broader strip of marshy coast line on the Caribbean Sea, where conditions are genuinely tropical, the climate of the large inland plateau regions, with an elevation of from 4,000 to 11,500 feet above sea level, is pleasant and healthful. Many of the mountain peaks rise still higher,

as Fuego, 12,570 feet; Tacana, 13,300 feet; Tajumulco, 13,800 feet. The city of Guatemala (population 125,000), where most of the white inhabitants live, is on an elevation of 4,877 feet above sea level. It is said to be a very beautiful city, surrounded by green-clad hills and imposing volcanoes, with a climate of perpetual spring. Quezaltenango, the third city in size (population 25,000), is on a still higher plateau, elevation 7,351 feet above sea level. It is situated in a rich farming community in which the chief productions are corn, wheat, and, on lower elevations, coffee. There are a number of active volcanoes, and serious earthquakes are quite frequent.

Education is free and compulsory for all children between the ages of 6 and 14. In 1922 there were 2,393 public primary schools and 373 private primary schools, a total of 2,766 establishments for primary education. The number of pupils enrolled in primary schools was 82,997; in secondary schools, 4,715; in higher education, 482. During the year (1922) 142 new primary schools were opened, and the pay of school-teachers was increased.

In the acquisition, construction, and repair of school buildings a total of 4,133,548 pesos was expended. In addition, there was spent for school supplies a total of 157,897 pesos (\$24,941, United States currency). The completion of the school of agriculture, the national conservatory of music, a girls' high school, and various schools for manual training were among the principal accomplishments of the year in the educational field.

GENERAL GOVERNMENT.

The Governments of the Central American Republics are quite similar throughout, and a brief outline of the Government of Guatemala will suffice for all. The legislative power is vested in a National Assembly, consisting of representatives (one for every 20,000 inhabitants) chosen by universal suffrage for four years, and a Council of State of 13 members, partly elected by the National Assembly, partly appointed by the President of the Republic. The President is elected by direct vote of the people for a term of six years. Besides the legislative and executive branches, there is the usual judicial branch of government. There are also 22 administrative departments, at the head of each is a *jefe politico* appointed by the President of the Republic. The departments are subdivided into districts and municipalities. At the head of the district is an *alcalde*; at the head of the municipality is a *corregidor*, or mayor.

SCHOOL ADMINISTRATION.

The department of public instruction is one of the seven cabinet departments, having charge of all educational affairs of the Republic. The secretary or minister of public instruction, appointed to the

cabinet position by the President of the Republic, administers primary, secondary, and higher schools, including the national university and other educational institutions maintained by the Government. Next in order to the minister of public instruction is the inspector general, chief of the staff of school inspectors. There are two technical inspectors, one for day and one for night schools, and a special inspector of school hygiene for the Department of Guatemala. Prior to 1921 each of the 22 departments had as its chief school officer an inspector, but in that year, for the sake of economy, the number of departmental school inspectors was reduced to nine by combining two or three departments, suitably located, under the management of a single inspector.

The national board of education, through whom all public education is managed, is composed of the following members: The minister of public instruction, the inspector general of education, the secretary of inspection, the inspector of technical education, the inspector of technical night schools, and the 9 departmental inspectors. Each department has a departmental board consisting of six members. At the capital, in the Department of Guatemala, the departmental board is made up as follows: The inspector general, the secretary of inspection, the inspector of technical education at the capital, the inspector of technical education in night schools at the capital, the departmental inspector of public instruction, and the inspector of school hygiene for the department of Guatemala. At the beginning unit of education there is a local school board, but all education is highly centralized, and most of the initiative has its beginning higher up:

PRIMARY EDUCATION.

Primary education is divided into two sections—lower or ordinary primary school, covering the first three years, and the upper or complementary primary school, covering the next three years (fourth, fifth, and sixth years). At the close of each division there is a public examination required for promotion to the next higher grade. Graduation from the complete primary course of six years is required for entrance into the national institutes and normal schools. The subjects in the lower and upper (complementary) primary grades are here given in parallel columns to show the slight differences in the two schools.

LOWER PRIMARY SCHOOL.

UPPER PRIMARY COMPLEMENTARY SCHOOL.

<i>Subjects.</i>	<i>Main Divisions.</i>	<i>Subjects.</i>
1. Morals.....	1. Moral education.	1. Morals.
2. Gentility.....		2. Civics.
		3. Gentility.

LOWER PRIMARY SCHOOL

—Continued.

Subjects.

- 3. Reading and notions of the mother tongue.
- 4. Writing.....
- 5. Arithmetic.....
- 6. Geography of Guatemala.....
- 7. Object lessons.....
- 8. Notions of Guatemalan history.....
- 9. Notions of agriculture.....
- 10. English.....
- 11. Manual training.....
- 12. Gymnasium.....
- 13. Military exercises.....
- 14. Calisthenics.....
- 15. Drawing.....
- 16. Singing.....
- 17. Manual training or needle-work.....
- 18. Domestic economy.....
- 19. Gardening.....

Main Divisions.

II. Intellectual education.

III. Physical education.

IV. Artistic education.

V. Education especially for girls.

UPPER PRIMARY (COMPLEMENTARY) SCHOOL—Continued.

Subjects.

- 4. Progressive reading and composition.
- 5. Spanish grammar.
- 6. Writing.
- 7. Arithmetic.
- 8. Geography of Guatemala, Central America, universal.
- 9. History, Guatemalan, Central American, universal.
- 10. Natural science, notions of zoology, botany, mineralogy, and geology.
- 11. Experimental science, notions of mechanics, physics, chemistry.
- 12. Hygiene.
- 13. Bookkeeping.
- 14. English.
- 15. Gymnasium.
- 16. Military exercises.
- 17. Calisthenics.
- 18. Vocal music.
- 19. Drawing, linear, natural.
- 20. Manual training.
- 21. Domestic economy.
- 22. Gardening.

The time element is not given, but since the stress in promotions is placed on yearly and final examinations, the time put upon a subject by the pupil in Guatemala is considered less important than in the United States. The lower primary school satisfies the compulsory feature of the law, and the upper primary or complementary school is found only in cities and more favored municipalities.

SECONDARY EDUCATION.

Secondary education is offered in the Institutos Nacionales (national institutes). The complete course covers five years and leads on graduation to the degree of Bachiller en Ciencias y Letras (bachelor of science and letters). Both the national institutes and the normal schools, which are usually found as annexes to the institutes, require for full admission completion of the six years' primary course. The above bachelor's degree, covering 11 years of schooling, is sufficient for entrance to all faculties of the university. There are eight national institutes, five for boys and three for girls. Each of the national institutes has a normal school annexed, and usually commercial sections are also connected with the institutes. Besides the normal-school annexes, there are four separate normal schools—one for boys, two for girls, and a special normal institute in the capital.

for the training of Indian teachers, probably the only one of its type in Latin America.

There are a number of private secondary schools, usually under the designation of colegios, some of which are subsidized by the Government, and all must comply with the Government requirements for promotion of their pupils. Trade schools for boys, and a few for girls, are found in different parts of the Republic. The courses are adapted to the practical activities of life and not intended as preparation for further study. The subjects of study of the national institutes and normal schools, by years, are given below in parallel columns. As in the primary school, the time element has been omitted. The school year represents 36 weeks, 5 days per week, 6 hours per day, and 50 minutes per recitation period.

PLAN OF STUDY.

(For the secondary and normal education in the national institutes of the Republic of Guatemala.)

NATIONAL INSTITUTES.

First year.

Spanish grammar, first course.
English, first course.
Arithmetic.
Cosmography and physical geography.
Geography and history of Central America.
Liberal drawing.

Second year.

Spanish grammar, second course.
English, second course.
Algebra.
Zoology.
Descriptive geography.
Physiology and hygiene.

Third year.

English, third course.
Geometry and trigonometry.
Botany and mineralogy.
Ancient history, and that of the Middle Ages.
French, first course.
Tactics and military regulations.¹

Fourth year.

English, fourth course.
French, second course.
Philosophy, first course.
Physics and mechanics.
Modern history.
Bookkeeping.
Stenography.

Fifth year.

English, fifth course.
French, third course.
Philosophy, second course.
Chemistry.
General grammar and rhetoric.
Civic instruction and political economy.

NORMAL SCHOOLS.

First year.

Spanish grammar.
English, first course.
Arithmetic.
Cosmography and physical geography.
Theoretical pedagogy.
Zoology.

Second year.

Botany and mineralogy.
English, second course.
Algebra.
Geography and history of Central America.
Practical pedagogy.
French, first course.
Tactics and military regulations.¹

Third year.

Physiology and hygiene.
English, third course.
Geometry.
Descriptive geography.
Practical pedagogy.
Stenography.
French, second course.

Fourth year.

English, fourth course.
Methodology—theory and practice.
Bookkeeping.
Mechanics, physical and chemical.
Universal history.
Stenography.
French, third course.

¹ Not for girls.

HIGHER EDUCATION.

There is a National University of Guatemala at Guatemala City, founded in 1918, offering higher instruction in faculties or special courses of law, medicine, pharmacy, mathematics, natural science, agronomy, philosophy and letters. There are also at the capital schools of engineering and polytechnics; the latter was formerly the military academy. The following institutions of secondary or higher education are also situated at the capital: The National School of Agriculture, the National Aviation School, the School of Fine Arts, the Academy of Drawing and Painting, the National Conservatory of Music, the National School of Telegraphy, and the School of Commerce.

The Government is taking active steps (1923) for the establishment of several new agricultural schools in suitable communities to give instruction in coffee, wheat, corn, fruit, etc., farming. The ministry of public instruction has ordered (1923) the establishment of a day-nursery and kindergarten in the orphanage known as Casa del Niño, where mothers may leave their babies with the assurance that they will be properly bathed, dressed, and fed during their absence. The Government is to aid in the establishment of other such nurseries in different parts of the city. There is also considerable effort being made to extend rural education to the country districts.

Steps in the education system of Guatemala.

School or grade.	Proximate ages.																	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Lower primary school.....	—————																	
Upper primary (complementary) school.....				—————														
Commercial and trade schools.....							—————											
Normal school.....							—————											
National Institute.....										—————								
School of pharmacy.....												—————						
School of law.....													—————					
School of medicine.....													—————					

EDUCATION IN HONDURAS.

GENERAL STATEMENT.

The Republic of Honduras covers about 44,275 English square miles, and according to estimated figures (1921) contains 637,114 inhabitants—male 314,528, female 322,586—or 12.5 to the square mile. The inhabitants are chiefly Indians with an admixture of Spanish, and on the north coast are many Negroes.

According to the school census of 1921, there were 88,453 children between the ages of 7 and 15—48,697 boys and 39,756 girls. Of these, 39,000, or 44 per cent, had received some education, and 49,453, or 56 per cent, were wholly illiterate.

The number of primary schools in operation during the year 1921 were 922, of which 905 were public, 17 private, 531 urban, and 391 rural. There were four normal schools, one for boys and one for girls, in Tegucigalpa, one for girls in Santa Rosa de Copan, and a mixed school in La Esperanza. Besides these, there are normal courses in special departments of the colegios in Santa Rosa de Copan, Santa Barbara, and Juticalpa. These public normal schools and normal courses enrolled (1920) 247 boys and 240 girls. There were (1921) five Government secondary schools—El Instituto Nacional of Tegucigalpa, El Colegio Nacional de Segunda Ensenanza in Santa Rosa de Copan; El Colegio La Independencia in Santa Barbara, El Colegio Leon Alvarado in Comayagua, and El Colegio La Fraternidad in Juticalpa. These schools had (1920) 71 professors and 259 students. In 1921 there were 192 pupils enrolled in commercial courses, offered in the special school of commerce at Tegucigalpa, or in commercial departments of the normal schools and colegios. From these commercial courses 27 pupils graduated in 1920, of whom 9 were girls. In 1921 there were recorded in higher education the Central University of Honduras at Tegucigalpa, 32 professors and 98 students, the latter being as follows: Forty in the law school, 37 in the medical school, 21 in the school of engineering.

SCHOOL ADMINISTRATION.

At the head of the public-school system is the Minister of Public Instruction, a member of the cabinet, who is entrusted with enforcing the laws relating to public education, supervises elementary schools, the national institute and school of commerce (industrial and agricultural education comes under the department of promotion, public works, and agriculture), and has charge of the national library. Under the Minister of Public Instruction, with immediate charge of primary education, is the director general of primary instruction. He is assisted by a board of nine primary school inspectors, about one for every two Departments. The governors of the Departments (17 in all) have charge of primary education in their respective districts, and the mayors of the municipalities are in direction of local school affairs. The governors are appointed by the President, and according to a recent provision the Federal school inspector of the Department has been given the immediate direction of the schools of the district.

PRIMARY EDUCATION.

The primary schools are urban and rural. The urban schools are of three types—those of five grades (years), those of four grades, and those of three grades. The rural schools have only two grades. Of the 922 primary schools, 370 were for boys only, 282 for girls, and 270 mixed schools. Only the schools offering a five-years' course

prepare for full entrance into the better colegios and normal schools. Every pupil passing the five grades is given a "final certificate of primary studies." Examinations are held in the last fortnight of the school year by a board of three examiners. No one pupil can be examined for more than 10 minutes.

Primary education is free, secular, and by law compulsory (though not enforced) from 7 to 15. The subjects of study and recitation periods are given in the weekly schedule presented herewith. The usual length of the school year is 10 months, extending from February 1 to November 30.

SECONDARY EDUCATION.

Besides the strictly secondary schools of the Government—the national colegios and instituto, mentioned above—there is a less-advanced type of secondary education found in the normal schools and in the school of commerce in Tegucigalpa. The complete course in the instituto and colegios covers five years; in the normal school, four years. The matriculation in 1920 in all these secondary schools was given as 938, equivalent to about 1 per cent of the school census and 2.6 per cent of the primary school enrollment. But few girls are found in secondary education outside of the normal schools, in which they represent about half. The secretary of public instruction made special mention in his report (1919-20) of the fact that seven of the pupils in one of the Government secondary schools were girls. In 1920 there were 27 graduates from the commercial courses, of which 9 were girls. For entrance into one of the secondary schools the pupil must present a certificate of graduation from the Government primary school or pass the entrance examination. Graduates from the secondary schools, instituto, and colegios receive the title of bachiller en ciencias y letras; graduates of the normal schools and schools receive a diploma as professor of primary education. The former title may be met on 10 years of schooling or on 9.

The length of the secondary school year is similar to that of the primary, extending from February 1 to November 30; the daily period is from 7 to 11 a. m. and 1 to 5 p. m.; the usual recitation period is 50 minutes. The subjects of study and time element are found in the weekly schedule appended to the report.

HIGHER EDUCATION.

The Central University of Honduras at Tegucigalpa is the only institution offering advanced professional education. As at present constituted, it contains faculties or schools of law, medicine, and engineering. It offers professional degrees in law, medicine, pharmacy, and civil engineering. For entrance the student must have graduated from one of the secondary schools, receiving the degree of bachelor of science and letters. The medical course is of six years.

pharmacy of four years, law (jurisprudence) of five years, notary and solicitor each of three years, and civil engineering course of four years.

THE TEACHERS.

With the exception of primary teachers appointed by the mayors of the municipalities, all other teachers and school officers—departmental and State—are appointed by the Minister of Public Instruction; school inspectors, normal school and colegio directors are not authorized to select the members of their own staff. The provisional requisites for primary teachers are, first, to have a diploma as master, a certificate of ability, or, lacking this, to be of recognized competence; second, to be 20 years of age in case of male teachers and 18 years in case of females, if they have not the diploma mentioned above; third, to be of irreproachable conduct. In practice, however, these requirements are unfulfilled. More than half of the primary teachers are inexperienced and without previous pedagogical instruction. The average wage of the teachers in the rural schools does not exceed \$20 per month in United States currency. Of the 487 normal students in 1920, 194 were supported by scholarships, of which 167 were paid by the Federal Government and 27 by the municipalities.

FOREIGN SCHOLARSHIPS.

In addition to the scholarships for the preparation of teachers mentioned above, there were on July 31, 1921, 44 students enjoying Government scholarships in foreign schools. Of these 11 were studying medicine, 8 agronomy, 6 commerce, 4 engineering, 4 preparatory courses, 3 law, 2 painting, 2 dentistry, 1 sculpture, 1 industrial chemistry, 1 homeopathy, and 1 pedagogy. The Government spends \$4,230 monthly on these scholarships.

Weekly schedule of the five-grade primary school.

Subjects.	Hours per week each year.				
	I	II	III	IV	V
<i>Intellectual and moral culture.</i>					
National language.....	6	6	6	5	5
Object lessons.....	6	6	5		
Arithmetic.....	5	5	5	5	5
Geography.....			3	3	4
History.....				3	3
Notions of physics and natural science.....				6	5
Civic instruction (domestic economy and sewing for girls).....				3	3
Morals and etiquette.....	1	1	1		
<i>Physical and artistic culture.</i>					
Penmanship.....		3	3	3	2
Drawing.....		3	3	2	2
Manual labor (appropriate types for girls).....	3	3	3	2	2
Agricultural labor (gardening for girls).....	2	2	2	3	3
Singing.....	3	3	2	2	2
Physical exercise and educational games.....	3	3	3	2	2
Total weekly periods.....	29	35	30	38	38

Weekly schedule of the four-year normal schools.

Subjects.	Hours per week each year.			
	1	2	3	4
Spanish.....	5	5	3	3
English.....	3	3	3	3
Mathematics.....	5	3	3	3
Natural.....		3	3	2
Physiology and hygiene.....			3	
Physics.....			3	
Chemistry.....			3	
Geography and history.....				5
Pedagogy.....	3	3	3	3
School hygiene.....	3	3	3	3
Agriculture, theoretical—practical.....		3	2	
Morals and etiquette.....	2			
Civic instruction.....		2	2	1
School practice.....				12
Penmanship.....	3			
Drawing.....	2	2	2	1
Singing.....	2	2	1	1
Manual training.....	2	2		2
Gymnasium and school games.....	2	2	2	
Total weekly periods for week	32	33	35	36

Weekly schedule of the five-year national colegios.

Subjects.	Hours per week each year.				
	1	2	3	4	5
Spanish.....	6	5	5	5	5
French.....	3	3	3	2	1
English.....	3	3	3	2	1
Mathematics, arithmetic, algebra, geometry, trigonometry.....	6	6	6	6	4
Geography and history.....	3	4	4	4	4
Natural science, botany, zoology, mineralogy, geology.....	3	3	4		
Physiology and hygiene.....	2	3	3		
Moral and civic instruction.....	1	2	2	2	2
Penmanship and drawing.....	2	2	2	2	
Manual training.....	2	2	2	1	
Gymnasium.....	1	1	1	1	1
Bookkeeping (theory and practice of accounting).....				2	3
Physics.....				3	4
Chemistry.....				3	4
Philosophy (psychology, logic, ethics).....				3	4
Cosmography.....					3
Total weekly periods	34	31	35	36	36

Steps in the education system of Honduras.

School or grade.	Proximate ages.															
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Rural school.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Urban school of 3, 4 and 5 grades.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
School of commerce.....																
Normal school.....																
Instituto and colegio.....																
School of pharmacy.....																
School of medicine.....																
School of law.....																
School of engineering.....																

EDUCATION IN NICARAGUA.

GENERAL STATEMENT.

Nicaragua, the largest of the Central American Republics, has an area of 49,200 square miles and a population (1920) of 638,119, or about 13 per square mile. The inhabitants of the western half are chiefly a mixed race of Spanish-Indian extraction; of the eastern half they are principally Mosquito and Zambó Indians; negroes from the West Indies, and various admixtures of these races. There are probably not more than 1,200 of strictly white races, mostly Spanish. Nicaragua comprises a narrow strip of land within the Tropics (11° to 15° north latitude), separating two great oceans and crossed by two mountain ranges varying in height from 3,000 to 7,000 feet. Its climate is quite variant—hot and humid on the eastern coast, hot and dry on the western, and cool and healthful in the mountainous regions of the interior. Under proper sanitation the whole country may be made pleasant and livable. The rainfall in most parts is excessive, averaging about 200 inches per year on the eastern coast and 80 inches on the western. In the east the rainfall is general throughout the year, but in the west there are two seasons, the dry, from December to April, and the wet, from May to November.

The Republic is divided into 13 Departments and two Territories, each of which is under the head of a governor appointed by the President of the Republic. Below the Departments the political unit is the municipality. Primary education is free and compulsory between the ages of 6 and 13. In the school statistics of 1920 there were recorded 321 public and 40 private primary schools, 5 public and 4 private secondary schools, and 3 universities. The records of that year gave 1,019 teachers, divided as follows: In public schools 790 (male 317, female 473); in private schools, 229 (male 95, female 134). There were enrolled in the schools 26,608 pupils, 21,264 in the public schools, and 5,344 in the private schools. The average daily attendance was 22,709, of whom 18,440 were in public and 4,269 in private schools.

An item from the minister's report of 1920 showed an enrollment in public primary education of 21,264, which was divided as follows: Infant or kindergarten, 6,521; first grade, 7,874; second grade, 4,351; third grade, 1,542; fourth grade, 719; fifth grade, 257. Although education is compulsory covering these grades, it will be seen that there is a marked falling off from the first to the fifth, due largely to local economic conditions which force many children to begin earning a living at a tender age. Compared to the population the school attendance is exceedingly small.

SCHOOL YEAR.

The length of the school year is given as 182 days, or 30 weeks of 6 days per week, though, owing to holidays, it extends over a longer period. In the upper grades and the national institutes the recitation period is usually one hour in length.

ADMINISTRATION.

Public education in Nicaragua is directly under the control of the Minister of Public Instruction, who is one of the six members of the President's cabinet. He has control of all the public schools, both elementary and secondary, and the higher institutions such as the schools of law at Managua, Granada, and Leon, the schools of medicine at Leon and Granada, and the commercial colegio maintained by the Government. He is further charged with the encouragement and development of educational facilities throughout the country. Directly under the minister and reporting to him is the body of school inspectors composed of the inspector general, the provincial inspectors, and the local or district inspectors. Only in the outlying districts are the *jefes politicos* and municipal authorities called upon to exercise some supervision.

PRIMARY EDUCATION.

There are as yet but few rural schools, and these are found only in the more advanced departments. They do not aim to give the full primary course, which in the standard Government primary schools of the municipalities covers a six-year course of five grades above the one-year subprimary, which is designated "infant school or kindergarten." In the subprimary or first year (children average above 6) the subjects prescribed are reading, writing, drawing, elocution, grammar, composition, arithmetic, geometry, geography, patriotic history, deportment, civic instruction, natural sciences, agriculture, gardening, vocal music, sewing and other manual labor, physical culture, domestic economy, and religion. It does not read like a subprimary or kindergarten program, but all primary courses in Latin America seem rather onerous to students of this country. One may remark that there are no texts, the subjects are taught objectively, the program seems designed specially for the teacher, and the method used is quite similar to that found in the ordinary Sunday school of this country. Children are not expected to spend much time in school, so are plunged on the first opportunity into so-called geometry, natural science, history, civics, domestic economy, agriculture, etc. Upon emerging from the schools they naturally know but little of these subjects as they are taught in the United States. Certain hours or periods are set apart each week for talks

on the above subjects. The teachers for the subprimary year are invariably women.

The subjects prescribed in the second, third, and fourth years (first, second, and third grades, respectively) are exactly the same as those given above for the subprimary. In the fifth year, or fourth grade, physics and chemistry are added, and in the sixth year, or fifth grade, the subjects remain the same. In the sixth, or final, year arithmetic goes to compound interest and logarithms; general geography is prescribed with commercial and industrial geography. From the information obtainable it does not seem that the average graduates of these schools would rank in mental maturity with the fifth-grade graduates of the elementary schools of this country. They may have a very superficial knowledge of a few more subjects, but they will not have so good a foundation for proceeding to higher education. Completion of the above primary course is essential for entrance into the national institutes or Government secondary schools.

Of the 321 public primary schools, 96 were for boys only, 96 for girls only; and 129 were mixed schools; of the 790 public-school teachers, 68, or 59 men and 9 women, were bachelors with the title "professors"; 106, or 74 men and 32 women, were titled "graduate teachers"; and 616, or 184 men and 432 women, were teachers without titles. Teachers' salaries are low, averaging less than \$30 per month, though living is higher than in other Central American Republics.

SECONDARY EDUCATION.

Secondary education in the Republic is at present offered in five subsidized national institutes, as follows: The Western National Institute, at Leon; the Central National Institute (for boys), at Managua; the Boys' Pedagogical Institute, Managua; the Girls' Normal School, Managua; and the Eastern National Institute, at Granada. All these schools lead on a five-year course to the bachelor's degree in science and letters. They require for entrance completion of the six-year primary course. Formerly the course in the Girls' Normal School, leading to the bachelor's degree, required but four years, but in 1916 it was modified and is now quite similar to the other five-year requirements for the bachelor's degree as given elsewhere in this report.

The normal schools carry both academic and professional (teacher-training) courses. Less than half the students are in the normal school proper. The academic courses are identical with those of other secondary schools, and the normal courses lead in five years to the degree of master of education. In the school year 1920-21 there were enrolled in the above five institutions 767 students, of

whom 33 received the bachelor's degree in science and letters, and 17 the master's degree in education. There are also four strictly private secondary schools with courses somewhat similar to the above schools, though they are not so well equipped. There is less provision made for the secondary education of girls than of boys, and only about one-fourth as many girls receive secondary education. Most of the Government secondary schools are privately managed, and the strictly private schools must conform to Government regulations.

HIGHER EDUCATION.

There are three professional institutions of university rank, the faculties of law in Leon, Granada, and Managua, and the faculties of medicine in Leon and Granada, the faculty of medicine of Leon being the larger, containing schools of pharmacy and dentistry. There is a school of agriculture in Chinandega, and the law makes provision for a school of engineering, which has not yet been established.

The degree of "bachiller en ciencias y letras" is required for entrance into the schools of law and medicine. The course in the law schools covers five years and leads to the title of doctor of law; that of notary requires three years. The course in medicine covers six years, those of pharmacy and dentistry four.

The Government is devoting special attention to increasing the facilities for primary instruction and for modernizing education. In 1920, of the 229 public-school buildings in use by the Government, 204 were rented and only 25 owned by the Government. Children of the wealthier families usually receive their higher education abroad, often their elementary education also. Nicaragua makes provision for sending annually a number of young men and women abroad for study. In 1920, 34 students were maintained in foreign schools at Government expense.

Schedule of the Government secondary schools.

Subjects.	Hours per week each year.					Total.
	First.	Second.	Third.	Fourth.	Fifth.	
Spanish, language and literature.....	6	6	6			18
French.....	3	3	3			9
English.....			3	3	3	9
Geography, universal and physical.....	3	3	3			9
History, universal, Nicaragua, and Central America.....	3	3	3			9
Mathematics, arithmetic, algebra, geometry, and trigonometry.....	6	3		3		12
Drawing, geometric and natural.....	3	3				6
Physics.....				6	6	12
Chemistry.....				3	6	9
Natural history, mineralogy, geology.....				3	6	9
Philosophy, psychology, logic.....				3		3
Physiology and hygiene.....					3	3
Total.....	24	21	24	21	24	114

Schedule of the two-year commercial course.¹

Subjects.	Hours per week each year		
	First.	Second	Total.
Spanish.....	4	4	8
Advanced reading.....	1	1	2
Dictation.....	1	1	2
English or French.....	3	3	6
Typewriting.....	3	3	6
Stenography.....	2	2	4
Commercial arithmetic.....	4	4	8
Commercial operations.....	2	2	4
Commercial correspondence.....	1	1	2
Bookkeeping.....	4	4	8
Commercial practice.....	1	1	2
Commercial law and usage.....	1	1	2
Commercial geography.....	1	1	2
Physical culture.....	2	2	4
Total.....	30	30	60

¹ This course is connected with the normal school and may be entered from the fourth grade of the primary schools.

Steps in the education system of Nicaragua.

School or grade.	Proximate ages.																		
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Primary school.....	—————																		
Industrial and commercial school.....							—————												
Normal school.....							—————												
Secondary school.....																			
School of pharmacy and dentistry.....																			
School of law.....																			
School of medicine.....																			

EDUCATION IN SALVADOR.

GENERAL STATEMENT.

The Republic of Salvador is the smallest and most densely populated of the Central American Republics. Its area is 13,183 square miles, and its estimated population (1923) is 1,500,000, or about 114 per square mile. It is bounded on the north and east by Honduras, on the south by the Pacific Ocean, and on the west by Guatemala. Lying wholly within the Tropics, bordering for 160 miles with a narrow (about 15 miles wide) strip of territory on the Pacific Ocean, but rising rapidly inland to a more or less level plateau region (2,000 or more feet above sea level), dotted with many still higher volcanic cones; its climate is varied—hot and malarial on the coast; but temperate and healthful on the inland plateau. Some of the mountain peaks reach an altitude of 8,000 feet, where frosts are common. Many of the volcanoes have been continuously active for centuries, and earthquakes are frequent, especially in the region of San Salvador, the capital, which has been more or less completely destroyed 11 times since the sixteenth century.

Two mountain ranges cross the country almost its entire length, sending out numerous spurs and attaining considerable altitudes. Inclosed by these ranges are numerous fertile valleys, among which that of the River Lampa is the most important. The country is well adapted to special types of agriculture, and farming is the chief occupation and more advanced than in other Central American Republics. There are two seasons—the wet, or so-called winter season, extending from May to October; and the dry, or so-called summer season, extending from November to April. In July and August there are high winds, which are followed by torrential rains and thunderstorms.

The legislative power of the Republic is vested in a Congress of Deputies (42), 3 for each of the 14 Departments, elected by universal suffrage of their respective districts for terms of one year. The President and Vice President are elected by popular vote for terms of four years. Justice is administered by the supreme court, one court of third instance in the capital, several courts of first and second instance, and a number of minor courts. All judges of second and third instances are elected by the National Assembly for terms of two years, while the judges of first instance are appointed by the supreme court for similar terms. At the head of each Department is a *jefe politico*, governor, appointed by the President of the Republic; and at the head of the municipality is an *alcalde* or *regidor*.

The inhabitants are composed of about 10 per cent whites (creoles and foreigners), of whom 2.5 per cent are estimated as pure blood whites; 60 per cent mestizos; and 40 per cent Indians. Public primary education is free, secular, and obligatory for boys from 6 to 14, and for girls from 6 to 12. Public education is supported either by the State or municipal governments, but is supervised and directed principally by the Central Government. There are the usual three divisions of education: Primary, of five years; secondary, of five years; superior or professional—law and engineering, five years; medicine, six years.

SCHOOLS AND ATTENDANCE.

During the school year 1921 there were in operation 808 State primary schools, as follows: Urban primary schools, for boys 243, for girls 252, mixed 18, total 513; rural primary schools, for boys 24, for girls 18, mixed 165, total 207; night schools for adults 88, for men 58, for women 30. In the same year the number of municipal primary schools was 84, for boys 54, for girls 11, mixed 19; the number of private primary schools was 47, for boys 18, for girls 13, mixed 16, and there were 58 colegios in which primary instruction was also given, 23 for boys, 29 for girls, and 6 mixed; making a grand total of 997 primary schools. There were 51,896 pupils enrolled in the public primary schools, with an average attendance of 34,470, and a

teaching force of 1,607. In the same year (1921) there were 27 institutions offering part or complete secondary education, including 2 normal and 3 technical schools. The Government supports completely only one standard secondary school, the National Institute of San Salvador, but there are 14 other institutions of secondary rank, some municipal and some private, having official recognition. There were in the above secondary schools 2,345 students, 330 of whom were in the National Institute of San Salvador.

SCHOOL ADMINISTRATION.

Education is administered through the Department of Foreign Affairs, Public Instruction, and Justice, one of the four cabinet offices of the Republic. Besides the Minister of Public Instruction there is an undersecretary of public instruction, a chief clerk of public instruction, an inspector general of public instruction, and director generals of primary, secondary, and superior education. There are departmental inspectors, departmental boards of education of four members, municipal boards of like number, and temporary examining boards of three members.

The Minister of Public Instruction has direction of the office of the director and inspector general of public primary education and has the authority of appointing members of the boards and all the school employees. The governor of the department is ex officio president of the departmental board of education, but the Minister of Public Instruction has authority to appoint another citizen of right qualification as president of the departmental board.

SCHOOL YEAR.

The school year corresponds with the calendar year; the school session extends from the 1st of February to the 15th of November, including within the time 24 or more holidays, exclusive of Sundays; making the average school term (year) 36 weeks. There is a vacation of 10 days during Holy Week, another of 10 days the last of July and the first of August, and the other holidays are scattered throughout the year. The school week consists of six days, the school day of seven hours (7 to 11 a. m. and 2 to 5 p. m.), and the recitation period varies from 30 to 50 minutes. No student is permitted, however, to take more than 38 hours of crediting subjects per week.

PRIMARY EDUCATION.

There are two types of primary schools: Rural, with a two or four years' course; urban with a five years' course. The rural primary schools are simplified to meet local conditions and to give to the scattered children the rudiments of education. They are of three types—for boys only, for girls only, and mixed; the majority, from necessity, are of the latter class. In all girls' and mixed schools the teachers are invariably women. The subjects of study in the rural

primary schools are Spanish, language, reading, writing; arithmetic; geography, general notions of earth and bodies of water, Salvador and Central America; history of Salvador and America; morals and civility; hand training.

The urban primary school is able to cover in the five years a more pretentious course. Very few of these schools are coeducational; most of them are separate schools for boys only or for girls only. They prepare in the five years' course for entrance to secondary schools, though entrance to the latter is always on examination in the following subjects: Writing, Spanish, grammar, arithmetic, history and geography of Central America. The subjects of study are shown in the time schedule presented with the report.

Number of hours per week in the subjects of each year of the course of the urban primary school, Salvador.¹

Subjects.	Years of the course						Total.
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	
Spanish, language, reading, and writing.....	12	12	8	8	6	6	52
Arithmetic.....	4	4	3	3	3	3	20
Drawing, natural and geometric.....	2	2	2	2	2	2	12
Nature study.....	2	2					4
Notions of science and industry.....			3	(2)3	2	2	(9)10
Geography and history.....	2	2	3	4	7	8	26
Morals, civility, and civic instruction.....	2	2	2	2	1	2	11
Agriculture.....					2	1	3
Hygiene.....	2	2	2	2	1	1	10
Physical exercise.....	(3)4	(3)4	(3)4	3	2	2	(16)19
Military exercise (boy-).....	1	1	1	1	1	1	6
Manual training.....	(2)3	(2)3	(2)3	(2)3	2	2	(10)16
Music.....	2	2	2	2	2	1	11
Domestic economy and work for women.....	(3)	(3)	(3)	(3)	(3)	(3)	(18)
English.....			3	3	2	2	10
French.....					3	3	6
Total hours per week.....	36	36	36	36	36	36	236

¹ Where the hours for boys and girls differ, those for the girls only are indicated by numbers in parentheses. The primary course is now five instead of six years, as shown in the table. By omitting the last (sixth) year the course is similar to the one now in practice.

² Average.

SECONDARY EDUCATION.

The strictly secondary schools of Salvador are given under the names instituto, colegio, or liceo. The first two are more apt to be public and the latter private, though this is not the invariable rule. The National Institute for boys of San Salvador is the only strictly secondary school supported and managed wholly by the Federal Government. Many others receive Government subsidies, but are privately managed. The National Institute has the full five years' course of the Government secondary school, given elsewhere, and acts as the model or standard secondary school of the Republic. Most of the other secondary schools lack the fifth year and do not prepare completely for the university. The private liceos may admit children of 6 and offer both primary and secondary courses. In order to have their students receive public promotion and degrees, they must conform to the Government standards.

Besides the strictly secondary schools as given above, there are vocational and two normal schools, with several normal courses offered in secondary schools. The vocational school course generally covers three years, and requires for entrance completion of the fourth or fifth year primary. The course in the boys' normal school is for four years, one year preparatory and three normal; the course in the girls' normal school is for three years; both require for entrance completion of the five years' primary course, and an age limit of 14 for girls and 15 for boys. There are also a number of private commercial schools, with courses of varying length. These are usually classed with secondary schools, though rarely do they give courses applicable to further study. The courses of study in the boys' normal school and secondary school may be obtained from the time schedule given elsewhere.

The following qualifications are required of teachers: (1) The title of professor of primary, or secondary public instruction (the former comes with graduation from the normal school, the latter requires in addition the degree that comes on graduation from the secondary school or preparatory course of the university); (2) to be thoroughly familiar with the branches of study which are to be assigned; (3) to be of good conduct, not suffering from any contagious disease and having no physical defects which might interfere with the profession. Temporary teachers may be admitted to the schools on examination, in case of emergency or special need.

Number of hours per week in the subjects of each year of the course of the Normal School for Boys, San Salvador.

Subjects.	Years of the course.				
	Preparatory	First.	Second.	Third.	Total.
Spanish language and literature.....	4	3	3	4	14
Mathematics, arithmetic, algebra, geometry.....	5	3	4	5	17
Geography of Central America and of the Old World.....	4	3	3		10
Scientific and practical notions of tropical and industrial agriculture.....				4	4
History, Central American and universal.....	3	3	3		9
Scientific notions of physiology, anatomy, hygiene, and industry.....	4				4
Scientific notions of zoology, botany, geology, and industry.....		3			3
Scientific notions of physics, chemistry, and industry.....			3		3
Penmanship.....	3				3
Reading.....	3				3
Drawing.....	2	2	2	2	8
English.....	4	3			7
French.....			3	4	7
Singing.....	2	2	2		6
Manual training.....	2	2	2	2	8
Physical culture.....	2	2	2	2	8
Morals.....		2	2	2	6
Notions of bookkeeping.....			2	2	4
Pedagogical psychology.....		4		3	7
Methodology.....			3		3
School administration.....				4	4
School practice.....		6	6	6	18
Total hours per week.....	38	38	38	38	138

Average.

Number of hours per week in the subjects of each year of the course of the Government Secondary School, Salvador.

Subjects.	Years of the course.					Total.
	First.	Second.	Third.	Fourth.	Fifth.	
Spanish language and literature.....	4	4	3	3		14
Latin and Greek roots.....	3	3	3			9
English.....	3	3	3			9
French.....			3	3	3	9
Literature, special course.....			4			4
Geography, universal.....	3	4				7
History, local and general.....	4	4	4	4		16
Mathematics—arithmetic, algebra, geometry, trigonometry.....	6	5	4	4	3	22
Drawing, natural and geometric.....	2	2				4
Natural history, geology, mineralogy, zoology, botany, agriculture.....			3	3		6
Physics.....				5	5	10
Chemistry.....				3	4	7
Philosophy, logic, psychology, ethics.....				5	5	10
Notions of cosmography and physical geography.....					4	4
Physiology and hygiene.....					4	4
Total hours per week.....	25	25	27	30	28	127

¹ Average

Upon completing the above course and passing the prescribed examinations the student is granted the degree of *Bachiller en Ciencias y Letras* (bachelor of science and letters) and permitted to enter the university or the school of medicine, situated in the capital.

HIGHER EDUCATION.

All higher education is found in the capital city of San Salvador. There is a National University of Salvador, with faculties of law, medicine, pharmacy, dentistry, engineering, and chemical and social sciences. These require for entrance the bachelor's degree which is obtained through graduation from the National Institute and other first-class secondary schools. The courses in pharmacy and dentistry cover four years; law and engineering five, and medicine six, the sixth year being devoted to the work of intern and practice.

Technical instruction is furnished by the National Agricultural Institute, the National School of Finance and Commerce, the School of Graphic Arts, the Military Polytechnic School, and the Technical-Practical School for Girls, all in San Salvador. The last two are of secondary rank, fitting for vocations. The Government is taking deep interest in public education, especially in that of primary education (the Minister of Public Instruction in his report to Congress, March, 1919, gave the illiteracy of the people at 70 per cent); physical education; vocational education, including agricultural education.

Steps in the education system of Salvador.

School or grade.	Proximate ages.															
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Rural primary school	=====															
Urban primary school	=====															
Vocational school						=====										
Normal school																
Girls																
Boys																
Secondary school																
Pharmacy, dentistry																
University																
Law, engineering																
Medicine																

It is aimed to show by the graph four points of the public education system: The types of schools, the length of the course, the proximate age of the pupil or student, and the preschooling or academic requirement for entrance to the course. The leader line preceding the heavy continuous line represents the required years of preschooling. In the case of the normal schools there is an age limit of entrance of 14 or 15, which may prevent the pupil from entering immediately on completing the required five years' primary course.

EDUCATION IN COSTA RICA.

GENERAL INFORMATION.

The Republic of Costa Rica represents a narrow strip of tableland of southeastern Central America separating two great oceans, the Pacific and the Atlantic. It is traversed from the southeast to the northwest by a volcanic chain of mountains (Cordillera), the crests of which divide the country into slightly unequal halves, the one to the northeast bordering on the Carribean Sea being the larger. On the slopes of the divide of the mountain range, which extends the whole length of the country, are densely timbered forests of cabinet and other valuable woods; as, mahogany, ebony, cedar, ironwood, logwood, india rubber, Brazil-wood, oak, etc. The chief industry is farming, to which the country is well adapted; coffee, bananas, cacao, tobacco, sugar, indigo, rice, coconuts, corn, wheat, horses, hogs, sheep, goats, etc., are the chief sources of wealth. Gold, silver, nickel, iron, and manganese are mined.

The area of Costa Rica is 23,000 square miles, and the estimated population (1923) is 476,581, or about 21 per square mile. The inhabitants are composed of about 4,000 unmixed Indians, 8,000 pure-blood whites (mostly Spanish), and the rest made up of a mixture of Indians and white races of long standing and of varying proportions, of which the admixture of Spanish is greater than in other republics. Except in the lowlands of the immediate vicinity of the coast, the climate is mild and healthful during most of the year; in fact, as in most mountainous countries, a short journey inland,

owing to the change in elevation, may reduce the temperature by many degrees. There are naturally three climatic zones: a tropical one, from sea level inland to an elevation of about 3,000 feet; a temperate one, from 3,000 to 7,500 feet altitude; and a colder one, from 7,500 to 11,200 feet altitude, where frosts are frequent. In the Province of San Jose, with an altitude from 3,000 to 5,000 feet above sea level, the climate is that of perpetual spring, having a yearly average temperature of 68° F. The average rainfall is about 80 inches, but it varies with localities, seasons, and even years, sometimes averaging 140 inches per year. There are a number of continuously active volcanoes, and thunderstorms and earthquakes are frequent and sometimes quite destructive.

The Republic is divided into 7 provinces, which are again divided into 56 cantons, and these in turn are divided into districts. The 7 provinces, all with capitals of the same name with the single exception of Guanacaste, whose capital is Liberia, are San Jose, Alajuela, Heredia, Cartago, Guanacaste, Puntarenas, and Limon. There is a President elected for four years by universal (male) suffrage, and a Congress or Chamber of Deputies of 43 members who are also elected for terms of four years (one-half retiring every two years) by the direct vote of the people of the district. The President's cabinet consists of six departments, one of which is known as the Department of Public Instruction. The judicial powers are vested in a supreme court, composed of 11 members chosen by Congress for terms of four years, and a number of minor or inferior courts.

The provinces are administered by governors appointed by the President. The chiefs of cantons are also appointed by the President on the recommendation of the governors. The chiefs of cantons are assisted in their official capacity by municipal councils elected by popular vote.

In the report of the school year of 1921 there are recorded as operative 398 public primary schools and 25 private primary schools. Of the public primary schools, 57 were classified as of the first order; 39 of the second order; and 302 of the third order. There were 1,332 primary school teachers and 37,049 school children enrolled. There are eight schools classed as secondary, a faculty of law, one of medicine and pharmacy, one of medicine, obstetrics, and nursing, one of fine arts, and four night schools for adults, giving instruction in cooking and sewing.

The school year extends from the first of January to the last of December, the school session from the first or middle of March to the middle or last of November, with the intervening holidays. Owing to local conditions the school year varies somewhat both as to time of beginning and the length of the sessions, but the usual length of

the school term is 36 weeks of 5 days per week, or 180 days. The recitation period varies from 30 minutes or less in the primary to 50 minutes in secondary schools.

SCHOOL ADMINISTRATION.

Formerly education was under the direction of the Department of Foreign Affairs, Justice, and Public Worship, but it is now under the management of the new cabinet Department of Public Instruction (Secretaria de Instruccion Publica). The Minister of Public Instruction is in charge of all public primary, secondary, and higher education, including technical and professional schools, such as the liceo for boys and the colegio for girls (both with normal attachments) at San Jose, the normal school at Heredia, the school of law, of medicine and surgery, of medicine, surgery, and pharmacy; also the Institute for Physical Geography, the Meteorology Observatory, the National School of Fine Arts, the national and other public libraries are under his jurisdiction.

There are national and provincial boards of education, a national board of directors of secondary and normal schools, a national board of school inspectors consisting of 18 or more members representing the different provinces, and each school district is provided with a school board to look after the financial and other local needs of the school. The governor of the province is chairman of the provincial school board and is charged with the function of carrying out the school laws. The immediate supervision of primary schools is under the provincial school inspectors. There are also institutional directors, a department of sanitation and school hygiene, and in San Jose there are medical, school dental, and children's clinics.

PRIMARY EDUCATION.

Primary education is free and compulsory between the ages of 6 and 14, or until completing the primary school course. All matters relating to public instruction are under the national Department of Public Instruction, but primary schools are provided and maintained by local school councils. The National Government pays the salaries of teachers and makes subventions in aid of local school funds. There is no school census showing the number of children of school age, but from such estimates as have been made, it would seem that not more than half of the available children are in attendance at school. Most of the cities and towns have provided good school buildings, and there is considerable interest manifested by the people in primary education.

Primary education covers a course of five years and leads on graduation and examination to entrance into the secondary schools.

The subjects of study are the usual subjects of primary education: Spanish, language, reading, writing, etc.; morals and civics; arithmetic; geography, history, agriculture, hygiene; manual training (boys), domestic science (girls), music, physical exercise, nature study, notions of science and industry. About three-fourths of the teachers in the primary schools are women and one-fourth men; 22 per cent of the men and 34 per cent of the women in 1921 possessed normal certificates or the title of normal teacher.

SECONDARY EDUCATION.

Complete secondary education is offered in the liceo for boys and the superior colegio for girls at San Jose, the colegio of Cartago, the Instituto of Alajuela, and the coeducational normal school of Costa Rica at Heredia. A few other institutions offer some secondary work, and the colegio for girls in San Jose has a strong normal department. There are the beginnings of commercial and vocational schools, but as yet there does not seem to be a definite curriculum with specific entrance requirements and stated length of course.

Until 1921 the secondary school course covered but five years and led after a final examination to the usual bachelor's degree. In 1921 the new standard secondary school course of six years, given elsewhere, was proposed by the Government authorities and is now in partial operation. The new course is based on completion of the five years' primary, as was the old. The normal-school course has been of equal length to the former secondary schools, five years, and may now add the extra year also, though of that the information is not at hand. To enter one of the standard secondary schools, besides the scholastic requirement there is an age limit of 12 years. The subjects of study and the time element are found in the table given elsewhere.

HIGHER EDUCATION.

There is no university in Costa Rica, and students are accustomed to go elsewhere for higher education. There is the beginning of higher professional and technical education; and in San Jose, the capital, are schools of law, medicine, dentistry, pharmacy, engineering, fine arts, agriculture, and commerce. The programs, courses, and other desirable information of these institutions are not at hand.

In San Jose there is a National Library, school libraries of the Liceo for boys, of the Colegio for girls, of the law, engineering, and medical schools, of the Metropolitan Palace, and many private libraries. Besides, there are 56 school libraries, public libraries in the cities of Alajuela, San Ramon; the municipality of Cartago, and the Normal School of Heredia.

Hours per week in the subjects of each year of the proposed standard secondary school course (1924) of Costa Rica.

Subject	Years in the course.						Total.
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	
Spanish language and literature.....	4	4	4	5	4	4	25
English.....	3	3	3	3	3	4	19
French.....			3	3	3	4	13
History, local, Central American, general.....	3	3	2	2	2	2	14
Geography, local, Central American, general.....	2	3	2	2	2		10
Cosmography, local, Central American, general.....						2	2
Anatomy, physiology, hygiene.....		2	2				4
Sanitary science.....						2	2
Psychology.....					2	2	4
Logic.....						2	2
Mathematics.....	3	3	3	3	3		15
Topography and topographic drawing.....						6	6
Physics.....	2	2	2	2			8
Chemistry.....	2	2	2	2			8
Physics and chemistry, combined and applied.....					3	4	7
Botany and zoology.....	3	3	3				9
Anatomy and physiology of plants and animals.....				4			4
Biology, geology, and mineralogy.....					2	2	4
Civics.....		2	2	2			6
Political economy.....					2	2	4
Agriculture, practical and theoretical.....	4	2			2		8
Drawing.....	2	2	2	2	2		10
Music and singing.....	2	2	2	2	2		10
Manual training.....	2	2	2	2	2		10
Physical education.....	2	2	2				6
Total hours per week.....	34	36	36	36	36	36	1 351

¹ Average.

The proposed standard secondary school course is based on a five years' primary-school preparation, and it is being introduced gradually by promoting all members one year in advance of their standing in the former five years' secondary school course. Thus the first class to have covered the full 11 years of schooling (5 primary and 6 secondary) on graduation will be the one finishing the above course in 1927.

Steps in the education system of Costa Rica.

School or grade.	Proximate ages.											
	7	8	9	10	11	12	13	14	15	16	17	18
Primary school.....	—————											
Commercial and trade schools.....						—————						
Secondary school.....						—————						
Normal school.....							—————					

In the case of the normal school there is an age limit of 14 for entrance, which may prevent the pupil from entering immediately on completing the required five years of the primary course.

EDUCATION IN PANAMA.

GENERAL CONDITIONS.

The Republic of Panama (created in 1903, inclusive of the Canal Zone, which was subsequently ceded to the United States) was formerly a province of Colombia. It has an area of 33,667 square miles, and a population, according to the census of 1920, of 401,428, or about 11 persons to the square mile. It comprises the narrow

strip of territory connecting Central and South America. Its climate is tropical and equable, averaging along the coast about 80° Fahrenheit throughout the year and about 12° lower inland, owing to elevation. The temperature rarely falls below 66° or rises above 96°. The summer or dry season is from January to April, inclusive; the winter or rainy season covers the other months of the year. The average rainfall on the Atlantic coast is 140 inches, on the Pacific coast 60 inches, and in the interior from 90 to 100 inches.

The language is Spanish, and the inhabitants principally Spanish, Indian, Negro, or admixtures of these races. Education, except that in the Canal Zone, which is modeled on the plan of the United States, is quite similar to the system of instruction in the Republic of Colombia, from which the Republic of Panama was carved, and need not be so fully described here.

In July, 1920, there were 79 urban primary schools and 147 rural or village schools, a total of 226 primary schools, with an enrollment of 24,058 pupils. At the same time the only secondary schools of the Republic were located in the city of Panama. The National Institute, the principal secondary school, had an enrollment of 527 students, as follows: High-school course (liceo) 141; normal school course (boys), 143; commercial, 108; painting, 25; agricultural, 21; pharmacy, 17; surveying, 15; law and political science, 57. The normal school for girls had 257 students and the school of arts and trades 140; in the private secondary schools of Panama were about 750 to 850 students, as follows: The Catholic Colegio La Salle, for boys, 500 to 600 students; the Colegio San Jose (Catholic), for girls, 150 students; the Colegio de Panama (Methodist), 100 students. These private schools cover both primary and secondary education.

SCHOOL ADMINISTRATION.

At the head of the school system of Panama is the secretary of public instruction, one of the five cabinet officers of the Republic. Immediately under the secretary and subject to him in the conduct of education is the inspector general of schools. There are 8 provinces and 16 school districts in the Republic. Each school district is provided with a school inspector, who exercises complete supervision over primary education.

The secretary of public instruction has charge of all elementary, secondary, and special schools, both public and private, the national museum, and the pedagogical library. The secondary and higher schools are not under the supervision of the inspector general, who is concerned with primary education only, but the separate faculties of the above institutions report directly to the secretary of public instruction.

SCHOOL YEAR.

The length of the school year is 36 weeks of two semesters, the first semester extending from the beginning of May to the middle of September, the second semester from the middle of September to the last of January, interspersed with the usual holiday periods; or, as in the Canal Zone, the school year may extend from the first of October to the last of June. The heat is usually the greatest from December to May, inclusive, and has probably tended to modify the time of beginning and closing the school year.

PRIMARY EDUCATION.

Primary education is gratuitous, secular, and compulsory from 7 to 15, though rarely enforced. The schools are of two types, rural and urban. The former has a course of three years, the latter of six years. The rural school meets the obligatory requirements of primary education and covers about the same ground as the first three years of the urban school. The six years' course of the urban school is required for entrance into the secondary and special schools. In Panama and Colon it may be preceded by one or two years kindergarten (5 to 7). As in other Latin-American countries, boys and girls are taught in separate schools, but the courses are virtually the same in both schools. The subjects of study are shown in the time schedule of the rural and urban primary schools given elsewhere. The number of hours given to the pupils per week will seem excessive to those familiar with the conditions as represented in the United States.

SECONDARY AND HIGHER SCHOOLS.

At present the only schools of secondary grade in the Republic of Panama are located in the city of Panama. It has been proposed to establish secondary schools of lower grade in Colon, David, and one or two other municipalities, but the proposal has not yet been carried into effect. The National Institute, which includes seven or eight special courses or schools as noted above, is sometimes mentioned as a university. It represents both secondary and higher education in so far as higher education may be said to exist. The one-year course in the school of agriculture follows the four-years' normal-school course; the two-year courses in the schools of pharmacy, surveying, and law are based on graduation from the five-years' course of the liceo of the National Institute.

Besides the National Institute, which contains the Government liceo, or standard secondary school, and the two Government normal schools, one for either sex, there are several private colegios offering work in secondary education. The normal-school course covers four years and requires for entrance graduation from the six years' primary. The liceo offers a five years' course in two cycles, the first,

of three years, concluding with a certificate; the second, of two years, leading on examination to the degree of bachiller en humanidades (bachelor of humanities). The courses of study in both the normal schools and liceo are given elsewhere and will be of interest as showing the slight variation in the curricula for girls and boys.

There are a number of special courses given either in the secondary school of the National Institute or separately—a vocational course of two years, a commercial course of two or three years, a three-years' course in the school of arts and trades, and a course of one or more years in painting. The first three courses are based on graduation from the primary school; the last from the secondary school. The Government sends abroad annually a few promising young men and women to complete their education and return to the service of the State.

Teachers in the primary grades are required to be graduates of the normal schools and are appointed upon presentation of their diplomas within a reasonable time after graduation. Teachers of the secondary and higher schools are not required by law to possess any special qualifications or pass examinations for eligibility, but obviously they must be equally or better qualified than teachers in primary schools. Recommendations for appointment are usually submitted by the principals of the schools where their services are needed and the appointments made by the secretary of public instruction following such investigation as he deems adequate. There is a national conservatory of music, a national museum, and the beginnings of schools of engineering and medicine in the present schools of surveying and pharmacy.

Rural primary schools (mixed).

Subjects.	Hours per week each year.			
	First.	Second.	Third.	Total.
Reading and writing.....	6	6	6	18
Language lessons.....		2	2	4
Object lessons.....	3	2		5
Arithmetic.....	5	4	4	13
History, geography, and civil government.....		2	4	6
Religion and sacred history.....	2	2	2	6
Lessons in agriculture (boys) and sewing (girls).....	2	5	5	12
Singing and physical exercises.....	2	1	1	4
Total.....	20	24	24	68

Schedule of the standard urban primary school for boys.

Subjects.	Hours per week each year						
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Total.
Spanish, language, reading, etc.	8	8	6	6	6	6	40
Object lessons	4	4					8
Arithmetic	4	4					8
Geometry			4	4	3	3	14
Geography				2	2	2	6
History			2	2	2	2	8
Natural science			2	2	2	2	8
Physics			2	2	2	2	8
Civil government					1	2	3
English			1	1	2	2	6
Writing			2	2	2	2	8
Drawing		2	2	1	1		6
Religion and morality	2	2	2	2	1	1	10
Agriculture	2	2	2	1	1	1	9
Gymnasium and organized games			1	2	2	2	7
Singing	4	2	2	2	2	2	14
	2	2	2	1	1	1	9
Total	26	26	30	30	30	30	172

¹ The urban primary school for girls, in subject matter and hours per week, is the same as that for boys, with the exception of agriculture and civil government. In civil government the girls have but two hours instead of six, and substitute domestic economy and occupations for women in place of agriculture.

Time schedule of normal schools of the National Institute of Panama.

Subjects.	Hours per week each year.									
	Boys.					Girls.				
	First.	Second.	Third.	Fourth.	Total.	First.	Second.	Third.	Fourth.	Total.
Theory of teaching		3	3	6	12					
Practice teaching			3	6	12		3	3	6	12
Spanish	6	5	4	4	19			3	12	15
Mathematics	6	6	4	2	18	6	5	4	4	21
Geography	2	2	2	2	8	6	5	3	4	18
History	2	2	2	1	7	3	2	2	1	8
Natural science	2	2	2	1	7	2	2	2	1	7
Physics		3	3		6	2	2	2		6
Chemistry					6	2	3			5
English			4		4			2		2
Religion	3	3	3	3	12	3	3	3	3	12
Civil government	3				3	1	1			3
Hygiene		2	2		4			1	2	4
Hygiene and care of infants				1	1					
Practical scientific exercises									2	2
Agriculture				2	2					2
Horticulture and floriculture				10	10					10
Manual training						2	2	2	2	8
Domestic economy	2	2			4					4
Gymnastics						3	3	3	3	12
Drawing	2	2	2	2	8	2	2	2	2	8
Singing	2	2	2		6	2	2	2	1	7
Penmanship			2		2	2	2	2		6
Needlework						2	2			4
Garment making						3	2			5
Total	34	36	38	51	159	41	41	41	51	174

Time schedule of the liceo of the National Institute of Panama.

Subjects.	Hours per week each year.					
	First.	Second.	Third.	Fourth.	Fifth.	Total.
Spanish.....	6	6	6	5	5	23
Mathematics.....	6	6	6	5	3	26
Natural science.....	3	3	3	4	.....	9
Physics.....	.....	.....	3	3	.....	7
Chemistry.....	.....	.....	.....	3	3	6
Geography.....	4	4	2	.....	.....	10
History.....	.....	2	2	2	4	10
English.....	3	3	3	3	3	15
French.....	.....	.....	.....	3	6	9
Accounting.....	.....	.....	3	3	.....	6
Stenography and typewriting.....	.....	.....	.....	5	5	10
Biology and hygiene.....	.....	.....	.....	.....	2	2
Philosophy.....	.....	.....	.....	3	4	7
Civil government.....	.....	.....	2	2	2	6
Drawing.....	2	2	2	.....	.....	6
Manual training.....	2	2	.....	.....	.....	4
Singing.....	2	2	.....	.....	.....	4
Gymnasium.....	2	2	2	2	.....	8
Total.....	30	32	34	40	37	173

Steps in the education system of Panama.

School or grade.	Proximate ages.													
	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Rural primary school.....	—————													
Urban primary school.....	—————													
School of arts and trades.....							—————							
Normal school.....							—————							
Secondary school.....							—————							
School of agriculture.....											—————			
School of pharmacy.....												—————		
School of surveying.....												—————		
School of law.....												—————		