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History and Aims  
of Higher Education  
in the American Republics

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HISTORY AND AIMS  
OF HIGHER EDUCATION  
IN THE AMERICAN REPUBLICS

Report to the Council on Higher  
Education in the American Republics  
by the Staff of The Comparative  
Study of Higher Education in the  
American Republics

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## HISTORY AND AIMS OF HIGHER EDUCATION IN THE AMERICAN REPUBLICS

### I - Introductory

As a group, the universities of the New **World** are not very much younger than those of the Old World. In the sixteenth century, at time of the founding of universities in Hispaniola, New Spain, and Peru, there were only about sixty universities in all of Europe.

Only five European universities are as old as the 12th century, Salerno and Bologna in Italy, Montpellier and Paris in France, and Oxford in England. The next century saw the establishment of fourteen universities; of which, one was at Cambridge in England (1224); three in Spain at Palencia (1208), Salamanca (1220), and Seville (1290); and two in Portugal at Coimbra and Lisbon, both in 1290. It was the fourteenth century before Austria had a university at Vienna (1365) and Germany at Heidelberg (1386) and Cologne (1388). In the fifteenth century Scotland got its universities of St. Andrews (1411), Glasgow (1453), and Aberdeen (1494). In the same century the Scandinavian universities started with Uppsala in Sweden (1477) and Copenhagen in Denmark (1479).

By the sixteenth and seventeenth centuries, when higher educational institutions were being established in most regions of the Western Hemisphere, they were also being planted generally throughout Europe.

Although in colonial America there were determined attempts to keep higher education in the new lands as close to old-country models as possible, these attempts eventually all failed. The new countries had higher-educational needs different from those of the mother lands, their people were or soon became different, and their universities had to develop differently.

A study of those developments under Spanish, English, and Portuguese influences will indicate how and why their aims became different.



II - The development of Higher Education in Spanish America, 1538-1850

Within 71 years of Columbus' first voyage, there were five universities founded in the Spanish possessions in America. The island of Hispaniola led the way. Discovered by Columbus in December, 1492, it had the first organized Spanish government in the New World, the first European-type city, the first cathedral, the first Royal Audiencia, and the first Christian schools.

In 1538 Pope Paul III, at the request of the Dominican friars in Hispaniola, authorized the establishment of the University of Santo Tomás de Aquino in Santo Domingo. The papal bull provided that the new institution should "have and enjoy each of the privileges, rights, exemptions, immunities, liberties, favors, and graces, as those that the Universities of Alcalá and Salamanca, or any other in the kingdoms of Spain, have and enjoy". Throughout the colonial period this pattern of authorization, whether by the Pope, the King, or the Council of the Indies remained much the same. These Spaniards were hoping to set up American models of Salamanca, with the four traditional faculties of Theology, Medicine, Law, and Arts. The Arts faculty, furthermore, was devoted to the seven liberal arts of the trivium, (grammar, rhetoric, and logic), and the quadrivium, (arithmetic, geometry, music, and astronomy), in strict adherence to the medieval classification. Yet Santo Domingo and various others of the early universities had to drop the medical faculty. There were simply not enough physicians in the New World to teach medicine. Priests and friars, of whom there was a good supply, could fill the teaching positions in theology, canon and civil law, and the arts, but most of them were not trained in medicine or surgery. It was not until the eighteenth century that the university at Santo Domingo reestablished its faculty of medicine. Then it announced that medicine would be taught from the text of Avicenna, anatomy from the "anatomical book", and surgery from the book of Galen.

With the conquests of Mexico and Peru, Hispaniola entered a long period of decadence, and the Spanish power and cultural interests moved west and south on the mainland. By 1551 universities were established in the two viceregal capitals of Mexico and Lima, the

institutions that are now called the National Autonomous University of Mexico and the Greater National University of San Marcos in Lima. The jesuits entered the higher educational field in America by setting up a second university for Hispaniola in 1558, that of Santiago de la Paz. The ancestor of the present National University of Colombia was founded in Bogotá in 1563.

In 1586 the University of San Fulgencio was authorized in Quito by papal bull. It did not begin instruction, however, until 1603. In 1786, furthermore, a royal order suppressed it, one of the few times in the history of higher education that a university has been closed for inefficiency.

In the seventeenth century seven more universities were founded in Spanish America; that of Córdoba in Argentina (1614), the Javeriana University in Bogotá (1622), the University of San Gregorio Magno in Quito (1622), the University of San Francisco Javier de Chuquisaca at what is now Sucre, Bolivia, (1624), the National University of San Carlos in Guatemala (1676), that of San Cristóbal de Huamanga in Ayacucho, Peru, (1677), and that of San Antonio Abad in Cuzco, Peru, (1692).

Practically all of these colonial universities were founded by religious orders, at first by the Dominicans largely, but in the seventeenth century the Jesuits became very active in higher education. The first four universities set up in that century were Jesuit institutions.

In the eighteenth century only five more higher educational institutions were created. The first two, both founded in 1721 at Havana and Caracas, were established by Dominicans from Hispaniola. The other three, Guanajuato (1732) and Guadalajara (1792) in México, and the Central University of Ecuador (1769), also began as religious foundations.

The most dynamic single force in higher education in the first half of the eighteenth century was probably the Society of Jesus. Its chief aim was to train clerical and lay leaders in furthering the religious and political aims of the Society.

In 1767, the King of Spain, Charles III, expelled the

Society from all his dominions. The Kings of Portugal and France had previously expelled the Society in 1759 and 1764 respectively, and Pope Clement XIV suppressed the order in 1773. By 1814, when Pope Pius VII re-established the Society, the revolutions against Spain in the viceroyalties of New Spain, New Granada, Peru and Buenos Aires were already under way, and no religious orders were welcomed in higher education by the revolutionists.

Largely under the stimulus of various revolutionary movements, nineteen new universities were established in the first half of the 19th century. Except for the first one, the University of Antioquia, in Medellín, Colombia, founded in 1803, all the others were established in the period 1810-1849.

The founding of the present University of the Andes, the state university of Mérida in Venezuela, is a good example of the speed with which the revolutionists sometimes moved to set up higher educational institutions. The Rebellion of Caracas began on April 19, 1810. On September, 16, 1810, the Province of Mérida declared its independence and only five days later the revolutionary Junta of Mérida established the University of San Buenaventura de Mérida de los Caballeros.

The next university to be established in the 19th century however, the University of León in Nicaragua was set up in 1812, well before the revolutionary movement got underway in Central America. It was based on the Seminary of San Ramon which had been founded in 1670 and given a royal license in 1683. It had given instruction in various standard university subjects, including theology, law, and medicine, but its candidates for the licenciates had to take their examinations from the Royal and Pontifical University of San Carlos of Guatemala, founded in 1676, and the only university authorized to grant degrees in the Captaincy-General of Guatemala. (1)

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(1) The Captaincy-General of Guatemala included the present Republics of Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica. It also included the provinces of Chiapas and Soconusco which after the Revolution were annexed to México.



The new University of León was therefore the second to be founded in Central America.

The third university of 19th century founding, the University of Buenos Aires, established in 1821, was not completely a revolutionary product. Although as early as 1771, the governor (later viceroy) Juan José Vértiz y Salcedo, had proposed the foundation of a university in Buenos Aires, it was not until the government of Martín Rodríguez under the inspiration and direction of Bernardino Rivadavia that the Congress of the United Provinces of the Río de la Plata authorized the foundation of a "major university, with academic privileges and jurisdiction".

The university of Cartagena, in Colombia, was founded in 1824 under similar revolutionary auspices. The Universities of Trujillo (1824) and San Agustín de Arequipa (1825) in Peru had the distinction of being established by decree of Simón Bolívar, the Liberator, himself. The University of Benito Juárez de Oaxaca (1825) and San Luis Potosí (1826) in México, the University del Cauca (1827) in Colombia, and those of San Andrés, of La Paz (1830) and of San Simón at Cochabamba (1832) in Bolivia were also revolutionary foundations.

Universities now began to be established after the first revolutionary period was passed. New national needs for members of liberal professions and new national prides demanded that higher education be made available within national boundaries. The three Central-American countries remaining without universities, El Salvador, Costa Rica, and Honduras, established them in 1841, 1843, and 1847 respectively. Chile established her national university in 1842 under the leadership of Andrés Bello, great Venezuela scholar and statesman. The University of the República Oriental del Uruguay was founded in 1849 as Montevideo swarmed with Argentine professors and students in exile from the Rosas dictatorship.

### III - Aims of Higher Education in Spanish America, 1538-1850

Like all universities of the time, these of the Spanish colonies in the 16th, 17th, and 18th centuries had in view only one of the main higher educational purposes. That was the objective of instruction and that objective was confined to the training of members

of the liberal professions, theology, law, medicine, and arts. Until the onset of revolutionary ideas in the latter years of the 18th century, moreover, the training of priests was by far the most important to the university authorities.

Rectors were almost always clergymen, the universities were religious foundations, and theology, canon law, and philosophy were disciplines of highest prestige. There was a great indigenous population in America to be christianized. This circumstance alone demanded unusual efforts in the formation of clergymen. The Spanish dominions, furthermore, constituted a bulwark against the tide of Lutheran and Calvinistic doctrines. It was no accident that the Jesuit order itself the single most powerful counter-Reformation force, was founded in the sixteenth century by a Spanish soldier.

The civil functionaries of the colonial regime were trained in law which was the second most important faculty of the early Spanish-American universities. The student was given a minimum of historical and political knowledge and a maximum of juridical information.

The faculties of medicine were acknowledged to be necessary and important, but the low state of medicine in Spain and in Europe generally, the lack of trained physicians in the colonies, and in the sixteenth and seventeenth centuries particularly a distrust of science on the part of ecclesiastical authorities kept the medical faculties low in the scale of academic prestige.

The faculty of arts or of philosophy and arts was usually built upon an earlier secondary school. It struggled along as a preparatory institution to the theological faculty and as an institution for the formation of secondary school teachers.

With the coming of the revolutions against Spain, the faculties of theology were reduced in importance and sometimes suppressed. The faculties of law became more important, after changing their name to faculty of jurisprudence or faculty of juridical and social science. The faculties of medicine were strengthened and regarded more highly. The faculties of philosophy, arts, and letters now began to include mathematics, physical sciences,



and biological sciences in their courses.

By 1850, therefore, the second main aim of a university, scientific research, was beginning to find a small place in the Spanish-American higher educational systems.

These universities were generally operated as institutions for the upper social and economic classes. In some instances racial barriers as well as social ones were erected. In the University of San Gregorio Magno in Quito, for example, during the 17th and early 18th centuries applicants for entrance had to establish in a detailed legal investigation "the purity of their blood" and prove that none of their ancestors had engaged in trade. In most cases, however, the requirement of secondary education was sufficient to guarantee membership in the upper classes.

#### IV - The development of the Modern Spanish American University, 1850-1960

Ten universities were founded in the second half of the 19th century. Of these, only one, the Pontifical Catholic University of Chile, established in Santiago in 1888, was a religious foundation. The other nine were state institutions. Two of them were founded in 1867 in Ecuador at Guayaquil and Cuenca. Another was also begun in Ecuador at Loja in 1895. Bolivia established two, the Autonomous Gabriel René Moreno University at Santa Cruz in 1880 and the Technical University of Oruro in 1893. The following countries each established one in this half century: México, the University of Sinaloa at Culiacán in 1874; Paraguay, its National University of Asunción in 1882; Argentina, the University of La Plata in 1887; and Venezuela, the University of the Zulia at Maracaibo in 1891.

There were grave political and economic deterrents to the establishment of universities in most of these countries during the period 1850-1900. Although the revolutions against Spain began in the Napoleonic era when the French emperor removed the Bourbon monarch from Spain and put his brother on the throne in Madrid, the revolutionary period lasted a long time. In Bolivia the first call for independence was sounded in 1809, but it was promptly choked by the Spanish authorities and was not again raised successfully until



1819. Much the same thing happened in Ecuador. Bolivia did not proclaim her independence until 1825. Peru had her declaration of independence proclaimed by San Martín in 1821 and gained it from the Spanish forces in 1824. The revolution of the La Plata region began in 1810 and was followed by six years of anarchy. In 1816 the declaration of independence was signed at Tucumán.

In Venezuela, as early as 1806 Francisco Miranda, former staff officer at George Washington, attempted to initiate a revolution against Spain which was promptly suppressed. The rebellion of Caracas followed in 1810, with the declaration of independence in 1811, but it was not until 1821, after heavy fighting, that Venezuela and Colombia were able to consolidate their independence of Spain.

The first call to independence in México, the Grito de Dolores, was in 1810, the declaration of independence was made in 1813, but the republic was not established until 1824.

In much of Spanish-America, furthermore, the gaining of independence was followed by various revolutions and dictatorships. Juan Manuel de Rosas ruled Argentina with absolute power from 1829 to 1852. After Bolívar left Peru in 1826 without having been able to set up his great scheme of a Spanish-American Confederation, there followed ten years of political anarchy. Then President Andrés Santa Cruz operated a Peruvian-Bolivian Confederation for three years, 1836-39, which was dissolved in a series of revolutions and counter revolutions. It was not until 1860 that relative political stability was attained.

The Republic of Greater Colombia including the present countries of Venezuela, Colombia, Panamá, and Ecuador, was established in 1819, under the initial presidency of Bolívar, but Venezuela seceded in 1829 and Ecuador in 1830.

The Republic of New Granada, which followed, 1830-1857, had many political difficulties. It was not until 1886 that the present Republic of Colombia was established.

In México, after 1824, there was a continuing struggle between federalists (former revolutionists and liberals) and

centralists (the hierarchy of the church, the Spanish, and the upper economic classes). While the Centralists were in power, they lost Texas to revolutionists and the general they sent to regain it, A.L. de Santa Anna, was captured by the revolutionists but returned to become dictator of México and to engage in war with the United States. It was not until 1857, under the leadership of Benito Juárez, that a democratic constitution was promulgated, but the new regime had to fight against a French invasion and overthrow the Emperor Maximilian, 1864-67, before a relative degree of order was established.

In 1876 Porfirio Díaz, a follower of Juárez, became president and maintained a dictatorship until 1911.

Central America began its period of independence auspiciously in 1823 as the United Province of Central America, but by 1839 the five constituent provinces dissolved the union. From 1840 to 1865, General Rafael Carrera was dictator of Guatemala. He was followed by alternating liberal and conservative regimes.

In the half-century following the dissolution of the United Provinces of Central America, there were four attempts to re-establish the union. These led to a war between Honduras and Guatemala in 1871, and between Honduras and Nicaragua in 1894 and 1907. Costa Rica repelled invasions led by Francisco Moragán in 1842 and William Walker in 1857. Nicaragua had continual civil wars from 1825 to 1848 between liberals and conservatives. William Walker landed in 1855 and operated in the muddy political waters until he was shot in 1860. From 1863 to 1893 conservative dictators ruled.

The first sixty years of El Salvador's independence 1841-1900, were characterized by an almost unending series of revolts, coup d'etats, and dictatorships. In those sixty years there were sixty presidents or chiefs of state exercising the executive power.

In these political circumstances, it is easy to see why higher education was not developed very significantly in Spanish America in the nineteenth century. It is a circumstance of credit to a few intellectuals that it was developed or survived at all.

By the early twentieth century, however, there was a considerable number of Spanish-American universities which were

already teaching, carrying on scientific research and performing community services of importance to their areas. Some of the most notable of these were in universities that were founded in the nineteenth century or re-established in the early twentieth century.

A. - Argentina, Chile, Paraguay, and Uruguay

The Argentina, Chilean, Paraguayan, and Uruguayan universities were created over a three-century period. The first of all in time is the National University of Córdoba which was founded in 1613 and began to function the following year. In all America it is antedated only by the Universities of Santo Domingo (1538), México (1551), San Marcos de Lima (1551), and Santa Fé de Bogotá (1563)- (1).

The colonial ancestor of the present university of Chile, in turn, was founded in 1738.

In spite of the fact that the Universities situated in Argentina, Chile, Uruguay, and Paraguay appeared in very distinct epochs and for very diverse reasons, one must note the similarity among them. The unifying spirit -national or regional- has been superior to the force of history. This is not to say that these universities have not changed in the course of history but that without regard to the life they have had - long or short - all of them today seem extraordinarily like one another.

In the history of the universities perhaps four fundamental moments can be distinguished:

- a. The origin of the institutions in relation to religious orders and particularly to the Jesuits;
- b. The changes they suffered when these countries were liberated from Spain at the beginning of the 19th century;
- c. The influence of the so-called "university reform" of 1918;
- d. The current changes brought about by the impact of modern science and technology and the influence of North American university patterns.

From previous centuries the universities maintained - no matter when they were founded - the humanistic tradition and prestige;

(1) The University of Santiago de La Paz was founded by royal charter in Hispaniola in 1558. It was abolished in 1767 when the Jesuits were expelled from the Spanish dominions.



from independence, a strong national character, which at times becomes aggressive; from the reform of 1918, making the university political and the participation, more or less active, of the students and alumni in the government of the institution. All of them have received, or tried to receive, the beneficial influence of the development of science, utilization of its methods and the North-American organization in the administrative and instructional areas (division of the year into terms and the University into departments, introduction of elective subjects, etc.) which contrast with the organization inherited from Spain or assimilated from France.

To greater or less extent all of them reflect also social phenomena, as much in the field of the changes in society as in the influence of new doctrines: socialism, marxism, democratic-christian thought, nationalism.

Knowledge of the history of these universities is very important for understanding the present situation, since even those universities founded a few years ago were born with all the history that preceded them, as if they had been developing for centuries. This is why their appearance is almost identical with the older universities, why they speak the same language, and why they adjust their lives to the same norms.

We shall give in the following account a historical sketch, divided by countries because the political division is still very strong and the nation, with all its attributes, powerfully influences university institutions. It should be observed, however, that the overcoming of isolating nationalisms, the bringing of people together by new means of transportation and communication - at the beginning of this century, crossing the Andes was an exploit and today it is possible to go from Buenos Aires to Santiago de Chile in less than three hours - and the rise of strong ideologies which overcome national divisions or, at least, weaken them, are reducing the importance of the national aspect of university institutions. It would not be **strange**, therefore, if within some decades, the Argentine Catholic universities for example, would look more like Chilean Catholic universities than like the Argentine national ones.

Nevertheless, the power of national divisions is still so great that it is more convenient to present the historical development divided in countries.

### Argentina

There are at present in Argentina eight national universities, one technological university, also public, three private Catholic universities, one private technological university, recognized by the government, and various university institutions not yet recognized which have arisen as a result of the Domingorena Law approved in 1958.

Of all these, the only one which have today any national significance are the eight state universities which have more than 150,000 students, well provided libraries, expensive laboratories, and a competent and numerous personnel.

The facts are self-explanatory; three years ago the only universities in existence were the state universities and it is not easy to improvise a university.

The Argentine universities existing today represent the four periods previously mentioned. The first of them, the University of Córdoba, was founded by the Jesuits; the second, the University of Buenos Aires, was founded five years after the national independence; the next three by provincial initiative (La Plata, Tucumán, Litoral) and the others by initiatives of the Executive Power of the Nation (Cuyo in 1939, Sur in 1946, and Nordeste in 1956). The private universities were founded during the last three years under the protection of a new and controversial law. At present the eight national universities share the responsibility of higher education in the whole Argentine national territory.

The University of Buenos Aires is charged with the higher education of the Capital of the Republic with a population of 3,500,000, which added to the suburbs, gives a total of more than 5,000,000. Students attend it from all the provinces and 2,500 from Latin America. Fifty kilometers away is the University of La Plata, in the city of that name, capital of the province of Buenos Aires.

The rich territory of the province, the most important of Argentina, is under the jurisdiction of that University, although in the south of the province is the University del Sur founded for the purpose of meeting the needs of professional people and technicians of the south of the province and of all Patagonia.

The National University of Córdoba, embedded in the center of Argentina, has under its jurisdiction a vast territory which includes Córdoba and the bordering provinces.

The northwest zone is under the University of Tucumán (provinces of Tucumán, Santiago del Estero, Salta, Jujuy, and Catamarca). The University of Cuyo, in turn, attends to the university needs of the provinces of Mendoza, in whose capital it has its seat, and of San Juan and San Luis, where it has some of its Faculties or Institutes.

The prosperous Argentine coast is under the jurisdiction of the National University del Litoral, with its seat in the city of Santa Fe, capital of the province of the same name, and with important Faculties in the city of Rosario, the second city of Argentina.

Last, the National University del Nordeste, the youngest of the national universities, with its seat in the city of Corrientes and important university institutes in the Chaco, extends its influence to both provinces as well as to Formosa and Misiones.

The new private universities - and specifically the Catholic universities - have been founded in large centers of population (Buenos Aires, Córdoba, and Rosario) where important national universities have been in existence for a long time. There are some provinces, as la Pampa and Salta, for example, which wish to have a university; or cities, as Mar del Plata, which have a similar desire.

One of the evils produced by the famous article 28 of the Decree-Law 6403 was the breaking up of traditional patterns and requirements in the university area. Today any influential group of people can try to set up a university; in some cases they are people occupying high public positions and the unjustified higher educational attempts, therefore have official backing.



national Government to decree that the Executive Power should name the authorities. This decree was a severe blow to university autonomy. It was modified somewhat by Avellaneda Law of 1885 which permitted the Faculties to name their own members, the professors to be appointed without competitive examinations, and freedom of teaching to be respected.

### University Reform

The violence of the conflicts occurring in the University in 1918, which resulted in the historical movement called the Reform, caused the Executive Power to take over the government of the institution on April 12 of that year. The statutes were changed so that new members of the directive councils were elected from a list of candidates, deans and council members could not be immediately re-elected, and the rector could be re-elected only by a two-thirds vote in the assembly of council members of all the Faculties. Voting had to be secret and the deans had to be elected by the professors meeting in assembly. Requirements for freedom of teaching were furthermore established.

The unifying national spirit, which we mentioned earlier, is particularly present in the Argentine Universities. Perhaps it is because all of them have been, up to three years ago, state universities. The relationship to the central power is so great that the national political events are reflected in the universities and their agitated existence frequently reverberates on national politics. This affirmation is so certain that the history of the nation could be written in terms of the history of one of its universities.

The similarity of the institutions was produced especially in three crucial moments for the life of the universities: the first was the university reform of 1918; the second the sociological-political phenomenon of Peronism; and the third was the revolution of September, 1955, which put an end to Peronism.

These three moments can be explained in general terms as constituting the common pattern of the individual universities. We will trace the pattern in the development of the University of

Córdoba where the reform began and we will note how the other two moments gave at the start a common element to all the Argentine universities.

June 21, 1918, is the symbolic date of the beginning of the so-called "university reform".

On this day it was published the famous "Manifesto of Argentine youth of Córdoba to the Free Men of America". Like all movements of ideas, the university reform had a long period of gestation. On that date broke out the movement which had been in preparation for some time. The "reform" was an act of rebellion against a decrepit and archaic order. The vigor of the movement is maintained even today in the whole country: the last student elections, held in 1960 in the eight national universities, were won by reformist groups. On the other hand, the movement was extended rapidly to other countries, and the statutes of Peruvian, Uruguayan, Cuban, Venezuelan, Guatemalan, and other Latin American universities show clearly "reformist" principles.

The University of Córdoba had lost its creative force. Conservative men, lacking spiritual vigor, occupied the government of the University and defended their privileges based on an archaic concept of authority. Many foreigners, and particularly North-Americans, do not succeed in understanding the sense of student participation in the government of the University. If they had known the University in 1918, perhaps they would have been joined to the spirit of rebellion in the name of the present more healthy educational concepts which are in force in the United States and in Europe with respect to the personality of the student, elimination of bookish teaching and lecture classes, effective and continued work in laboratories, workshops, and libraries, and attention to the needs of the community.

Unhappily the plan of real reforms of the "University Reform" was not carried out and the movement centered principally on the ways of implementing the plan: the form of university government eliminating the life tenure of council members and, in particular, the active participation of students and alumni in the directive councils of the Faculties and in the Higher Council of the University.

The objective of the reform was to break the outworn moulds, to permit entrance into the University of new scientific, philosophical, political, and economic ideas, to modernize the methods of teaching and promotion, and to bring the University closer to the people by means of university extension. The political development of the country, and in particular the conservative revolution of 1930 and the further dictatorship of General Uriburu kept the reform from achieving its objectives and obliged its leaders to maintain themselves in an attitude of rebellion against oppression and of a fight for defense of freedom of teaching and the rule of the fundamental principles of the Constitution. After forty years of the Córdoba reform the students insisted more on their participation in the university government than on the real aims of the reform. Attention should be called to the similarity which exists between the present legal and regulatory arrangements of the universities, on the subject of government, and the demand which the students formulated on April 1, 1918. In the chapter on university control this question will be examined in more detail.

Although the intolerable situation which prevailed in the University of Córdoba can be indicated as the immediate cause of the outbreak of the university reform, there remains no slightest doubt that situations of national and even international character influenced this movement.

In the first place, should be pointed out the profound change in the policy of the country produced on April 2, 1916, by the triumph of the Radical Party and the election of Hipólito Irigoyen to the presidency of the Nation. The triumph of a renovating and democratic party was at the same time a consequence of an economic-social state and a source of new changes. In world events, it should be remembered that in July, 1918, the great war was drawing to a close, and transformations were being initiated which in the next forty years would change the world.

In the face of this world and national situation, the University of Córdoba remained impervious to criticisms and university agitation which was occurring in Buenos Aires: The Faculties continued being directed by boards whose members had



practically life tenure.

The Córdoba students rose up in open rebellion and the confusion they produced obliged the national government, as we have said, to intervene in the University April, 12, 1918, and to name as interventor Dr. José Nicolás Matienzo. Although Dr. Matienzo eliminated the life tenure of the members of the government of the Faculties and took other measures which alleviated the situation, student agitation did not diminish, and the national government had to intervene again in the University in October of the same year, and designated the Minister of Public Instruction, José S. Salinas. The National Executive Power approved the statutes which fulfilled the student aspirations.

Five years later the Executive Power intervened once more in the University as a result of renewed conflicts produced by the struggle between the old university and the overwhelming force of the students.

The revolution of 1930, first triumphant revolution since that which liberated the country from Spanish domination, started new difficulties in university circles.

The presidency of the Republic was occupied for the second time by Hipólito Irigoyen, who had lost the impulse of his first term. The conservative and reactionary wind blew over the country from 1930 shook also the walls of the universities which lived for some years agitated by the clash between retrograde ideas which were trying to be imposed from above and the democratic ideas which were being defended from below and, in particular, by the students.

The constitutional presidency of General Agustín P. Justo, who succeeded General Uriburu, was a period of transition toward legal order and toward institutional and university normalization. Dr. Roberto F. Ortiz succeeded him and set himself to re-establish democratic ideas and respect for law. Also he hoped that the universities would resolve their difficulties by themselves.

The death of President Ortiz and his replacement by the Vice President, Dr. Ramón S. Castillo, began a new era of disturbance as much in the university as on the national scene. Ortiz

and Castillo had joined temporarily to make an electoral team, but the former was radical and the latter conservative. The replacement of the president by the vice president implied, therefore, a total change in policy. Although the universities were respected, the pressure from above was noted. On the other hand, the final outcome of the Castillo government would cause a serious disturbance to the nation and consequently also to the universities.

Actually on June 4, the government of Dr. Castillo was overthrown and replaced by a military junta over which General Ramirez presided. The autonomy of the university was injured by the change of government, since the majority of them had suffered intervention.

It does not seem necessary to indicate the particular circumstances of each university in the face of the facts in the national sphere which affected them all equally. For this reason, it is preferable to indicate the general character of the political and social changes of the nation with the assurance that the effects produced in one or another university were very similar.

It was very soon noticed that the triumphant revolution of June 4 was not moving in the same channels as the traditional Latin-American military uprisings. A man who performed the double function of under-secretary of war and of labor and social security pulled the hidden wires of government; he was Colonel Juan Domingo Perón.

From the undersecretaryship of labor and social security he was able to convince the laboring classes, and from the under-secretaryship of war to ensure the order he needed. It is known how he rose to the ministry of war, to the vice-presidency and later, in 1946, to the presidency of the nation with an overwhelming majority.

A few months after the electoral victory of Perón and before he assumed office, all the universities were intervened simultaneously, for the first time in the history of the country. From this moment a stubborn fight was begun between the democratic groups and the demagogic forces of Peronism. By the end of October, in a period of less than three months, 1,300 university professors

were discharged or had resigned, among them Dr. Bernardo Houssay and others of similar intellectual and moral standing.

The loss of so many and such good professors left the universities in the worst conditions. The Peronists had the hope, not realized, that this leaving would put the whole of the universities in their hands. That did not happen: the student resistance lasted until September, 1955, when the liberating revolution occurred in which the university students took active part.

The democratic organization which existed in the universities before Peronism and which was similar to that in force at present, was radically modified by the government interventors. In the first place, they abolished the fact of university autonomy.

University autonomy is a goal and a battle flag for all Latin-American university students. That autonomy was won in Argentina from the time of the 1918 movement of university reform. The rectors, deans, and other authorities were designated by the university itself; also it was the university itself which decided the questions of programs of study, the establishment of faculties, and the appointment of professors, although the Executive Power in practice ratified appointment of the latter.

Autonomy having been violated in fact, the violation was legalized by law on September 26, 1947. That law provided that the Rector should be named by the Executive Power, and the Rector in turn, presented a list of three candidates to the Directive Council for the designation of deans. Neither the students nor the alumni had representatives on the Councils.

Although the external structure of the democratic university was maintained, everything was organized in such a way to assure the total dependence of the institution on the President of the Nation.

The University of Córdoba, like the rest of the universities of the country languished during the decade from 1945 to 1955.

The revolution occurring in September of the latter year, the students took over the universities, perhaps as trophies of the



active part they had played in the resistance and in civil commando groups.

Democratic interventors were immediately put in charge of the rectoral offices of the national universities. A decree-law of December 23, 1955, returned autonomy to the universities and set the standards for reorganization.

Interventions were maintained for two years, and at the end of 1957 authorities were elected for one-year terms who had, among other missions, to approve the university statutes which would apply in the future. These statutes being approved, an election was held at the end of 1958 of new authorities for a normal period, which in the University of Córdoba and in the majority of other Argentine universities is for four years.

We postpone to the discussion of control of the universities the details of the new regulatory provisions. It is enough to list, in ending the history of the three-century old University of Córdoba, the names of the interventor and of the new Rector: Agustín Gaspar Caeiro and Pedro León. The present Rector, elected in 1958, is Dr. Jorge Orgaz, member of a distinguished family of university people and noted intellectuals.

#### University of Buenos Aires

In the Vice royalty of the Río de La Plata, there were only two universities, Charcas and Córdoba. The first was renowned for studies in Jurisprudence and the second, before the rectorate of Dean Funes, was specialized in Theology. Buenos Aires asked for the creation of higher educational institutions and Governor Vértiz resolved to ask the King of Spain for suitable permission to create a university in 1771. Unhappily, communications were very slow in those times and a series of delays which filled a long period of years kept the project from being started.

Only after the Revolution of May had happened, the provisional committees of government could give themselves to consolidating a period of national organization and could concern themselves, among other matters, with higher education. It was then that there were created establishments for the study of mathematics,

civil and military architecture, and the School of Medicine and the Medical Institute were founded for service to the Army.

The Supreme Director, General Juan Martín de Pueyrredón sent a message to the Congress in 1819 in which he stated that there should be no further delay in establishing a university.

It was not until 1821, however, that the government of General Rodríguez published the solemn edict which ordered the setting up of a Major University with academic rights and jurisdiction. This edict was countersigned by Bernardino Rivadavia.

The public inauguration of the University of Buenos Aires took place on August 12, 1821. Governor Martín Rodríguez presided, and Dr. Antonio Sáenz was named Rector.

Unfortunately, when Rosas occupied the governor's office, almost all the professors who were members of the Unitario Party abandoned the country. Rosas was hostile to the University because it was the center of ideas against his government. From 1838 to 1852, the University lived a precarious existence and for 14 years the city of Buenos Aires lacked even public schools.

Only after the Battle of Caseros ended the tyranny of Rosas in February, 1852, the reconstruction and reorganization of the University began. The period 1853-1857 inclusive was considered that of its second foundation. The University continued to belong to the province of Buenos Aires.

A project or bases for an organic law, submitted to the provincial government by Juan María Gutiérrez, Rector of the University of Buenos Aires from 1861 to 1872, displays its advanced and liberal spirit, if the epoch in which it was written is considered. In the project it was established that higher or university education should be gratuitous, supported from the public treasury; that the University should enjoy absolute independence, with the power to appoint and discharge professors, in accord with its internal laws; that free instruction could be given by those considering themselves qualified for it, justifying this arrangement with the criterion that their presence in the chair would make impossible the stagnation of knowledge, the perpetration of error

admitted and sanctioned by custom and would even correct indirectly any mistake in the election of professors in competitive examinations. In regard to the autonomy of the University it was established that the institution would govern itself and would not have to be answerable except to the country and public opinion for its blunders and errors.

The provisions in articles 32, 33, and 207 of the Constitution of the province of Buenos Aires of 1873 were taken from this project, and the organic decree of 1874 organized the university with five Faculties: Humanities and Philosophy, Medical Sciences, Law and Social Sciences, Mathematics and Physical-Natural Sciences.

Dr. José María Gutiérrez was a model rector, dynamic and imaginative, he introduced innovations in secondary education and planned establishing the Faculty of Chemistry and Pharmacy and the Schools of Agriculture, Commerce, and Nautical Science.

On founding the Argentine Nation, with the incorporation of the province of Buenos Aires in 1860, there was put into practice the idea of Rivadavia which demanded the capitalization of a territory which should include the city of Buenos Aires. As a consequence of the law of federation, the Executive Power of the province decreed the delivery of the University of Buenos Aires to the Nation, January 18, 1881. Dr. Nicolás Avellaneda, who had just ended a term as president of the Nation, was named rector by the University Assembly and took office March 8, 1881.

The rectorships of Juan María Gutiérrez and Nicolás Avellaneda gave a magnificent impulse to the University putting it in the first rank of higher educational institutions of the country. With the passage of years it came to be the best endowed and most attended of the Nation, exercising a preponderant influence over the rest of the Argentine universities. Many of its rectors were men of brilliant public careers who imparted a series of new enterprises and improvements into the field of higher education.

In 1906 new statutes were approved which contained important changes, designed to correct a series of mistakes which



had produced a climate of stagnation in the University, of closed circles which managed the institution to their fancy, of purely bureaucratic action, etc. Freedom of teaching was not permitted and only in case of vacancies by death or resignation were new professors appointed. This situation was accompanied by a lack of stimulus to produce competent graduates and the discontent among the professors who saw their teaching mission decay. All this produced grave events which consequently brought about the new statutes.

The reform of the statutes was approved June, 13, 1906, by the University and two months later, August, 29, by the Executive Power, a large part of the evils previously mentioned were rectified and aspirations of those who struggled for a better university were satisfied.

The movement started in Córdoba for University Reform in 1918, had a profound and immediate echo in all the Republic and the American countries. Buenos Aires was moved by the student youth who fully supported the movement and it gave motive to a new modification of the statutes of the University. The Superior Council, in various sessions, voted the changes proposed by the rector and other members of the council. The Executive Power approved the new measures which also were accepted by the professors and students.

After the revolution of September 6, 1930, the University of Buenos Aires was intervened. The interventor approved new statutes which did not contain major changes except that the secret ballot was established in elections, and in the ruling on holding incompatible positions the number of student representatives on the Directive Councils was reduced to three.

It seems unnecessary to list the peculiar vicissitudes which afflicted the University of Buenos Aires during the three political events which agitated the universities and the country as we have already analyzed them in discussing the history of the University of Córdoba. We refer to the revolution of 1930, to Peronism, and to the liberating revolution. In effect, these phenomena acquired characteristics very similar in all the country, and that which distinguishes the history of one or another university refers rather to names, dates, and particular circumstances of small concern.

The University of Buenos Aires had two interventors after the liberating revolution: Dr. José Luis Romero and Dr. Alejandro Ceballos. The University Assembly, composed of the Directive Councils of the ten faculties, elected Dr. Risieri Frondizi, Rector, in the month of November, 1957.

On taking office, the new Rector presented the plan of work which had as fundamental objectives improvement of teaching, strengthening of scientific investigation, and putting the University in service to the people who support it.

The Rector stated that "The new University repudiates equally the aristocratic concept of the groups which have called themselves the "ruling class", and the demagogic concept which destroys every standard of values, as much in the cultural as in the ethical sphere. It hopes to construct a University for the people - for all the Argentine people - without giving up the most rigorous requirements in the field of culture and the advancement of science".

The present university has been characterized by its attempt to supersede formal and rhetorical statements with a spirit of fervent work and with a search for concrete solutions. An indication of this intensity of labor is furnished by the Superior Council which meets every Saturday for several hours without having missed a single session in three years.

It was an initial proposal of the new authorities to carry out fully the essential functions of the University: for this reason so much emphasis has been placed on the improvement of teaching, the strengthening of scientific investigation, and the attention in professional training to the real needs of the country.

The improvement of teaching included:

- a. University entrance.
- b. Creation of a climate of natural bringing together of professors and students.
- c. Intensifying the work of students.
- d. Modernization of curricula.
- e. Adoption of more flexible programs of studies, to replace the single program formerly in force.

f. Full-time teaching of the staff in all ranks, and teaching and research assistants.

The full-time employment of the teaching personnel not only has improved instruction but also has permitted the growth of scientific research. Although it has not been thought opportune to establish at the beginning the career of research worker, the full-time employment of professors has been adopted with the aim of permitting the complete fulfillment of the requirement the university statute which says: "Research will be considered as a normal activity inherent in the position of university teaching" (art. 8).

To the extent that the resources of the University permit, the laboratories are given the equipment needed for research, the libraries are enriched with new acquisitions and are kept up-to-date in scientific journals.

The full-time employment of the assistant personnel, the internal and external scholarships for graduates and other measures tending to fulfill the same purpose, permit the stimulation of scientific interests of young graduates and allow the teachers to carry out their double mission: to do research and to train future research workers.

#### Scholarships

On taking over their duties the new authorities noted that the University of Buenos Aires offered no aid to needy students for pursuing their studies. A month later, the Higher Council approved a proposal of the Rector creating two hundred scholarships (twenty per Faculty), and later one hundred for graduates. Today the total number of scholarships reaches one thousand.

June 7, 1958, the Superior Council set up the University Press of Buenos Aires. In less than two years from its creation the Press has published an excellent series of "Cuadernos" and has begun other collections.

In celebration of the Sesquicentenary, it published, in popular editions, twenty titles of permanent significance in the



national culture, which will be sold at cost, as a contribution of the University to the celebration.

### University City

As is well known, the majority of the Faculties have their teaching and research work hindered by inadequacy of their quarters. In some cases, classes are taught in unhygienic and sordid places, with grave risk to the health of students and professors and with a retarding of the progress of instruction.

Measures of urgent character which were taken to remedy the situation were followed by a statement of the problem as a whole. A committee was named which will study a plan for the University City and the Executive Power of the Nation was asked to cede the land necessary and convenient for an ambitious enterprise.

At the present time the general plan has been completed and construction has begun on the building for the Faculty of Exact and Natural Sciences.

The University City will not only solve a problem of adequate space but will also permit the development of a healthy university spirit, by the living together of persons who study different disciplines, the permanent bringing together of professors and students.

New establishments - There have been many new establishments in the last three years. For the significance which they have in the future, it should be noted the creation of the Schools of Health, Nursing, Economics, Administration, and the professorships in sciences.

The University of Buenos Aires has not only made an effort to carry out faithfully the specific missions of the University but has also paid attention to the development of the great problems of the country. The University has tried "to convert itself thus into the moral conscience of the country" according to the statement of the present Rector.

### National University of La Plata

The man who started creation of the Provincial University

of La Plata was Rafael Hernández, who, in 1889, began a movement to that end. The government of Máximo Paz passed the appropriate law January 2, 1890. Nevertheless, until 1897, the law was not enforced and from that year to 1905 the new institution lived precariously for lack of money. September 19, 1905, it was made a national university by decree, in the Quintana administration.

The appointment of President Joaquín V. González gave the institution new life. A man of brilliant public life, he converted the Provincial University into a national institution and as such definitely consolidated its progress. González conceived of the university's work as organized in a different concept from the others in the country: it was the first which developed its scientific and experimental character, started university extension, exchange of professors with foreign universities, and experimentation in elementary and secondary education.

He was able to achieve his renovating work during the twelve years of his rectorship. The organization of the University was rather of a unitary and centralized character, if is compared with the federal spirit of the Universities of Buenos Aires and Córdoba. The first statutes of the University were written by Joaquín V. González. In them were condensed novel arrangements which in 1906 showed him to be in the forefront of the reforming movement which was already latent in Buenos Aires. Election of the authorities by an assembly of all professors; the terms of the authorities, the simplicity of office procedures; the arrangement for university extension; the exchange of professors, etc., gave major autonomy to the institution and increased its cultural work.

Dr. González, who was president from the foundation of the University in 1906 until 1918, turned over the office to Dr. Rodolfo Rivarola, another illustrious university leader and Argentine publicist.

During the presidency of Dr. Rivarola the events already commented on in connection with university reform of Córdoba, forced a change in the governmental structure of the University. Thus on March 15, 1919, the Superior Council added to itself and to the Directive Councils of the Faculties, two student delegates with voice

but without vote. After approval by the Executive Power of the new statutes of the University of Córdoba and Buenos Aires in May and September, 1918, the president of the students Federation presented in February, 1920, a proposal of reforms in accord with the new principles. In June of the same year, the Executive Power approved the statutes passed by the Higher Council. In the same month President Rivarola resigned.

From that point, the University was enriched in spite of its conflicts. The presidencies of Dr. Benito Nazar Andhorena (1921-27), Ramón G. Loyarte (1927-30), Ricardo Levene (1932-35), and Julio R. Casteiñeiras (1935-38), permitted the University to increase its faculties, raise the levels of teaching, and go from 985 students in 1906 to 9,623 in 1938.

At present (1960), the University of La Plata has 50,000 students and is composed of the following Faculties: Agronomy, Physical-Mathematical Sciences (which includes five careers in engineering), Humanities, Juridical and Social Sciences, Chemistry and Pharmacy, Veterinary Sciences, Medical Sciences, Natural Sciences, Economic Sciences, and a Higher School of Fine Arts.

Besides its Faculties, the University of La Plata has a renowned Museum of Natural History, an Astronomical Observatory of recognized importance, a practical school of genetic and agricultural experimentation called Santa Catalina, a National secondary and preparatory school, and a Normal School.

The Museum was created in 1884 by gift of Francisco P. Moreno, who originated in this way an important center of scientific investigation. By its collections and installations it is a true teaching and research institution.

The Astronomical Observatory is a center of permanent methodical works of research of recognized fame in the whole Republic.

#### National University of the Litoral

October 16, 1889, the law creating the University of Santa Fe was passed, with the proposal to teach Law and Social Sciences, Physical-Mathematical Sciences, and Theology. It can be said that the idea of creating a new university came from a desire to retain the



students of the province who had to go to Buenos Aires, La Plata, or Córdoba to pursue their higher studies. Also there was evident in the province of Santa Fe the will to achieve an intellectual status by means of this institution for raising the level of national culture and meeting the needs of a regional character.

The Executive Power of the Nation, in 1909, gave national recognition to diplomas granted by the University of Santa Fe, a decision that constituted the first step towards its nationalization. In 1912 a movement in favor of the nationalization of the University had begun. The students organized discussions which were widely supported in populous centers, seconded by decided support of the provincial press.

In 1913 a project of law envisioned the creation of a Faculty of Medicine in Rosario de Santa Fe, followed by others which over a long period of years permitted that institution to make itself an important nucleus of Faculties. Its nationalization appeared imminent, but various causes kept postponing the date.

The delay in nationalizing the University of the Litoral produced a series of incidents between the authorities and the students. Furthermore, the existent authorities regarded themselves as provisional and some aspects related to the regulatory arrangement promoted constantly arguments among them. At the beginning of 1919, the Council appointed a commission which interviewed the President of the Nation to let him know the current state of the conflict. But as the solution was delayed, the Council resolved to adopt the statutes of the University of Buenos Aires and to recommend to the rector the reorganization of the authorities.

This measure was not accepted by the students, who feared that such a resolution would postpone indefinitely the desired nationalization. For that reason they went on strike and listed the defects in the organization and in the teaching in many chairs. This reaction which was accompanied by numerous disturbances, made the governor of the province decide to appoint an interventor into the University.

However, the students, following their principles, did not return to class until the nationalization of the University, October 17, 1919, during the presidency of Irigoyen.

The first statutes were written under the influence of those of 1918 for the University of Buenos Aires; but this measure did not improve student relationships with the authorities and finally the University of Buenos Aires statutes were adopted with slight modifications. However, in 1930 and 1934 the University was intervened again. To put an end to this state of things in 1935 the Executive Power approved the statutes which were in force for some years and which are the product of a detailed examination of the university problems that caused so much conflict. The work done by the authorities who edited this document was rewarded by the restoration of normality which allowed a continuing and fruitful labor.

The University of the Litoral is today a center of higher studies which has gained merited prestige in the country. It has 18,000 students in its nine faculties situated in Santa Fe, Rosario, and one in Paraná. In Santa Fe are the Faculties of Juridical and Social Sciences, Chemical Engineering, the Social Institute transformed today into the Department of University Extension; the rector's office is also in that city. In the city of Rosario are the Faculties of Medical Sciences, Dentistry, Mathematical Sciences, Architecture, Economic Sciences, and Philosophy and Letters. In Paraná, capital of the province of Entre Rios, the Faculty of Educational Sciences is in operation.

The University of the Litoral has planned a University city in Rosario which will permit it to group various buildings on a single campus.

#### National University of Tucumán

By its geographic position, the city of Tucumán had in the Argentine North a privileged situation since colonial days. Founded in 1565, through it the Jesuit current which came from Peru entered the country, spreading religious instruction from the end of that century and extending its radius of action to Chile, Paraguay,

and the Río de La Plata.

Tucumán was always an important center of northern Argentina for its flourishing commerce and industry and besides because it built up a relationship with provinces farther north and with the nations bordering the Pacific Ocean. It should be noted that in Argentine history, Tucumán has the distinction of cradling on its soil the Congress of July 9, 1816, which proclaimed national independence.

As a center of historic unity of the north, its cultural influence was spreading to the bordering provinces of Salta, Jujuy, Catamarca and Santiago del Estero, at the beginning of this century by means of the cultural and scientific institutions already in existence. It should be observed that in 1875 a Faculty of Jurisprudence and Political Sciences was created in Tucumán, destined to begin higher studies which attracted northern youth. But one institution of that character, without solid economic backing, could not prosper in these days and so after ten years of difficulty it had to close its doors.

A great Tucumán figure, Dr. Juan B. Terán, of brilliant public life, was the one who submitted to the provincial legislature a proposal for creation of a University in 1907. Its initiator proposed that the new institution should be an innovator in general university patterns already established in the country, concentrating a large part of its teaching on regional problems of the area.

July 2, 1912, the provincial legislature passed the law creating the University of Tucumán. By the law the institution was divided into five departments: Letters and Social Sciences; Education; Commercial Studies and Living Languages, Mechanics and Agricultural and Industrial Chemistry, and Fine Arts, and incorporated into the University the Sarmiento Provincial School, for the Department of Education; the Museum of Natural and Artificial Products; the Chemical Office; the Agricultural Experiment Station; and the Historical Archives. All the documents existing in the province since 1750 were destined for these Archives which thus began developing a notable historical center.



With regard to the statutes of the new university, the law creating it required that they be in accord with the Avellaneda Law of 1885.

Dr. Juan B. Terán and José B. González, who had worked together closely in preparing the proposal for the establishment of the University, gave themselves to the task of organizing it with the aid of the leading intellectuals of the province.

In September, 1913, the University took over the Historical Archives; in October the first Superior Council was named; and in December Dr. Juan B. Terán was deservedly elected first rector.

That year so productive for the first higher educational institution in the Argentine North, also saw the beginnings of proposals which would lead to nationalization. Slowly the most prominent people of Tucumán obtained the aid of governmental and university authorities who worked together to that end. On May 25, 1924, Juan B. Terán who had carried on a stubborn campaign officially inaugurated the University of Tucumán under the new sign of nationalization.

On that date the institution was composed of six institutes of higher education: Faculties of Chemical and Industrial Engineering; of Mathematics; School of Pharmacy and three annexed institutes: Industrial Investigations, Museum of Natural Sciences, and Scholarships Abroad; in addition it had two schools of special instruction: School of Painting and Plastic Arts and Vocational School for Women. University Extension, the Historical Archives, and a Library completed the institution. Student enrollment that year was 1,108, a figure which showed clearly the impulse acquired in eleven years of the University of Tucumán's existence, which justified the work done by its dogged supporters.

In 1934, new statutes were passed by the Higher Council of the University under the general provisions of the Avellaneda Law with some changes, under certain conditions it was permitted that four persons with voice and vote, whose cooperation would be useful to the University, could form part of the Higher Council, in addition to the delegates of the university student federation, without vote; the Faculty Councils, called consultative, were

constituted of delegates from the professors (50%), and representatives of graduates and students in proportion of 25% for each group.

This University has progressed notably in spite of not having great economic resources. At present it has eight Faculties: Engineering; Law and Social Sciences; Bio-Chemistry, Chemistry, and Pharmacy; Philosophy and Letters; Medicine, Economic Sciences; Architecture; and Agriculture.

#### National University of Cuyo

Mendoza, San Juan and San Luis, are three provinces of the Argentine West rich minerals and flourishing with wine and fruit industries which bring economic prosperity to the area. These natural characteristics of the soil of the region have stimulated the establishment of various scientific technical institutes to investigate the improvement of industrial products and intensify mining, whose exploitation began at the time of the Spanish conquest. Those institutes and technical schools operated many years aiding the progress of the region, although their labor was not coordinated and operated under a central plan which would permit the maximum utilization of the specialists and technicians they directed.

Thus little by little appeared certain movements favorable to the creation of a University, focusing the interest among intellectuals and industrialists of the province of Mendoza.

The first attempt was made in 1921 to present a proposal on the before-mentioned technical schools existing in Mendoza and San Juan, that could be recognized as parts of the new University. The proposal stated that the University could grant degrees of mining engineer, chemical and industrial experts, on a university level, and for the minor schools the title of foreman of vineyards, wine-making, fruit-raising, mining, agricultural and animal husbandry. The proposal provided moreover that "All institutes of higher or special education which might later be set up in the province of San Luis, shall enter in fact to form part of the said university".

August 24, 1928, another proposal was presented with the same objective. In it notice was taken that more than 3,000 secondary

students of the region, for lack of economic resources, were going to be hindered in pursuing higher studies by lack of a university institution which would permit them to continue their careers without having to move to other provinces or to the federal capital. In that proposal it was requested that the new institution be composed of four faculties: Economic Sciences, on the foundation of the Provincial School of Commerce; Agricultural, Animal and Industrial Sciences, on the base of the schools of Wine-grape culture of Mendoza and of Mining of San Juan; Educational Sciences, taking as foundation the Coeducational Normal School of the Nation; and Industrial Chemistry.

In 1932, another broad proposal of foundation was presented, mentioning a "National Polytechnic University of Cuyo, taking into consideration the San Juan schools of Mines, Highways, and Hydraulics as well as those of Fruit-Raising; with seat in the city of Mendoza, the schools of Ethnology and of Fine Arts and the Institute of Electricity and Mechanical Industries. In San Luis was considered the professional school of Teachers for professors in Sciences and Letters. And in the province of La Rioja the school of Olive-growing which should further the cultivation and industrialization of the olive.

All these successive attempts over the years were preparing the atmosphere for founding the desired University and in 1939 under the Presidential administration of Roberto M. Ortiz, the National University of Cuyo was inaugurated.

The program of study have been drawn along the lines indicated by the first proponents of the idea, that is, with practical and cultural aims. Like the University of Tucumán, that of Cuyo attempts to educate professionals who promote the development of the area, within the natural characteristics of the country's West.

At present, six Faculties function in the University of Cuyo: Engineering and Natural Sciences; Agriculture; Economic Sciences; Medicine; Education; and Philosophy and Letters.

Student enrollment is 6,000.



### National University of the South

During the Peron regime there was created in Bahia Blanca, an important southern port of the rich Province of Buenos Aires, a technological institute, which operated precariously, like all higher educational institutions during the epoch of Peronism. On the base of that Institute, the Liberating Revolution founded in 1956 the present University of the South which hopes to maintain its preference for the scientific and technological disciplines, in spite of maintaining a department of Humanities.

The National University of the South is the first of the country which has been organized in departments and not in the traditional Faculties. This initiative, is owed to the first Interventor Rector, Professor Vicente Fatone, who gave a notable impulse to the University.

Unhappily, the University of the South has had to change authorities at repeated times in its brief and agitated existence. At present, Dr. Juan Félix Martella is Rector. The University has nine Departments: Chemistry; Engineering; Humanities; Physics; Economics; Agriculture; Geology and Geography; Mathematics; and Accounting.

### National University of the Northeast

This university is the youngest of the national universities. It was founded in December, 1956, by the Provisional Government, on the base of faculties and schools existing in the city of Corrientes and in Resistencia, capital of the Chaco, and which were attached to the universities of the Litoral and Tucumán.

The University was set up to meet the higher educational needs of a vast and prosperous region of the country. At present it has faculties and research institutes in Corrientes, Resistencia, and Posadas, capital of the province of Misiones. In Corrientes are the Faculties of Medicine; Agriculture and Animal Husbandry; Law; and Exact, Physical, and Natural Sciences. In Resistencia are the Faculties of Humanities; Economic Sciences; Planning, Housing, and Engineering; the Agricultural Institute; the Institute of Regional Medicine; and the Department of University Extension. In

its turn, in Posadas the Faculty of Chemical Engineering has recently been founded. The University has 5,000 students at present.

#### National Technological University

This University was founded in August, 1948, as the National Workers University. This establishment, devoted to technical extension courses grew up under Peronism and it could be said of it shortly after it was installed it was employed demagogically, showing its character in a statute which declares its purpose as "The complete education of professionals of workers' families". Therefore, after its beginnings, it suffered a sharp political penetration, not in its studies of a technical nature, but rather in the public meetings, publications, and appointments of authorities. This circumstance made the new institution convert itself into a means of demagogic political propaganda. However, within its walls, it worked with a certain order and the labor did not separate it greatly from the function of training specialized professionals.

At the end of the Peronist regime, an intense rectifying student movement was produced to overcome the faults of the institution by means of a re-organization of the authorities and the teaching staff, who had come to their position without following proper channels. Another motive which demanded immediate change was the name of the institution. In 1959 the Workers University was converted by Congressional law into the National Technological University, with Faculties in Buenos Aires, Tucumán and Córdoba.

Entrance into the University is open to students who have finished the second cycle of the State Industrial Schools. Professors are appointed by competitive examinations, and some measures have been taken to secure a teaching staff of university rank.

#### Private universities

In addition to the eight national universities and the National Technological University, there exist, within the last three years, various private universities which have been born in

the heat of an arrangement provided in a law of December 23, 1955. Article 28 of that law says: "Private initiative can create free universities which will be authorized to grant diplomas and degrees permitting professional practice provided always that they fulfill the conditions imposed by regulations which will be promulgated opportunely".

It will be surprising to foreign university people, and particularly to the North Americans, that an arrangement so general could start a bitter argument which has agitated all Argentina for more than a year and which is still not ended. It will be surprising also that men who have always defended freedom of expression and of teaching should have opposed themselves to having that freedom of teaching exercised; some antecedents and consideration will clarify these points.

In the first place it should be remembered that the Avellaneda Law, approved in 1885, and which has regulated the life of the universities until the Peronist law of 1946, expressly provided that the national universities were the only ones authorized to grant diplomas for practicing the liberal professions. The Peronist did not venture to change the lay tradition, although it attempted to impose religious instruction in the schools.

The law of 1955, in its turn, referred exclusively to the national universities; the furtive introduction of one article was the work of a Minister of Education of active clerical militancy, Dr. Atilio Dell'Oro Maini.

The breaking of the Argentine lay tradition was made then in the name of freedom of teaching but with the aim grossly hidden of imposing religious sectarianism. Freedom, in the judgement of the liberal and democratic university people who were opposed to the application of Article 28 was not equal to the total power of the sectarianisms.

There will not be more freedom than now when Catholic, Communist, fascist, and masonic universities are allowed since freedom does not reside in the right to enclose oneself in one's own cell.



On the other hand, freedom of education is intimately united to freedom of teaching. In the before-mentioned universities, by their clear and admitted confessional or ideological tendency, is taught a single form of thought. In the national universities, in contrast, all doctrines are expounded and studied; the only requirement is that of the seriousness of the theory and of its exposition. The personality of the student is formed in direct contact with different philosophical, economic, and political theories. To wish to shut him up in a cage, on the pretext that it is authentic and true, seems a grave pedagogical error. The free expression of the student is fundamental for the development of his personality.

The opposition to the application of the said article, initiated by the University of Buenos Aires, brought about a meeting one day of more than 300,000 persons in the Plaza of the Congress. Similar movements in defense of the lay tradition also occurred in the more important cities of the interior. As a proposal to repeal the mentioned article was presented to the Congress, this was faced with the difficult situation of listening to the opinion of the great majority of the Argentine people or fulfilling commitments which the new government had made with the Catholic Church and the conservative forces. The result was a compromise solution: the Congress approved, after agitated debates and hasty going and coming from one chamber to another, a new text by which is maintained the general principle but it is limited in a double sense. In the first place, private universities will be able to grant academic degrees - and not licenses to practice professions- ; and in the second, private universities will not be able to receive any subsidy or aid from the State. Even this compromise solution was scarcely achieved. The Chamber of Deputies, on two occasions, insisted on the repeal of the article in question; the Senate composed entirely by men of the official party, imposed its judgement, although the great majority of the senators voted against their own convictions, and only obeying party discipline, according to a statement of a spokesman of the group.

Even after the approval of the new text, the legality of

which was challenged by eminent jurists, the Executive Power did not venture to implement it; such was the force of public opinion against it. When it did, a new wave of protests was raised and the measure came to lose prestige before a great body of cultivated people in the country.

As was predicted, immediately after the famous article, was implemented, the operation of three Catholic universities was officially authorized: the Argentine Catholic University of Santa María of Buenos Aires, the Catholic University of Córdoba, and the University of the Salvador (Buenos Aires). Later the Catholic University of Santa Fe (Rosario) was authorized. Also, later the Technological Institute of Buenos Aires was recognized.

Although the Catholic universities are operating since three years ago they are doing so under relatively very precarious conditions. Professors and even authorities - as in the case of the Rector of the Catholic University of Buenos Aires - are men who have been discharged by the national universities for lack of intellectual capacity or for the servile attitude which they have taken toward the Peronist dictatorship.

The total number of students in all the Catholic universities does not exceed two thousand; in 1960, on the other hand, there were enrolled in the University of Buenos Aires alone more than 61,000 students. For many years Argentine university life-and the responsibility of training professional, scientific, and technical people-will continue in the hands of the national universities, which have reached a constructive stage of recognized university rank.

## URUGUAY

### University of the Republic

The one university of Uruguay, called the University of the Republic, is of public character and dates from 1833, the date when there were set up the first chairs which gave foundation to the institution. It was inaugurated officially during the Presidency of Joaquín Suárez.

As historical background should be taken into account three

centers of higher education which, with the passage of time, built the present university; during the Colony, the Franciscan College of San Bernardino, the House of General Studies from 1833 up to the Great War, and the University properly so called since 1849.

After the expulsion of the Jesuits under the reign of Carlos III, the Franciscans of San Bernardino took over their teaching in 1767. The following step, 1833, gave origin to the House of General Studies, a collection of chairs without a central authority, which was directly subordinate to the government. The regulation which controlled them indicated that teaching should be done from "printed works" and fixed the texts.

In 1836 a Regulation of Studies was signed, which was passed in a law the following year. For the first time in the history of Uruguay higher education, the secondary and university levels were planned. This regulation was divided into two sections; Organization of Education and Order of the Chairs.

The Organization of Education was divided into three rigorous stages; first there had to be made an intense study of latin; then, two years of philosophy and another two of mathematics, constituted the so-called "preparatory studies". And following that entrance was made into the Major Faculties of Theology and Jurisprudence, to pursue studies of three years in each.

In Uruguay, the University began its life, as has already been said, in 1849. In accord with the traditions of similar American institutions, the Church was closely associated with the development of this cultural center. The teaching was theological and that spirit was clearly shown in the appointment as first rector of the Vicar Apostolic, Lorenzo Fernández, which united the University with the Church.

However, the French school of eclectic spiritualism caused the rise with notable vigor of the conflict between both institutions and thus it was that the orientation of the University inclined rapidly toward spiritual secularization, in accord with the trend of the times.

Tradition and officialism tried to block the new

tendencies, but could not impede the organization of a series of cultural associations of decided anti-clerical character. The historic Profession of Faith of 1872 brought on a general clamor directed by the afore mentioned groups and from that year the University began to free itself from the clerical spirit which had dominated it. The argument lasted a long time, with ups and downs that only ended some decades ago, and today the University goes its way living with the lay forms of universal thought.

Up to 1877 the three educational levels: elementary, secondary, and higher, were in charge of the University. In that year, by an August 24 decree, was passed the "Law of Common Education", which separated the first cycle (elementary) from the University's administration. In 1935 (December 11), secondary and preparatory education moved to depend on other authorities, and thenceforward the University centered its activity in higher education.

Between 1880 and 1899, the Rector Alfredo Vásquez achieved a profound reform which, influenced by a positivist inspiration, imposed scientific thinking and gave a great impetus to the national culture. It can be said that his constructive and novel work has been the foundation of the present modern university. To the Faculties of Law and Social Sciences, of Medicine, and of Mathematics, two others were added: in 1903 that of Commerce and in 1907 that of Agronomy and Veterinary Sciences.

In 1915, the Faculty of Mathematics was divided into those of Engineering and Architecture; in 1925 that of Agronomy was created; in 1929 that of Chemistry and Pharmacy and that of Dentistry; in 1932 that of Economic Sciences and Administration; in 1933 that of Veterinary Sciences and in 1945 that of Humanities and Sciences. The University of the Republic consists at present of ten faculties.

The participation of the students in the direction of the University, since 1908, with the right of designating representatives on the Directive Councils, should be noted. The decade 1920-1930 which received the formidable impact of the Argentine University Reform, permitted the faculty assemblies also



to get student participation.

This University has seen its Faculties grow at the same time as the national situation has demonstrated that a professional technical diversification was necessary for the development of the country. The University of the Republic has maintained the traditional philosophic ideas, modified by the trends of our times.

The University of the Republic began two years ago a new cycle of teaching independent of the academic year. By means of an agreement with the Universities of Chile and Buenos Aires, the CIR (Consejo Interuniversitario Regional) was set up with the object of offering during the month of February each year to students of various American countries a well arranged program of summer courses. Although the experience is relatively new, the number of enrollments and the quality of the professors who do the teaching have demonstrated that the innovation is successful. A large number of scholarships permits the attendance of American students of unusual level and the employment of renowned foreign professors combine to create an atmosphere of notable value. The courses of CIR are built around an American main theme which is expanded within the subjects offered by the different Faculties, permitting this system to penetrate in relations to one another the most important problems of the society in which we live.

The Minister of Education of Uruguay has established a Pedagogical Institute attached to the University, designed to train secondary-school teachers.

## PARAGUAY

### National University of Paraguay

The geographical and historical conditions of Paraguay did not permit in Colonial times the founding of a University as happened in Lima, Bogotá, Córdoba, etc. In the middle of 16th century, the desire to have an institution of higher education was manifested and the Cabildo made the request to the Spanish authorities. Over the years then required for communications between the colonies and Spain, negotiations proceeded slowly and at the end, through lack of required economic means in Paraguay, the Crown

rejected the petition. The attempts to found Colegios Convictorios controlled by religious orders also failed to prosper for the same reason. It was only in 1780 that the King created, by charter, the Royal Seminary College of San Carlos, which was open to students desiring to pursue an ecclesiastical career of those who sought to intensify their humanistic knowledge.

From 1783 the College of San Carlos functioned uninter-  
ruptedly although the Jesuits, who had started it, were expelled from the territory, a fact common to the educational centers of Spanish America. Later, in 1841, arose the Literary Academy of the Consuls, relatively short-lived institution, since it was founded on theological principles and gave only secondary instruction.

The creation of the chair of Philosophy, in 1834, that of Civil and Political Law in 1850, and the sending abroad of students who had been graduated in those specialities, gave greater foundation to the idea of creating a University. Their foreign professors were employed who started classes in Medicine, Pharmacy, and Mathematics. Unhappily, the war which devastated Paraguay hindered for many years the carrying out of this desire.

September 24, 1869, the law creating the National University was passed and the institution was inaugurated on December 31 of that year. Among the professors who began the work were many illustrious foreign scholars who brought their experience and devoted it as did the Paraguayans, to the progress of the new institution. In 1892 its Statutes were accepted.

As an establishment independent of the University, was created in 1944 the Higher School of Philosophy, Letters, and Educational Sciences which in 1948 was incorporated into the University.

Today the National University of Paraguay has Faculties of Medical Sciences, Chemistry and Pharmacy, Dentistry, Law and Social Sciences, Physical and Mathematical Sciences, Philosophy and Letters, and Economic Sciences.

CHILE

After the revolutionary period, Chile was one of the few Spanish-American countries which had a long period of political stability. From 1830 to 1890, she established her governmental procedures, developed her resources, and built up her cultural institutions.

University of Chile

The historical antecedents of the present Universidad de Chile go back to February 28, 1738, date on which the "University of San Felipe" was founded in Santiago. However, it was nineteen years after its foundation before it started to operate. This delay was not caused by absence of enthusiasm in the group of cultivated men and young people who had done everything possible to give the capital of Chile an institution of higher education necessary from every point of view.

The first stage of the university's operation showed that its teachings were inspired by those of Salamanca and Lima. An ordered view of the world and of its abstract problems was provided to the detriment of that which is now considered the important function: professional training. The studies of Philosophy covered a period of three years, at the end of which the bachelor's degree was received. Those of Theology and Laws were four years. At the end of this cycle the degrees of licentiate and doctor were given, after public presentation of a thesis and a lesson by the candidate, whose theme was chosen twenty-four hours in advance, and on which he discoursed the following before the jury and the public.

With few important advances, the University of San Felipe continued operation until the Revolution for Independence, which brought with it a series of renovations producing a strong impact on the national life. The natural sciences and the practical professors invaded the area of higher education, but the University, walled up in its canonical law, remained in the retaguard of the intellectual movement. Nevertheless a reform was imposed and the new sentiment gained a powerful impetus which had to be recognized.

Manuel Salas and Juan Egaña, men distinguished for their progressive spirit, began a movement with the aim of improving national education. To that end they proposed in 1811 the creation of an establishment which would group the higher institutes of the capital. Friar Camilo Henríquez, a priest with profound interest in the French philosophy of that era and inspired by the possibility of achieving great reforms, joined forces with Salas and Egaña. The political convulsions hindered the project's advancement and it was not until June, 1, 1811, that the government named a commission to reform education. This new attempt, which gave birth to the National Institute, was inspired by the ideas of Juan Egaña. By decree, the New Institute brought together and coordinated the instruction of the University of San Felipe, the College of San Carlos, the Academy of San Luis, and the Conciliar Seminary.

As a result of the birth of the National Institute, the University of San Felipe lost its character of a teaching institution. Thenceforward it became "an academy of learned men and a museum of sciences". It was composed of doctors, licentiates, and bachelors already graduated and those who were soon to obtain those degrees after following the courses on the National Institute. The first instruction given by the Institute included Latin, living languages, fundamentals of religion, and ethics. Then various modifications were made which permitted specialization in Theology, Natural Sciences, Law and Medicine.

The triumph of the war for Independence, occurring in 1817, was followed by a notable change in the operation of the University. Its authorities and teaching personnel, in yielding to the anti-monarchical element, had to resign themselves to the ideas of the revolutionary spirit. One of the first measures consisted in notifying the Rector of the University that the professors must engage in active service or be retired. The majority of them elected retirement from teaching and from then on the institution limited itself to memories of the old days.

This situation notably favored a general movement to establish a real university, growing up in accord with new ideas and the new organizational period which emanated from the country.



Manuel Montt, who had been professor and rector of the National Institute, in his position as Minister of Education accelerated the procedure and President Prieto issued a decree April 17, 1839, by which the University of San Felipe was declared ended. Its library and furniture passed to the new building constructed for the institution of general studies which was going to be founded as the University of Chile.

November 18, 1842, the law creating the University was passed.

The great Venezuelan educator, Andrés Bello, who had participated in this labor with all enthusiasm, was named first rector of the establishment. September 17, 1843, the inauguration of the University of Chile took place. It was composed of Faculties of Philosophy and Humanities, Mathematical Sciences and Physics, Medicine, Laws and Political Sciences, and Theology.

For the first time, and in accord with the founding law, professors were appointed by the National Government and there after by the corresponding faculties. In the case of the Faculty of Laws and Theology, the professors of the old University of San Felipe were made members of the teaching staff.

Very soon the renovating work of the University was made manifest in national cultural circles, especially in teaching. The 1842 law had given to that institution the supervision of the elementary and secondary levels, but in reality the work of teaching of the National Institute.

This situation caused a regulation in 1847 separating secondary from higher studies, which until then were not delimited. The former fell in the National Institute and the latter under the direction of a delegate of the University Council. This measure began to be put into practice in 1852 when both institutions were able to care for students in both types of courses in spacious quarters especially constructed for them.

By that same regulation the direction of each Faculty was given to a commission composed of academicians and professors holding chairs. This measure, in the history of the University of

Chile, was considered a truly advanced step which succeeded in integrating harmoniously the teaching staff. In addition it permitted broad freedom in the use of textbooks and even made it possible to dispense with them. Free teaching was also authorized, with consent of the University Council.

A new law promulgated January 9, 1879, created the Council of Public Instruction to organize secondary and higher education. It was composed of the Minister of Education, the University Rector, the Secretary General, the Deans of the Faculties, the Rector of the National Institute, three appointees of the President of the Republic, and two elected by the full assembly of the professors. The Faculties were those of Theology, Laws, Medicine and Pharmacy, Physical and Mathematical Sciences, Philosophy, Humanities, and Fine Arts. The University accentuated professional training, leaving research in second place. In turn, secondary education was subordinate to this Council and the Rector of the University.

Little by little a revision of the programs of study in each Faculty was felt necessary. That of Humanities increased the training of secondary teachers in the Pedagogical Institute, founded in 1889. That was in response to the expansion of secondary schools which were being set up throughout the country, as a result of a sane educational policy which required a greater number of teachers on that level. A large number of German professors entered the Pedagogical Institute soon after its foundation and they gave a new orientation to the establishment.

The new structure of the University of Chile comes from a decree of 1931. The institution is composed of twelve Faculties to which are attached numerous professional university schools, research institutes, centers of study, etc.

During the last seven years, there has been an increase in scientific study and research, the number of full-time professors, student welfare, and the relations of the University to national industry.

#### University of Concepción

The University of Concepción was founded in 1919 and since

then has maintained an uninterrupted work of teaching and research. It was recognized by decree in 1920.

For 37 years Dr. Enrique Molina Garmendia was its Rector, a famous Chilean philosopher, possibly one of the Rectors who has directed for the longest time an institution of this kind in Latin America. He retired for reasons of health. Dr. David Stitchkin Branover was immediately elected to continue the leadership of the progressive University.

The foundation of the University of Concepción was owed to the private initiative of qualified intellectual groups of the area and thus constitutes an example within the Chilean environment. Its economic support comes, in part, from the profits of the Concepción lottery, created for this purpose and for the aid of other cultural institutions and of public charities. That income covers today only 40 percent of the University's expenses, owing to its growth. The remainder is defrayed by state subsidies.

The University has at present the following Faculties: Juridical and Social Sciences, Physical and Mathematical Sciences, Chemistry and Pharmacy, Dentistry, Medicine, Agriculture and Animal Husbandry, Philosophy and Education, and Journalism.

In addition it maintains a Summer School. On a plot of 45 hectares, in one of the extremes of the city, is the "campus" of the University of Concepción, on which is found all the university buildings, including the student dormitories.

Unhappily, the university buildings, although to a lesser degree than the rest of the city, suffered the consequences of the earthquake which caused in Chile hundreds of dead and millions of dollars damage.

The Pontifical Catholic University of Chile, founded in 1888, has a faculty of philosophy and educational sciences, which includes a school of education, a school of psychology, a department of normal schools, and an institute of family education.

The private, non-sectarian Technical University of Federico Santa María, founded in 1931 at Valparaíso has five engineering faculties in the specializations of civil construction,

electricity, wood and plastics, mechanics, and chemistry, a basic faculty of physical and mathematical sciences, a night school for skilled workers and a trade school. Graduate programs and research laboratories are being developed in electrical and mechanical engineering and in the field of wood and plastics.

The Technical State University founded in 1952, has a faculty of industry engineering at Santiago and also train home economics and commercial teachers there. It operates schools for industrial technicians in Santiago, in practical arts and trades; Antofagasta, Copiapó and La Serena in mining; Concepción, Temuco and Valdivia in industrial arts.

The Austral University of Chile, a public institution founded in 1954 at Valdivia, has faculties of fine arts, general studies, philosophy and education, medicine, and veterinary medicine. It also has a faculty of agricultural engineering with an attached school for agricultural technicians, and a faculty of forestry engineering with a school for forestry technicians.

The Catholic University of Valparaíso, founded in 1928, has faculties of architecture and city planning, physical and mathematical sciences, juridical and social sciences, commerce and economic sciences, and philosophy and education. It has research institutes in the technological and economic areas, an institute of family education, and an institute which gives courses for technicians in electricity, electronics, agricultural industries, fishing industries, and mechanics.

The University del Norte, founded in 1957, at Antofagasta, is a branch of the Catholic University of Valparaíso. It has schools of engineering and of education, a research center for the study of solar energy in the Northern Chilean Desert, a department of history and social studies with special interest in archeology and anthropology, and a department of cultural extension.

## B. Bolivia, Peru and Ecuador

### Bolivia

Bolivia entered the twentieth century with five universities: those of San Francisco Xavier de Chuquisaca at Sucre, **San Andrés** at



La Paz, Gabriel René Moreno at Santa Cruz, San Simón at Cochabamba, and the Technical University at Oruro. All were state institutions. San Andrés has developed faculties of architecture and city planning, economic and financial sciences, law and political and social sciences, pharmacy and bio-chemistry, philosophy and letters, civil engineering, industrial engineering, medicine and surgery, and dentistry. Gabriel René Moreno, has the same general kind of law and economic faculties as San Andrés, plus a faculty of veterinary medicine. San Francisco Xavier de Chuquisaca has the five faculties of economic and financial sciences, medical sciences, law and political and social sciences, and dentistry. The Technical University, in addition to the usual economic and law faculties has the faculty of engineering, with sections of civil and mining engineering, and a practical school of agriculture.

San Simón has seven faculties, including the usual ones in law, economic sciences, medicine, and dentistry. It emphasizes agriculture with applied botany and forestry.

Two universities, also state foundations, have been set up more recently in Bolivia; that of Tomás Frías at Potosí in 1937, and that of Juan Misael Saracho at Tarija in 1946. Both have faculties of economic and financial sciences and law. Tomas Frías has separate faculties of civil engineering and mining engineering. Juan Misael Saracho schools of agriculture and animal husbandry and of nursing. It also has an institute of literacy research and training.

## Peru

Peru began its career as an independent republic with three universities; San Marcos at Lima, founded in 1551, San Cristobal de Huamanga at Ayacucho, founded in 1677, and San Antonio Abad del Cuzo, founded in 1692.

Although many leaders of the revolution against Spain in Peru had been educated at San Marcos, that institution did not develop very successfully in the post-revolutionary period. The Colleges of San Carlos, Santo Toribio, and Guadalupe began to teach courses of university grade and thus kept students from attending San Marcos.

In 1855 the University had faculties in theology, jurisprudence, medicine, natural sciences, and philosophy and letters, but with small enrollments. From about 1876 the University began to revive but the outbreak of war with Chile in 1879 slowed its progress again.

The present faculties of San Marcos include those of law, medicine, letters, sciences, education, pharmacy and bio-chemistry, dentistry, chemistry, economic and commercial sciences, and veterinary medicine.

The University of San Cristóbal de Huamanga was founded at Ayacucho in 1677 but did not begin operation until 1704. It was closed from 1876 to 1883, re-opened briefly in 1884 and was closed again in 1886. It was not re-established until 1957 and began its present operations in 1959. Situated in a region where traditionally in the past two ethnic groups, two cultures, and two religions have converged, the University officially states its purposes as including "the service of the community, of the culture, and of youth". It has a faculty of sciences and letters, a socio-economic extension section with a center for investigation of local natural resources, a meteorological station, and botanical experiment stations, and a general extensions section.

The University of San Antonio Abad del Cuzco, from its foundation in 1692, has had a slow growth. Today it has faculties in sciences including agronomy, biological sciences, and civil engineering; economic and commercial sciences; chemical sciences with chemical engineering and industrial chemistry; law; education; and letters.

The National University of Trujillo, created by decree of Bolívar in 1827, was closed in 1876 at the same time those at Ayacucho and Puno were closed and for the same reason. Law courses were being given by the secondary schools, and students preferred that instruction to the work given in the university law faculties.

Trujillo was re-opened in 1894 for instruction in law only. In 1928 it resumed courses in other fields. Its present faculties include sciences with pre-pharmacy, pre-medical, pre-dentistry, and pre-veterinary sections; economic and commercial

sciences, law, pharmacy and bio-chemistry, letters, and education, medicine, and chemical engineering.

The National University of San Agustín de Arequipa (1828) has faculties of medicine, letters, education, law, economic and commercial sciences, and sciences where a major emphasis is on Andean biology, geophysics, and chemical analysis of materials.

The Agrarian University of Peru (1902), at La Molina, until recently the National School of Agriculture, has institutes of agronomy, economics and social sciences, agricultural engineering, and animal husbandry and a graduate college.

The Pontifical Catholic University of Peru was established in 1917 at Lima. It has faculties in economic and commercial sciences, law and political sciences, education, engineering, and letters. A faculty of medicine is being organized. The University grew slowly, against considerable opposition, but on the closing of the University of San Marcos during the regime of Augusto B. Leguía in 1926-30, the students in philosophy and letters and in jurisprudence transferred to the Catholic University, and some of them remained there after the re-opening of San Marcos.

The National University of Engineering at Lima was given this title in 1955. It had previously been, since 1876, the Special School of Civil Construction and of Mines. In its present organization it has faculties in architecture, physical and mathematical sciences, civil engineering, petroleum engineering, industrial engineering, sanitary engineering, mechanics and electricity, and mining.

The University Comunal del Centro was founded in 1959 as a non-sectarian private institution. It is supported by Indian communities, trade unions, municipalities, banks, and other elements of Peruvian commerce and industry, as well as by individual contributions from prominent persons. It has most of its faculties in Huancayo, a faculty of marine studies and oceanography at Huacho, and some branches in Lima. Among its faculties are those of public and private administration; forestry; geography; social sciences and social security; accounting, commerce and actuarial science; economics, statistics and statistics finance; industrial engineering;

and natural resources.

### Ecuador

The Central University of Santo Tomás de Aquino of Ecuador was given its present name by law in 1897, but it began in 1769 with the amalgamation of three former institutions of higher education, the Seminary of San Luis, the University of San Gregorio, and the University of Santo Tomás de Aquino. The University of San Fulgencio, suppressed in 1786, also had its functions taken over by the Central University of Ecuador.

During most of the 19th century, the University was subjected to frequent changes of rectors and professors, and new programs of study and university statutes were regularly produced.

In 1918 the students began to take an active part in the government of the University. Autonomy was granted to the instruction in technical and administrative matters in 1925 and in all questions of university education in 1938. Present faculties are those of economic sciences; physical and mathematical sciences; medical sciences; chemical and biological sciences; philosophy, letters, and educational sciences; agricultural engineering and veterinary medicine; jurisprudence and social sciences; and dentistry. The university also gives extension courses.

The University of Guayaquil was established as a state institution in 1867. It gives work in faculties of agriculture and veterinary medicine; economic sciences; mathematical and physical sciences; medical sciences; chemical and natural sciences; philosophy and letters, jurisprudence and social sciences; and dentistry.

The University of Cuenca, founded by the same law, has today the same faculties with exception of those in agriculture and veterinary medicine, and in economic sciences.

The University of Loja, founded in 1895, has a faculty of sciences which includes schools of agricultural engineering and veterinary medicine and a faculty of jurisprudence and social and political sciences.

The Technical University of Manabí was founded in 1952 on



an earlier school of agriculture and hydraulic engineering which had operated since 1909. Its creation was urged by many public and private organizations and individuals. It has faculties of agricultural engineering and veterinary medicine and of mathematical, physical, and chemical sciences.

The Catholic University of Ecuador is the only non-state university of the country. It was established in 1946 and has the faculties of economics; philosophy, letters, and education; and jurisprudence and social sciences. It also operates schools of nursing and of social service.

The Superior Salesian Institute of Philosophy and Education, also a private school related to the Roman Catholic Church, was established in 1959, to train secondary teachers.

Other higher educational institutions are the National Polytechnic School, established in this present form in 1945, specializing in electrical and in industrial chemical engineering; and the Polytechnic School of the Litoral, created in 1959, and specializing in the preparation of agricultural and fishing technicians and in research in those areas.

### c. Colombia, Venezuela and Panamá

#### Colombia

Colombia entered the second half of the 19th century with five universities. Four of them were public institutions; the National University of Colombia in Bogotá, founded in 1563, and the three departmental universities of Antioquía, Cartagena, and Cauca, established in Medellín in 1803, Cartagena in 1824, and Popayán in 1827. The intermittent civil wars between the liberal and conservatives prevented the creation of other universities. In the twentieth century, universities have been established in other departments as follows: The University of Nariño at Pasto in 1904, del Atlántico at Barranquilla in 1940, of Caldas at Manizales in 1943, del Valle at Cali in 1945, and del Tolima at Ibagué in 1954. The Industrial University of Santander, also a public university, was set up at Bucaramanga in 1947.

Other state institutions include the District University

of Francisco José de Caldas at Bogotá founded in 1950, the National Feminine Pedagogical University at Bogotá founded in 1951, and the Pedagogical University of Colombia at Tunja founded in 1953.

The National University was legally created in its present form in 1867 and has developed into the largest and most comprehensive higher educational institution in the country. In Bogotá it has faculties of architecture, economic sciences, law and political sciences, nursing, pharmacy, philosophy and letters, engineering, medicine, veterinary medicine, dentistry and chemical engineering. It also has at Bogotá separate institutions of psychology, labor law, juridical-criminal sciences, and natural sciences; a higher school of hygiene and a school of fine arts; the national astronomical observatory and the national conservatory of music; and a department of mathematics.

In Medellín it has faculties of agronomy with a forestry institute, architecture and mining and civil engineering. In Manizales it has a faculty of civil engineering and in Palmira a faculty of agronomy.

The departmental universities have the following units: Antioquía: faculties of law, economic sciences, dentistry, medicine, pharmacy, chemical engineering, and educational sciences, and a school of nursing; del Atlántico, faculties of chemical engineering, chemistry and pharmacy, law, economic sciences, and architecture, and a higher school of language; del Cauca, faculties of law, and civil engineering with electronics (telecommunications) projected, and institute of economics and statistics, and a school of trades; of Cartagena, faculties of medicine, dentistry, chemistry and pharmacy, law, economics, and civil engineering, and a school of nursing; of Caldas, faculties of law, agronomy, medicine, veterinary medicine, and philosophy and letters, and a department of languages; of Nariño, faculty of law; del Tolima, a faculty of agronomy and a school of fine arts; del Valle, faculties of architecture, electrical-mechanical engineering, chemical engineering, medicine, and economic sciences, and a school of nursing, and courses for topographers and medical laboratory technicians. The Industrial University of Santander has six faculties of engineering, chemical, electrical,

mechanical, metallurgical, petroleum, and industrial. The District University of Francisco José de Caldas has faculties of electronic engineering and forestry engineering and schools of drawing and topography. The National Feminine Pedagogical University has faculties of philology and languages, psychology and educational sciences, biological and chemical sciences, social and economic sciences, and mathematics and physics. The Pedagogical University of Columbia has faculties of educational sciences, social sciences, philology and languages, chemistry and biology, and mathematics and physics.

Of the eleven private universities, three are Roman Catholic institutions. Of these, the best known and largest is the Jesuit institution, the Pontifical Javeriana Catholic University at Bogotá, founded in 1622. It has three ecclesiastical faculties of theology, philosophy, and canon law **and six lay faculties** of economic and juridical sciences, philosophy and letters, medicine, dentistry, architecture, and civil engineering. It also has schools of industrial relations, journalism and radiobroadcasting, bacteriology, art and interior decorating, nursing, and dietetics; an institute of international relations; and courses in labor law, courses for **workers**, and vacation courses.

The Pontifical Bolivarian University, established at Medellín in 1936, has faculties of chemical, electrical, and mechanical engineering, architecture and city planning, law and political sciences, philosophy and letters, educational sciences and mathematics and physics, and social service, and a school of art and interior decoration.

The Colegio Mayor de Nuestra Señora del Rosario, founded at Bogotá in 1653, has university work in faculties of jurisprudence and economics.

The Externado de Colombia, founded in 1886, at Bogotá, is a private faculty of law.

The University of La Gran Colombia, founded at Bogotá in 1951, has faculties of law, architecture, economics, and civil engineering, and a specialized course in labor law.

The University Libre founded in 1923, with headquarters and a faculty of law in Bogotá, also has a branch in Barranquilla for instruction in law.

The University of Medellín, also a private institution, founded in 1950, has faculties of law, industrial economy, and administrative sciences in that city.

The University Foundation of America, founded at Bogotá in 1952, has faculties of architecture, economic sciences, and five faculties of engineering, civil, electrical, mechanical, chemical, and petroleum. It also has schools of architectural drawing, topography, and journalism and advertising.

The Jorge Tadeo Lozano University Foundation of Bogotá, founded in 1954, has faculties of economics, natural resources, and geography; a school of art, interior decoration, and advertising; a school for bi-lingual secretaries; a school for translators; and a specialized course in international politics, history, and diplomacy; another in poultry husbandry and farm management; and a third in business administration.

The University of Los Andes, founded at Bogotá in 1948, has attracted wide attention by its cooperative-study arrangement in engineering with United States institutions, its student-faculty relations, and its general program. It has faculties of architecture, economics, engineering, philosophy, and letters, and sciences. It has a pre-medical course and schools of bacteriology and fine arts.

### Venezuela

The Central University of Venezuela at Caracas (1725), and the University of Los Andes in Mérida (1810), were the only universities in the country before 1946. In the latter year the state University del Zulia was established at Maracaibo. In 1958 two other state universities were authorized, that of Carabobo at Valencia and that of Oriente with its headquarters in Cumaná.

In addition to these five official universities, there is the Andrés Bello Catholic University founded at Caracas in 1953 and the private non-sectarian Santa María University founded at Caracas in 1955.



The Central University has the eleven faculties of agronomy, architecture and city planning, sciences, law, economics, medicine, pharmacy, dentistry, veterinary medicine, engineering, and humanities and education; research institutes connected with many faculties; and a cultural extension division.

The University of Los Andes has the eight faculties of law, humanities, medicine, dentistry, pharmacy with a school of bio-analysis, civil engineering, forestry engineering, and economics. Its department of cultural extension has related schools of plastic arts, dance, and music.

The University del Zulia, has the seven faculties of agronomy, law, economics, humanities, engineering, medicine, and dentistry.

The University of Carabobo has faculties of law, engineering and medicine.

The University of Oriente, just being organized in 1960, has schools of biology, chemistry, agricultural engineering, geological engineering, mining engineering, petroleum engineering, medicine, and education. In the five states of its regions it plans an institute of meteorological research in Nueva Esparta, an oceanographic institute in Sucre, an institute of electro-mechanical research in Anzoátegui, an institute of agricultural research and an institute of geology and petroleum in Monagas, and institutes of medical research, mining, and metallurgy in Bolívar.

The Andrés Bello Catholic University has faculties of law, economics, pharmacy, engineering, and humanities and education.

The Santa María University has faculties of law, economics, pharmacy, and engineering.

### Panamá

The University of Panamá was established in 1935 on the foundation of an earlier secondary school. It was originally designed by its founder and first rector, Octavio Méndez Pereira, as an international university, but it is now a national institution. It has faculties of business and public administration;

natural sciences and pharmacy; law and political sciences; philosophy, letters, and education; engineering and architecture, and medicina. It has also a summer school.

d. Dominican Republic, Haiti and Cuba

Dominican Republic

The country has the University of Santo Domingo (1538), which at present offers instruction in the eight faculties of agronomy and veterinary science, economic sciences, law, pharmacy and chemical sciences, philosophy, engineering and architecture, medicine, and dentistry. It also has various research institute including one in comparative American legislation.

Haiti

This country, because of its history, its location, and its organization is listed in the Spanish-American section in spite of its being the only French-speaking country of Latin America.

The University of Haiti was founded in 1944 in Port-au-Prince. It has faculties of dentistry, law, and medicine (including pharmacy and obstetrics). It has a school of surveying, and the National School of Agriculture, the Higher Normal School, and the Polytechnic School of Haiti.

Cuba

The University of Havana (1728) was the only higher educational institution of the country before 1946 when the Catholic University of Santo Tomás de Villanueva was founded at Havana. The founding of state universities followed with the Marta Abreu Central University of Las Villas at Santa Clara and the University of Oriente at Santiago, both founded in 1949. The Rafael Morales y González University of Occidente founded at Pinar del Río in 1954, and the Ignacio Agramonte University at Camagüey in 1954.

The José Martí National Masonic University, a private foundation, was begun at Havana in 1954.

The University of Havana has faculties in architecture,

sciences, commercial sciences, social sciences and public law, law, education, pharmacy, philosophy and letters, engineering, agricultural engineering, and sugar production, medicine, veterinary medicine and dentistry.

The Catholic University has faculties of commercial sciences, law, philosophy and letters, and education, and schools of architecture, economics, and pharmacy.

The Central University of Las Villas has faculties of commercial sciences, sciences and engineering, and humanities and education.

The University of Oriente gives work in faculties of economic and commercial sciences, law and social sciences, education, philosophy and sciences, and engineering.

The University of Occidente has only a faculty of education.

The University at Camagüey has faculties of agronomy, commercial sciences, and education, and schools of applied arts, social service, social works, and technology.

The National Masonic University has faculties of domestic science and arts, economic sciences, juridical and social sciences, education, pharmacy, philosophy and letters, engineering and sciences, music, and psychology.

e. Costa Rica, Nicaragua, Honduras, El Salvador and Guatemala

Costa Rica

The University of Costa Rica was founded in 1843 and began instruction in 1844. Although it was started by liberal and democratic elements, it continued in its organization and methods of teaching following the old colonial patterns.

In 1874, a secondary school called the Instituto Nacional, was established by law to improve secondary instruction, a job which up to that time was carried on by the University. The Instituto gave instruction in many subjects that would normally be taught at the University level, including agriculture, business law, chemistry, and geology.

In 1883 the law founding the Instituto Nacional was repealed, and in 1887 a new secondary school under the direction of the University was set up.

In 1885 a Fundamental Law of Public Education established professional and university education as the integral final rank in the educational ladder. University instruction was defined as including faculties of philosophy, laws, mathematics and engineering, and medicine and surgery. Of these, only law was regularly taught at the University.

In 1888 the University was abolished by law because it had not organized the required faculties, because the current conditions in the country did not favor the organization of a purely scientific research center, because the university was not organized to do its job, because new legislation was needed, and because the School of Law could give all the instruction that the students wanted.

The University was re-established in 1890, but the School of Law continued to be the only one that functioned. In 1897 independent schools of pharmacy and of fine arts were set up, in 1914 one of education, and in 1926 one of agriculture.

In 1940 the present University of Costa Rica was created and began operating in 1941 with the eight faculties of agriculture, fine arts, sciences, law, medicine, pharmacy, philosophy and letters, engineering, and education. Dentistry was added in 1942 and economic and social sciences in 1943. Microbiology and social service now also have faculties.

### Nicaragua

Between 1821 and 1869 the University of León, operated irregularly, supported by its own funds and independent of public control. It had some distinguished graduates including the founders of the Universities of Honduras and Costa Rica, but it had to struggle against political disturbances almost continually.

During the years 1869-1888, the University was closed, because the government had expropriated its property.

The University was revived by President Evaristo Carazo's



administration and divided into three sections located at León, Granada, and Managua, getting along with small government aid, without its own funds which the government never returned.

In 1947 the old University of León became the National University.

The present faculties of the University are those of medical sciences, juridical and social sciences, pharmacy and chemistry, physical sciences and mathematics, dentistry, economics, and educational sciences.

### Honduras

The University of Honduras has the distinction of having been founded by a literary association, the Society of the Progressive Spirit, and of Good Taste, founded in 1845 by followers of the priest, José Trinidad Reyes, graduate of the University of León in Nicaragua. The society elected Father Reyes rector of their organization and proceeded to give instruction in philosophy and Latin grammar. In 1846, with support from the City of Tegucigalpa, the society became the Literary Academy of Tegucigalpa. In 1847 the academy was raised to university status by decree of President Juan Lindo.

By 1881 the university had faculties of jurisprudence and political sciences, medicine and surgery, and sciences.

There were two other higher educational institutions founded in the country, the University of Occidente, set up at Santa Rosa de Copán in 1877 and suppressed in 1884; and the School of Law established in 1892 at Comayagua and abolished in 1904.

The University Statutes of 1853 provided for six faculties: juridical and social sciences, medicine and surgery, dentistry, physical sciences and mathematics, chemistry and pharmacy, and economic sciences. At present the university has an additional faculty of economic sciences as a branch enterprise at San Pedro Sula.

### El Salvador

The University of El Salvador was founded in 1841, in large

part by the efforts of a native Honduras, Juan de Lindo Zelaya, popularly known as Juan Lindo, who was Salvadorean chief of state at that time.

A secondary school, the Colegio de la Asunción, was founded at the same time to prepare students for university entrance, and for two years, only the Colegio was in operation. In 1843 the university began instruction in philosophy, including logic, ethics, mathematics, and physics. In 1847 faculties of medicine and of law were added to the program. In 1850 chairs of French and chemistry were established.

After the earthquake of 1854 which destroyed San Salvador, the University was moved temporarily to San Vicente. At that time it had the following sections: natural sciences (medicine and pharmacy); moral and political sciences (law); ecclesiastical sciences (theology); and letters and arts (engineering and philosophy).

The civil conflict that began in 1858 caused the university to be closed at various times, and various courses, including those in medicine in 1864, were suppressed. In 1865, however, the university had faculties of law, surveying and engineering, medicine and pharmacy, theology, and sciences and letters.

From 1873 to 1889 a series of political conflicts impeded the progress of the university. In 1880 the faculties of theology and of sciences and letters were abolished, but in the same year a separate faculty of pharmacy was set up. In 1885 a school of dentistry was established.

During the regime of Carlos Ezeta, 1890-94, the rectorate of the university was abolished and the university faculties were made independent entities, thus dissolving the university.

The university was re-established in 1907 by efforts of its professors. In 1913, new statutes for the university made cultural extension, service to the nation, and historical research important functions of the institution.

Since 1927, when the university definitely regained its autonomy, its progress has been considerable. Today it has faculties

of chemical sciences, economics, humanities, engineering and architecture, jurisprudence and social sciences, and medicine. Since 1950 its Tropical Institute of Scientific Research has been active in studying the country's natural resources.

### Guatemala

The National and Autonomous University of San Carlos in Guatemala (1676) is the parent institution of Central American universities. During the colonial period it educated many important leaders of the Central American states.

Until 1944 the university was directly subordinate to the presidents through their ministries of education. On the Napoleonic model, it was merely the capstone of a national school system.

In 1944, the revolutionary junta, which had just taken over the government, gave the university autonomy, re-establishing its historic name and its control over its own income.

The present faculties of the university include: a) juridical and social sciences, established in 1875, and since 1956 having a department of international law studies and since 1954 a legal-aid program for needy clients; b) medical sciences, established in its present five-year program in 1875; c) chemical sciences and pharmacy, established as independent of the faculty of medicine in 1818 and taking its present name in 1947; d) dentistry, beginning as an institute in the School of Medicine in 1895, and becoming an independent faculty in 1940; e) engineering, in 1879 a school and since 1922 an independent faculty; f) humanities, founded in 1945, with the related Central American School of Journalism, founded in 1952; and agronomy, founded in 1950. Faculties of architecture and economic sciences are also in service. The University has operated its own press since 1945.

### Mexico

The conquest of Mexico may be considered from two angles: first, a warlike conquest which ostensibly ended in 1521; and, second, a spiritual conquest which was prolonged for three centuries. Mexico gained her political independence from Spain in 1821.

The spiritual conquest was the work in considerable measure of education. The first educational task of the conquerors had an evangelistic character but very soon the Franciscan Order, which constituted the vanguard of this crusade, also recognized the need of giving education a practical character.

Preferential attention given to the Indians in education was already in the sixteenth Century being directed toward other ethnic groups, creating to that effect educational institutions for the "mestizos" and the creoles.

A clear and successful intention to give higher education in New Spain occurred beginning in 1536. Already in that year the Emperor Carlos V was asked to help initiate these studies. As a result of this effort, united to the growing desire to study each time with a greater dedication the humanities on the new continent, was the foundation of the Colegio de Santa Cruz de Tlaltemolco, the first higher education institution created in America.

As is understandable the higher level of tertiary education in this College had to be preceded by the study of humanities on the classical level of secondary education with its manifest dedication to the learning of the Latin language.

In time the College of Santa Cruz de Tlaltemolco increased the studies. It began to teach legislation, indigenous medicine, music and theology. In this respect the college had a great and prolonged influence. Very distinguished students came out of its halls who began teaching humanities in the convents.

It can be said that the College of Santa Cruz de Tlaltemolco reached the goals for which it was created: it succeeded in turning a vigorous current in favor of humanities and generally in favor of higher education thus encouraging the establishment of other institutions of higher academic standing.

In effect the Emperor Carlos V by decrees signed in Toro in 1551 ordered the foundation of the University of Mexico giving it the rights enjoyed by Salamanca in Spain.

The Apostolic See on petition of the king confirmed in 1555 the foundation and privileges and granted the kings of Spain



patronage as founders of the University, and later gave it the title of Pontifical.

The supreme authority of the University rested in the Claustro, composed of the Rector, the rector of the program and the full professors (catedráticos). Later, by order of Felipe II, the royal supervisors (oidores) were added to the Claustro. According to testimony of Cervantes de Salazar and Cristóbal de la Plaza y Jaen, the chairs were conferred on distinguished men. In the beginning, the chairs were for philosophy, grammar, rhetoric, canon law, decrees, and theology. Later those of medicine, the Mexican language and otomi were founded. The method of teaching in the university was the scholastic, whose point of departure was a classical text. The degrees of bachelor, licenciado o master and doctor were granted.

The Royal Pontifical University of Mexico was, in the colonial epoch, the center of ideological coordination and the institution which prepared the younger generations who were later to be the directors of the political and social life of the country. It had a centralizing effect. Actually it not only possessed the right of recognizing the validity of the studies of all the teaching institutions of New Spain but also had supervisory functions, in spite of some resistance. The Royal and Pontifical University exercised its authority over not less than twelve institutions of higher education, (including universities and colleges) up to the 17th century.

The influence of the Royal Pontifical University of Mexico was distinguished and fruitful. It can be said, that, thanks in large parte to the University Science, philosophy and literature, which were greatly esteemed during the sixteenth century in Spain, were fully recognized and in some ways more developed in these lands.

The University succeeded in shaping and consolidating the profile of New Spain's intellectual life, with peculiar and distinct characteristics. In it were developed scholars, theologians, philosophers and poets, whose glory passed the frontiers of New Spain.

By the end of the eighteenth century according to García Icazbalceta one thousand one hundred and sixty doctors and twenty nine thousand eight hundred and eighty two bachelors had been graduated in various fields of study. The well acquired fame of the University had come to be recognized in the entire world.

Giving the feudal organization of the colony, the students of the University came in general from the upper classes keeping in this way young men of high intellectual capacity who lacked sufficient economic resources from having an opportunity for higher instruction and research.

In favor of the creoles of superior talent who, for various reasons found themselves at a time in their academic lives without money to pursue their studies, there was established in the second half of the sixteenth century a higher College, the Colegio Mayor de Todos Santos, modelled after the Colegio Mayor de Santa Cruz en Valladolid, Spain. The institution admitted its scholars and supply all their needs. The examinations for obtaining these scholarships were very difficult.

During the seventeenth century educational life in Mexico showed no significant innovations. The institutions created in the sixteenth century were only strengthened in large part. The eighteenth century on the other hand offers a different picture: an important campaign was undertaken for teaching Spanish to the aborigens; praiseworthy social institutions of educational character were founded; higher education was brought up to date and the first lay establishments were founded, thus beginning the secularization of education in the new world and starting a new stage in our history of education.

Three institutions, all of them important, were not created under clerical patronage but under private or State control; the Colegio de las Vizcainas, a girls' school (1767), the Academy of Fine Arts of San Carlos of New Spain (1781), and the School of Mining (1783).

Also, within the bosom itself of institutions created and sustained by the clergy, there developed toward the end of the

18th century an increasing movement of intellectual independence. The most distinguished philosophers of the Society of Jesus: José Rafael Campoy, 1723-1777; Andrés de Guevara, 1748-1800; Diego Abad, 1737-1779; Francisco Javier Alegre, 1729-1788; and, above all, Francisco Javier Clavijero, 1731-1787, promoted a modernization of studies. To repair the notorious deficiencies of the University, all the Jesuit colleges of New Spain began to intensify the studies of mathematics, geography, history, Greek, and modern languages, and renew the courses in philosophy.

But it was the priest, José Antonio Alzate (1729-1790), physicist, astronomer and naturalist, who most stimulated scientific instruction and research in the latter part of the 18th century. His Gaceta de Literatura, published for many years, was converted into a source of information on the inventions and progress of European sciences.

Following the example of Alzate other writers set themselves the arduous and fruitful task of publishing in periodical form various notices concerning the advance of the sciences and the arts up to that time. Alongside father Alzate José Ignacio Bartolache was distinguished in this enterprise. The most important periodical journal of this man of science was his Mercurio Volante which was published from October, 1772 to February 1773, sixteen numbers. The topics with which it was concerned were varied: news and comments on natural history, astronomy, literature, all in the service of the reform of studies and ideas; a reform and studies which were going to contribute "the greater profit and welfare of the State". With this purpose and with such resources Bartolache tried to inform the people of New Spain.

After the independence of Mexico (in 1821), education here took a new turn. Teaching was taken out of the hands of the clergy and educational tasks were organized and coordinated by the government. This came about principally from the legislature work (in 1833) of Valentín Gómez Farías (1781-1858). The University was suppressed and in its place the following establishments were created: first, that of Preparatory Studies; second, that of

Ideological and Humanistic Studies; third, that of Physical Sciences and Mathematics; fourth, that of Medical Sciences; fifth, that of Jurisprudence; and sixth, that of Ecclesiastical Sciences; furthermore, the organization of the National Library and the National Theater was prescribed; and the Conservatory of Mexican Antiquities and the Office of Natural History were converted into the Mexican Museum and so forth.

The University was suppressed by the Government for being useless, unimprovable, and pernicious but it was soon reestablished in 1834 as a result of a temporary triumph of the Conservative Party. However, the University dragged out its precarious existence until the year 1857. By decree of September, 14 of that year, President Comonfort again suppressed it. But once more on May, 5, 1858 Zuloaga rescinded the previous decree as soon as the Conservative Power regained power.

Once more its extinction was ordered in 1861, under the Presidency of Benito Juárez, but still again it was re-established during the French intervention. The final extinction of the University took effect in the year 1865 by order of the Emperor Maximilian. Following the plan of Gómez Farías, different educational institutions on the middle and higher levels were instituted to meet the needs left unattended by the abolishment of the University. Thus, during this turbulent epoch the school of agriculture and veterinary science was definitely reorganized in 1853, and that of commerce and administration in 1854.

In the last third of the nineteenth century professional education was reformed in the country. New careers were created (as that of electrical engineering). A law in 1896 gave most complete opportunities for carrying this reform to a happy conclusion. At that time Don Joaquín Baranda was Minister of Justice and Public Instruction. The changes succeeded in reorganizing higher education, improving to a large extent the preparation of professionals, and emphasizing the absence of an internal academic unity within the existing higher schools. All this led Justo Sierra (named Minister of Instruction and Fine Arts in 1905) to re-establish the University in September, 1910; but first the National School of Advanced



Studies was created in April of that year. This creation marked the first institution in Mexico designed specifically to cultivate science on the highest levels and to promote for that purpose methodically research in all its branches. The objectives of the National School of Advanced Studies, said the Constituent Law (Art. 2): were to upgrade, specializing them and raising them to a higher level studies which on low levels were pursued in the National Preparatory Schools of Jurisprudence, Medicine, Engineering and Fine Arts, or related subjects; to furnish its students and professors with the means to achieve methodically scientific investigation which served to enrich human knowledge; and to prepare secondary schools teachers and professionals.

The National University was formed by bringing together the National Preparatory Schools of Jurisprudence, Medicine, Engineering and Fine Arts (including the teaching of Architecture) and Advanced Studies.

With the re-establishment of the National University higher education in Mexico reached, without doubt, a fruitful stage. Within the revolutionary movement began in 1910, there took effect on this educational level important events which gave place to new institutions.

University life during the first decade of the revolution was hazardous, as in all the educational institutions of the Republic during that period. Nevertheless the revolutionary governments were concerned with the University education, notwithstanding their instability and the economic penury which was felt throughout the country, as the armed struggle continued. This is confirmed, among other facts, by the circumstance that in 1929, the year in which it was given University autonomy, the National Autonomous University of Mexico already was composed of the following institutions: Faculty of Philosophy and Letters; Faculty of Law and Social Sciences; Faculty of Medicine; Faculty of Engineering; Faculty of Dentistry; Faculty of Sciences and Chemical Industries; Faculty of Commerce and Administration; Faculty of Architecture; Faculty of Music; Faculty of Veterinary Medicine; Higher Normal Schools; Preparatory School; School of Physical

Education; Central School of Plastic Arts; Summer School; National Library; Institute of Social Research; Institute of Biology; Institute of Geology; Astronomical Observatory.

The University tradition in the States of the Republic has been strengthened in the course of later years. The stage of armed movement of the revolution ending around 1921, the provinces returned to their traditional academic activities.

At present, 1960, the following provincial universities, are existent: Guadalajara, Michoacán, Sonora, Sinaloa, Puebla, San Luis Potosí, Guanajuato, Nuevo León, Yucatán, Veracruz, Oaxaca, Morelos, Estado de México, Querétaro, Coahuila, Chihuahua, Tabasco, Baja California, Campeche, Colima, Tamaulipas, Durango y Guerrero.

The National Autonomous University of Mexico is the center of university life, situated in the capital of the Republic in a university city, beautiful, functional, majestic, testimonial of the advances and the new efforts of academic life in the country. Oriented toward the intellectual culture in Mexico, the University is largely concerned with the tasks of creative research.

Another comparable effect, decisive and fruitful in the development of higher education in the Republic, is the advancement of higher technical education. In effect, in 1932 technical education was seriously reorganized giving it the structure of a polytechnic institution. It signified a new way of understanding this kind of education, as it wished on one hand to have the studies arranged in cycles which although differentiated conformed to an idea of relationships, and on the other hand came to intensify and multiply the higher institutions of technical education. The keystone of the new organization was that called the Preparatory Technical School. From this school came students selected for the schools of Advanced technical studies. Of these, since 1932, were established the two following: The Higher School of Mechanical and Electrical Engineering, already of honorable tradition and the Higher School of Construction.

In 1937 one more stage was reached. The National Polytechnic Institute was founded under the Secretariat of Education and Fine Arts. In this institution are gathered together, one might

say, all the attempts which up to now have had good success in the field of technical education.

### The Aims of the Modern Spanish-American University

It is clear from a survey of the rapidly growing higher educational movement in Latin America that the three major objectives of the modern university are being vigorously pursued.

#### a. The Teaching Objective

In the area of professional training the universities have been strengthening their instruction for the traditional liberal professions. In engineering they have added specializations such as electrical (including electronics), petroleum, mechanical, chemical, industrial, aeronautical, mining, forestry, construction, plastics, agricultural, topographical, and communications engineering. In medicine they have increased provisions for clinical instruction and hospital internships. In law, programs in comparative law and international law have been established in various institutions.

Training for the newer professions has been raised to university status. In agriculture, animal husbandry, veterinary medicine, nursing, obstetrics, social work, pharmacy, journalism, business, accounting, dentistry, and education, university preparation is coming to be regarded as fundamental.

In such newer fields as domestic science, interior decorating, the plastic arts, drama, and the dance, schools and faculties have been established to train professional specialists and teachers.

Until recently in many countries the faculty of law was the main school for general university education. That faculty gave some of the instruction which in the United States was in the province of the liberal arts college. At present, however, the faculties of philosophy and letters, humanities and arts, or simply philosophy, as they are variously called, are moving into the general education field, both in furnishing basic courses for the professional faculties, and in a few institutions as the University

of Costa Rica, the University of Los Andes in Bogotá, the Central University of Ecuador, and the National University of Huamanga in Peru, general courses designed for all students. At Costa Rica, for example, a general course in 1958 dealt with the Methodology of Thinking, in 1959 with Political Wisdom, and in 1960 with the History of Philosophy.

There is strong opposition to this trend, however, in many well-entrenched faculties. The faculty of juridical and social sciences prefers to teach its own basic courses in history, the faculty of medicine trusts no other faculty in the teaching of biology, and the engineering faculty wants mathematical and physics taught by professors of engineering. There are still very important universities in Spanish America that do not have a faculty of philosophy.

In general, the teaching objective remains primarily the training of members of professions in their respective faculties.

#### b. The Objective of Scientific Research

There are very few universities in Spanish America that do not now have research institutes, particularly in the medical and engineering fields. The more advanced the country in health, industry and general welfare, the more money it commonly spends on research.

Some of the most significant research programs are related directly to regional and national problems. This is particularly true in some of the youngest universities in the hemisphere. The University of Oriente, in Venezuela, for example, began instruction in 1960, but had already been planning its Oceanographic Institute, since 1954 with financial support from the Venezuelan Foundation for the Advancement of Science. As there were no Venezuelan scientists available in this field, graduate scholarships were given to young Venezuelan scholars for as much as three years of study in internationally famous centers of oceanographic research in the United States, France, England, Sweden, and Denmark. As a result, the present director of the Institute, has his doctorate from the University of Paris in oceanographic physics; the assistant director



has a master's degree in ichthyology from the University of Miami and the specialist in zooplankton has a master's degree from the University of California. Other specialists are being added now they finish their graduate studies. They are concentrating on physical, chemical, geological, and biological problems of the gulf of Cariaco and particularly of the fishing industry in those waters. The new institute is being advised by a specialist in phytoplankton from the University of Munich; a specialist in waves, currents and tides from the University of Oslo and the Oceanographic Institute of Bergen; a specialist in marine biology from Cornell University; a marine biology station director from New Brunswick; an oceanographic chemist from the faculty of sciences of the University of Paris; and a fishing expert from Chile.

The University of Oriente's financial investment in this research project is obviously insignificant in comparison with the probable annual advantages to the fishing port of Cumaná alone.

The vision of what university research can do for a region, a country, an industry, and for human society has to be developed and planned for, and in most universities this job is being done with increased skill and vigor.

#### c. The Objective of Service

The Spanish-American Universities are accepting and developing this aim in accord with their countries stages of development.

In some countries, which are more advanced in agriculture, industry, and commerce, the extension services of the universities are already well developed. In general cultural extension, lectures open to the public, art exhibits, university theater productions, programs of music and dance groups are common features of the service. Short courses in farm management, poultry husbandry, labor legislation, family living, and in technical occupations are organized.

The most significant service programs, however, seem to be derived from research projects devoted to the problems of a particular profession or region. The agricultural experiment stations,

for farmers and the demonstration schools for teachers and school administrators are examples of agencies used to disseminate to the community the results of university researches.

Some international agencies have cooperated in establishing service projects, as for example the Regional Center of Fundamental Education for Latin America which has functioned in Pátzcuaro, Mexico, since 1951 under the joint auspices of Unesco and the Mexican government.

In a few cases private organizations have been responsible for the service. Since 1952, for instance, central banks and affiliated institutions of the American continent have cooperated with the Economic Commission for Latin America and other national and international agencies to support the Center of Latin-American Monetary Studies in Mexico City.

The Latin-American Regional Center of Mathematics in the University of Buenos Aires, under the patronage of UNESCO, the Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica, sponsored by the Organization of American States; the Central American Higher School of Public Administration in San José, Costa Rica, under the patronage of the five Central American republics and the United Nations; the Latin-American Faculty of Social Sciences in Santiago, Chile, under UNESCO and the Chilean government; the Latin-American Center for the Training of Specialists in Education, also in Santiago, Chile, under the patronage of UNESCO and the University of Chile; and the Inter-American Center of House Planning and Building in Bogotá, Colombia, sponsored by the Organization of American States are some examples of combinations of research and service under international auspices in Spanish America.

#### d. Conclusion

In summary, it may be observed that the aims of higher education in Spanish America are the same as in Portuguese America, the United States, or Western Europe; teaching, research, and service, with increased emphasis on research and service as the countries have more resources, financial and personal, devoted to

higher education. A country on the first level of development trains members of the standard liberal professions in the University and pays little attention to research or service activities. On the second level, it begins to develop training programs for other specialists required by the country. This turns the university's attention to the research and service needs of the country. On the third level teaching and research are more intimately related. Professors begin to conduct more researches themselves and use the findings of research in their instruction. At the same time they begin in service activities to recognize research problems in their regions, countries, related industries, and professions. They combine teaching with service and research by involving their students in both activities. On the fourth and fifth levels this process of interrelationship among the three university objectives is increased and refined. The extent and quality of involvement of students, professors, and members of the community in all three aims constitute a test of the university's achievement.

## VI. Historical Sketch of Higher Education in Brazil

### 1<sup>st</sup> Phase (1500-1808)

1. Brazil did not have institutions of a university nature during the colonial period. The Portuguese Government left education almost completely in the hands of the Society of Jesus. The Jesuit educational organization included, besides the catechetical schools, the preparatory colleges and the colleges, which developed fully reaching during the 17th century the number of eleven and rising to seventeen at the time the Jesuits were expelled in 1759.

Instruction in those establishments comprised the course in humane letters, divided with the three classes of grammar, humanities, and rhetoric, expanding in some schools into courses in arts (philosophy and sciences) followed by the course in theology and ecclesiastical learning.

In the College of Bahia, the most important of all, were already granted from 1575, 1576 and 1578 respectively - the degrees of bachelor of arts, of licentiates, and that of master of arts.

At the end of this course, two alternatives were offered; that of the course in theology and ecclesiastical learning, which led to church careers, allotted by the jesuits in the College of Bahia and in that of Rio de Janeiro, to the main seminaries, and that of the courses in canon law, civil law, and medicine which could only be taken in European universities.

The scholastic organization founded by the Jesuits had a higher level, nevertheless, to the extent that in 1675 the chamber of Salvador had already obtained for students of philosophy and rhetoric of the College of Bahia, in the universities of Portugal, acceptance of the studies in arts carried on in Brazil on the same basis as those pursued by the students of the Colleges of Lisboa. The University of Coimbra accepted young people from Brazil who had pursued university studies there. It is estimated that between 1577 and 1822 about two thousand five hundred young men born in Brazil took courses at the University of Coimbra.

## 2<sup>nd</sup> Phase (1808-1889)

2. The moving of the Portuguese Royal Family to Brazil, as a result of the occupation of the Kingdom by the troops of Napoleon, inaugurated a new phase of the evolution of higher education in Brazil, with the creation of the first professional institutions of higher education.

The royal charter of February 18, 1808, dates from the arrival of Prince João, at Bahia, creating courses in anatomy, surgery and obstetrics. In Rio de Janeiro, were installed successively, instruction in anatomy, April 2, 1808; in surgery, November 5 of the same year; medicine, clinical, theoretical, and practical, and principles of materia-medica and pharmaceutics, April 12, 1809. There were also set up at the same time, the chair of economics, on recommendation of José da Silva Lisboa, the course in agriculture in 1812, that of mechanical drawing in 1818, all in Bahia. In Rio de Janeiro were also created the Naval Academy (1808), and the Royal Military Academy (1810) for defense needs, the course in agriculture (1814), and the Royal Academy of Painting, Sculpture, and Architecture (1816), transformed into the Academy of Arts in 1820.



20.

Institutions of cultural importance were established as well, as the Royal Press, the Botanical Garden, and the Library.

3. The proclamation of Independence (1822) tended to resolve the interest of Brazilians in the institution of the university. In a constitutional provision presented in the session of September, 1823, by José Bonifácio, Antonio Carlos Araujo Lima, and others, it was stated in article 250 that "there shall be in the Empire primary schools in each region, secondary schools in each judicial district, and universities in the most appropriate places".

The Constitution, as finally approved, limited itself, however, to a general reference to colleges and universities, where elementary sciences, fine arts, and letters, were to be taught. By the Law of August 11, 1827, courses in juridical and social sciences were set up in Olinda (Pernambuco) and in São Paulo.

4. The Amendment to the Constitution of the Empire in 1834, which initiated a policy of decentralization in the administration of the country, made it a function of the Provincial Assemblies to "legislate on public instruction and the establishments needed to promote it, not including Faculties of Medicine, Law courses, academies already existing or any other educational institutions which in the future may be created by general law". (article 10, paragraph 2). The Central government thus reserved the right to legislate in the field of higher education. The higher educational system, at the end of the Empire, included:

I - Faculty of Law of São Paulo, which had been developed from the old course of juridical and social sciences by the Decree number 1386 of April 28, 1854.

II - Faculty of Law of Recife, also a result of a change in 1854 of the old course of juridical and social sciences of Olinda which in the same year was moved to Recife.

III - Faculty of Medicine of Bahia, developed from the School of Surgery, created by Royal Charter, February 18, 1808, became Medical Surgical Academy, by royal charter December 29, 1815, and received its new name by decree on October 3, 1832.

IV - Faculty of Medicine of Rio de Janeiro developed from the courses created by Prince João, which were transformed in

1813 into the Medical-Surgical Academy, converted to its present name by decree October 3, 1832.

V - Polytechnical School of Rio de Janeiro, which had its origin in the Royal Military Academy of 1810, changed in 1839 into the Military School, to undergo in 1842 a full reorganization when its program of study was extended definitely to include civil engineering. In 1854 the so-called Central School with courses in mathematics and physical and natural sciences and civil engineering, also attended by military men, continued as a school subordinate to the Ministry of War. The new-name- Polytechnical School- by decree 5600 of April 25, 1874 provided for complete separation of civil and military education, with the creation of the following courses: general course; course in physical and natural science; course in physical sciences and mathematics; course in civil engineering, course in mining engineering; and course in trades and manufacturing.

VI - School of Mines of Ouro Preto, created by Decree n<sup>o</sup> 6026, November 6, 1875, and installed October 12, 1876, was organized by the French scientist, Henri Gorceix, who modelled it after the School of Mines at St. Etienne in France.

In the last Speech from the throne (1889) the Emperor returned to the idea of the university, suggesting the creation of two universities, one in the south and the other in the north, "which would constitute centers of high scientific and literary organization whence would come the harmonious and vigorous impulse wick education so much lacks" and asked also for the "foundation of Faculties of Sciences and of Letters, in some provinces which would be related to the university system, freely and firmly based on primary and secondary education".

### 3<sup>rd</sup> Phase (1889-1930)

5. With the proclamation of the Republic (1889) and with the adoption of the First Federal Constitution higher education was continued as a function, though not exclusive of the Federal Government. The Constitution of 1891 provided that the Federal Congress, although not exclusively, should create institutions of

higher and secondary education in the States (art. 35, § 3).

The first decade of the Republic saw a vigorous growth of higher schools, by private initiative, as the Faculties of Law of Bahia, of Rio, and of Minas, the Schools of Engineering of Recife and Mackenzie (São Paulo), the Polytechnics of São Paulo and of Bahia, and the Faculty of Medicine of Porto Alegre.

The Carlos Maximiliano Reform, decree nº 11.530, of March 18, 1915, authorized the Federal Government "when it would be considered opportune" to bring together in a University the Polytechnical School and that of Medicine, incorporating into the same one of the private Faculties of Law. On this authority, decree nº 14.343 of September 7, 1920 created the University of Rio de Janeiro, comprised of the Faculty of Medicine, the private Faculty of Law, and the Polytechnical School. In the states, seven years later, the University of Minas Gerais was set up on the initiative of Mendes Pimentel, by decree of the State government, September 7, 1927, grouping together the Faculties of Law, Medicine, and Engineering.

These are the first Brazilian universities, made by putting distinct professional schools together. Public opinion, moreover, continued to grow in recognizing the importance of giving a new structure to university organization, accentuating the gap represented by the absence of Faculties of Sciences, Philosophy and Letters. (Note the inquiry concerning education in the State of São Paulo, 1926, and that of the Brazilian Association of Education, 1928).

#### 4<sup>th</sup> Phase (1930 to the present)

7. The Revolution of 1930 opened new horizons to higher education in the country. By decree nº 19.402, November 14, 1930 the Ministry of Education and Health was created and immediately by decree nº 19.781, April 11, 1931, promulgated the Statute of Brazilian Universities. This statute provided that universities be set up by the incorporation of at least three establishments, of law, medicine, and engineering, or substituted for one of them by the Faculty of Education, Sciences, and Letters. This new school, to

quote the statement of motives of the Statute, "gives in vigorous manner, to the group of institutes organized into a University, a proper university character, permitting university life to transcend the limits of purely professional interests, achieving in all its aspects the high and authentic values of the culture which confer on the University the character and attributes which define it and give it individuality, that is, its universality". To this new establishment of higher level was assigned, besides the function of preparing research workers, the task of "teaching the disciplines needed for secondary school teaching as all its branches".

In the same epoch (March, 1932) appeared the "Manifest of the Pionners of the New Education", signed by 26 distinguished educators, formulating a new policy for educational reconstruction in the country, and which in higher education recommended the creation of Universities organized and equipped in such a manner that they could perform the triple function which is essential to them, to elaborate or create knowledge, to transmit it and popularize it, and to serve, moreover, with its various institutes:

- a. Scientific research and free and unprejudiced learning;
- b. The training of teachers for primary secondary and higher education (unity in the preparation of educational personnel);
- c. The training of members of all learned professions;
- d. Scientific, literary, and artistic propularization and dissemination by all means of university extension.

8. The structure envisioned in the Statute of Brazilian Universities, emphasizing the Faculty of Philosophy, Sciences, and Letters, was established effectively with the foundation of the University of São Paulo by state decree nº 6.823, January 25, 1934, grouping already existing schools and instituting Faculties of Philosophy, Sciences, and Letters. The initial idea of the Organizing Committee for the University was to constitute the Faculty of Philosophy, Sciences, and Letters, as a central trunk where all students of the University would study their basic subjects, but the resistance of the traditional professional schools kept the idea from being carried out. Immediately the government of the Federal District by Decree nº 5,513, April 14, 1952, created



the University of the Federal District with five institutes- the School of Philosophy and Letters, the School of Sciences, the School of Economics and Law, the Institute of Arts, and the Institute of Education. Later by arrangement of the Federal Government with the municipality of the Federal District, the University of the Federal District was abolished, moving the School of Philosophy and Letters and the School of Sciences to the National Faculty of Philosophy (decree-law nº 1063, January 20, 1939), of the University of Brazil into which the old University of Rio de Janeiro had been transformed (Law nº 452, July 5, 1937).

9. The economic and social changes through which the country passed after 1930 and the needs of expert and semi-expert personnel for the new jobs required by industrial progress and the economic and social development caused an accelerated growth of secondary school study where registrants passed from 200,000 students in 1940 to more than a million in 1959, increasing the hordes of students who knocked on the doors of higher educational institutions. The development of higher education is in numbers also significant, from 19,000 matriculants in 1940 to 84,000 in 1959, and is characterized by the creation of new schools. The country already has 27 universities and 421 establishments of higher education. This expansion of higher learning shows various levels of efficiency, from the University of São Paulo, with 42 units and about 9,000 students, constituting a state system with schools in different cities and where the institution of full-time teaching in various units explains the high level of instruction and research, or the Technological Institute of Aeronautics, in São José dos Campos (São Paulo) installed in 1950 and modeled after the North American technological institutes, with students and professors on full time, with first-class equipment and buildings, down to little schools in cities of the interior which operate only at night with poor installations and an improvised teaching staff. The action of the Federal Government, in addition to the maintenance of the majority of the schools, has also, emphasized in recent years the activities of cooperative agencies, as the National Research Council (C.N.Pq.), responsible for the increase of scientific investigation in Brazil in recent years; the National Campaign for the Training

of Higher Level Personnel (CAPES), which is dedicated to the expansion of Brazilian areas of higher level personnel needed for the conduct of public and private enterprises which to the economic and social development of the country and which in the realm of higher education is promoting the creation and expansion of national centers of post-graduate training and is undertaking, with the cooperation of the Rockefeller Foundation, a program of further education for teaching staffs in the schools of medicine and finally, the Supervisory Commission on the Planning of Institutes (COSUPI), which carries out, in the field of higher education, the program of objectives of the present Government, aiming at the education of technologists, by means of the creation of Institutes of teaching, research, and development.

Recently the President of the Republic sent to the National Congress a bill for creating of the University of Brazilia, in the form of a foundation and organized on new bases, with the needed flexibility, comprised of a group of Central Institutes of Mathematics, Physics, Chemistry, Biology, Earth Sciences, Human Sciences, Letters, and Arts, for the teaching of fundamental research, to be followed by Faculties for professional training and applied research.

## VII. Objectives of Higher Education in Brazil

According to the terms of the bill currently being debated in the National Congress on the aims and foundations of the national education system, the objectives of higher education are the training and instruction of members of the learned professions, research, and the development of sciences, letters, and arts.

### Professional and Post-Graduate Preparation

Higher education in Brazil has consisted since its beginning of isolated educational institutions, designed to give professional training for the traditional liberal professions. Thus were established in the 19th century the Faculties of Medicine of Rio and Bahia for the education of physicians; the Faculties of Law of São Paulo and Recife which graduated bachelors of juridical

and social sciences; the Polytechnic School of Rio de Janeiro for the education of civil engineers; and the School of Mines of Ouro Preto for the education of mining engineers. In the cultural environment of the Empire, it was the Faculties of Medicine and above all the Faculties of Law which enjoyed a great growth.

From these latter came the men who were to be seated in the Legislative Assemblies, in high administrative posts, in the direction of provinces, in the magistracies, but also those who were going to distinguish themselves in letters, in journalism, in philosophy, and the like.

In the first thirty years of the present century, the expansion of the establishments of higher education continued to be characterized by the appearance of new schools in the traditional fields, and even the universities which were set up in this period, resulted from the joining together of Faculties of Law, Medicine, and Engineering. Also in this epoch agricultural education had a modest growth, which, at the end of the 19th already had three establishments, as well as veterinary education for training in veterinary medicine.

In 1931, with the reorganization of the University of Rio de Janeiro, later known as the University of Brazil, the Government attempted to adapt it to new university regime established by the Statute of Brazilian Universities. The University of Brazil collected the Faculty of Law, the Faculty of Medicine, the Polytechnic School, the School of Mines, the Faculty of Pharmacy, and the Faculty of Dentistry, which was separated from the Faculty of Medicine, and a new unit, the Faculty of Education, Sciences and Letters, which was only organized some years later.

The Manifesto of the Pioneers of the New School in 1932, a document which tried to synthesize the regenerating currents of education at that time, declared very significantly that "the higher education in Brazil to be at the service of the liberal professions (engineering, medicine, and law), must obviously not raise them to the height of a university education without extending to scientific and cultural horizons their strictly professional

goal and without opening their rigid programs to the education of all professions which require scientific knowledge, raising them all to a higher level".

In 1934, with the creation of the University of São Paulo, the Faculty of Philosophy, Sciences and Letters was organized, as a central nucleus of the University, where all the university students, whatever their professional destination would have to take courses in fundamental subjects (mathematics, physics, chemistry, biology, statistics, economics, among others) which came to be taught in this division of the University. The resistance of the professional schools hindered the plan from being carried out. In the University of the Federal District in 1935, a similar structure was attempted, being created a University that included the School of Education, the School of Sciences, the School of Philosophy and Letters, and the Institute of Arts, with basic and specialized courses. The University of the Federal District ended by being absorbed by the National Faculty of Philosophy of the University of Brazil. In the University of Brazil, as furthermore, in the University of São Paulo, in spite of the initial efforts, and in the other universities which have been created, the Faculty of Philosophy functions as an isolated and stagnant establishment, dominated, in a great many cases, by the task of preparing secondary teachers.

From 1945 higher education expanded its territory to give preparation for various other professions. Thus, at present, Brazilian higher education trains for the following professions: physicians, dentists, pharmacists, and nurses in the field of health; civil, industrial, mechanical, electrical, mining, metallurgical, naval, chemical, aeronautical, and industrial chemical engineers in the area of engineering; bachelors of juridical and social sciences in the Faculties of Law; in the Faculty of Philosophy, the education of secondary teachers of social sciences, drawing, philosophy, physics, geography, history, natural history, Anglo-germanic literatures, Romance literatures, classic literatures, mathematics, chemistry, English language, agronomists and veterinarians, economists, bookkeepers and accountants; public administrators and directors of private enterprises; social service



workers; bachelors of sociology and political science; experts in statistics; teachers of physical education; architects; journalists; artists (dramatic arts, fine arts, dance, and music); museum experts; and librarians.

The development of courses for graduates is recent, of small compass; official statistics indicate for the year 1959 an enrollment of 1,983 students in post-graduate courses out of a total higher education enrollment of 89,586, a percentage of 2.1. In these statistics, are included as post-graduate courses the doctorate in law, which represents the major number of enrollments; courses in petroleum engineering; public health and hygiene; nutrition for physicians; police administration for bachelors of law; obstetrical nursing and nutrition for nurses; and city planning for engineers and architects. Included, also, in the Faculty of Philosophy, are the educational and psychological guidance courses, and the specialization and the doctorate in its various departments. Although not included in the official statistics, reference should be made to the School of Sociology and Politics of São Paulo, which carries on post-graduate studies in social sciences and the beginnings of specialization in basic fields of medical education and post-graduate courses in some schools of engineering. In this connection, should be mentioned the activities of the National Campaign for Improvement of Higher Level Personnel in stimulating the creation of centers of post-graduate training.

#### Humanistic Education

Education in the humanistics is furnished in Brazil by secondary schooling which, with general cultural functions and retaining a highly selective character, tries to give an education of encyclopedic type, embracing a vast and complex program: Portuguese, four foreign languages, mathematics, physics, natural history, history, geography, design and philosophy.

#### Education of Scientists

The education of scientists has moved recently into the higher education level. Previously scientific research and the preparation of scientists was done in museums and in research

institutes, as the National Museum, the Paulista Museum, the Osvaldo Cruz Institute, the Butantan Institute, the Adolfo Lutz Institute, the Agronomic Institute of Campinas, and in the higher educational field in the faculties of medicine, with, in both cases, emphasis on biological research. With the creation of the Faculties of Philosophy, Sciences, and Letters, scientific research and the education of scientists has begun to be handled by that division of the university, including, in addition to biological research, physical, chemical, and sociological research.

#### Technical Assistance and University Extension

Higher education has not developed an important role in Brazilian activities, although certain positive tendencies may be noted. In the technological area, the Research Institute of the University of São Paulo has given important aid in the improvement of technical conditions in Paulista industry. Also, other institutions are becoming prominent, as the Technological Institute of Aeronautics, and the Institute of Hydraulic Research of the University of Rio Grande do Sul.

The creation of federal universities in various regions of the country, supported by more ample resources, is bringing the university to a direct participation in the study and solution of regional problems. Also the University of São Paulo is beginning to be concerned with this problem. In agricultural education, there is relationship with local problems, as, for example, in the Rural University of Minas Gerais, (Viçosa), which maintains an Experiment and Research Service, which carries on work in applied research for the direct benefit of the rural area, and has a program of assistance, through the Extension Service, and with the carrying out of Farmers' Weeks.

Courses of university extension, conceived in legal terms, with the objective of prolonging, to the general welfare, the cultural and scientific activities for the university institutes, can be seen as an initial force in an eventual systematic work in the field of adult education.

## VII - History and Aims of Higher Education in the United States of America

### a. The Colonial Colleges

There were nine colleges founded before the Revolution on the eastern seaboard of what is now the United States of America. The earliest was Harvard in Massachusetts, in 1636. The second was William and Mary in Virginia in 1693. Then followed Yale in Connecticut in 1701, the College of New Jersey in 1746, King's College in New York in 1754, the College and Academy at Philadelphia in 1755, the College of Rhode Island in 1764, Queen's College in New Jersey in 1766, and Dartmouth in New Hampshire in 1769.

The term university was not usually applied to these institutions until after the Revolution. In 1780 the constitution of Massachusetts referred to Harvard College as the "University at Cambridge", but the first institution to change its name officially to university was the College and Academy of Philadelphia which became the University of Pennsylvania in 1791. The College of Rhode Island became Brown University in 1804. King's College became Columbia College in 1784 but did not take the official name of Columbia University until 1912. Yale College became Yale University in 1887. Queen's College changed its name to Rutgers College in 1825 and to Rutgers University in 1924. The College of New Jersey was not known as Princeton University until 1896. Dartmouth and William and Mary still retain the name of college.

All of those colonial colleges except the College at Philadelphia were founded under Protestant religious auspices. Harvard and Yale were set up by what are now known as Congregationalists, William and Mary by Episcopalians, Princeton by Presbyterians, Brown by Baptists, Rutgers by the Dutch Reformed Church, and Dartmouth by a Congregational missionary to the Indians. The sole non-sectarian institution, the College at Philadelphia, moreover, early fell under the influence of the Episcopalians.

The founders of these colleges attempted to make them like the English and Scottish universities. Harvard and Yale were modeled after Cambridge University, and, in the case of Harvard



particularly, after Emanuel College at Cambridge. William and Mary, founded and administered in its beginnings along the lines of Marischal College, Aberdeen, and the University of Edinburgh, soon was patterned more especially after Queen's College, Oxford. Princeton, Columbia, and Pennsylvania were strongly influenced by the Scottish universities.

Even in colonial days, the North American colleges were markedly different from their old-world models. In 1600 the English universities were groups of residential colleges. The Continental European universities were post-baccalaureate schools devoted to specific professional training. The colleges of what was to become the United States were neither one nor the other.

In the first place, as will be described in greater detail in a later report, the American institutions developed a relatively new pattern of control. Oxford and Cambridge were operated by their faculty and graduates, their fellows. The Scottish universities, on the other hand, were controlled by laymen representing the various ruling elements of their areas. The University of Leyden in the Netherlands had a similar type of control.

In the colonial American universities these Scottish and Dutch practices were adopted and developed systematically. William and Mary, from its founding, was under the direct administrative authority of a lay board. Other colleges soon followed this example. Although founded, except in the one case of the College at Philadelphia, by particular religious groups, they had inter-denominational boards, and at Philadelphia the board was strictly secular.

The aim of the colonial colleges was the transmittal of the **higher** culture which was regarded as a unitary body of attitudes and knowledge coming down through proper Calvinist and other Protestant sources. This was the culture that was needed not only by clergymen but also by lawyers, judges, legislators, and other leaders of their communities. There was little notion of separating religious from secular affairs until the later 18th century when the effects of the European Enlightenment began spreading across the North Atlantic.

Even in the 17th century the colleges were never merely



institutions for training clergymen. At the beginning about 70 percent of the college graduates become ministers, but the proportion steadily declined. By 1740, the proportion for Harvard was 45 percent, and by 1840 less than 10 percent. In Yale, by 1810-15, the proportion of ministers was less than 18 percent. In a representative sampling of the early colleges, a little more than 50 percent of the graduates in 1700 became ministers. By 1761 this figure had fallen to 37 percent and by 1801 to 22 percent. Although the religious revivals of the early 19th century brought the proportion of ministers back to 30 percent, it soon began to drop again. It was 20 percent in 1861, 11 percent in 1881, and 6 percent in 1900.

The North American colleges did not prescribe religious tests for matriculation or graduation, as did Oxford and Cambridge as late as 1870. Harvard stoutly opposed such tests from the beginning. King's College forbade discrimination against "any person of any religious denomination whatever". Rhode Island College, in its charter, not only rejected any religious tests but also forbade any religious bias in teaching. "Sectarian differences of opinions shall not make any part of the public and classical instruction", said the charter. Then it added a stipulation that has always been very difficult to obey anywhere in the world at any time: "...although all religious controversies may be studied freely, examined and explained".

That the colonial colleges fulfilled a significant role in pursuing their principal aim of instructing the leaders of their areas seems clear. It is also clear that many important leaders did not need that instruction. The first six presidents of the United States included two graduates of Harvard, one graduate of Princeton, and two former students of William and Mary, but the greatest of them, George Washington, never attended even a secondary school. The best educated men in the colonies, furthermore, Benjamin Franklin, had no secondary or college instruction.

b. From the Revolution to the Civil War

From 1760 and throughout the Revolutionary period, deism, skepticism in religious as well as in political matters, and a

general extension of the secular spirit in higher education were apparent. Liberal ideas were apread not only by the revolutionists themselves but also to some extent by English military officers, quartered in such centers as Boston, New York, and Philadelphia.

After the Revolution, however, in the rapid foundation of colleges and universities, the influence of religious organizations continued to be dominant. By the time of the outbreak of the Civil War in 1861, there were 182 colleges and universities in the United States which were to be relatively permanent. Many more had been founded but failed to survive.

Most of these new institutions were still being founded by religious organizations prior to the Civil War and indeed throughout most of the 19th century. Protestant churches, led by the Presbyterians, Congregationalists, Methodists, and Baptists, established most of them, yet other sects were determined to have colleges in various parts of the expanding country. The Lutherans planted institutions in the northern states of the Middle West. Quakers and Episcopalians set up colleges in centers available to their people.

Roman Catholic, beginning with the foundation of Georgetown College in 1789, had established 14 colleges by 1860. All of them were headed by clergymen, and most of them were controlled by religious orders, particularly the Society of Jesus. They were often opposed by a considerable anti-Catholic element. The charter of Boston College, founded in 1863 by the Jesuits, for example, was not granted until provision was made that non-Catholic students would not be discriminated against.

College for women were begun during this period in Georgia, Alabama, Tennessee, Illinois, Wisconsin, and New York. Even before the first of these "female seminaries", as they were often called, was founded, however, a coeducational college opened its doors at Oberlin, Ohio, in 1833. In 1841 three women received the degree of Bachelor of Arts from Oberlin College, the first American women to get that degree by studying the same courses as did the men in their graduating class.

State universities also began to make their appearance in

the pre-Civil War period. In North Carolina, South Carolina, Georgia, Tennessee, Maryland, Ohio, and Vermont, institutions were established which were called state universities but which were still largely private in character. The University of Georgia, for instance, founded in 1789 with a self-perpetuating board of control, did not have state-appointed trustees until 1876 or direct state appropriations until 1881.

The first real state university in many ways was the University of Virginia, founded in 1818 by the state legislature on the recommendation of Thomas Jefferson. It was planned from the beginning to be a university rather than a mere college. It provided for advanced, specialized study. Students were given a measure of self-government and freedom to elect their courses. The university was a completely public and secular enterprise. The board members were appointed by the governor and confirmed by the legislature. Distinguished professors were sought wherever they could be found in any state and in foreign countries.

In the West, the University of Michigan led the way in the establishment of state institutions. It was chartered in 1837 and was influential in the establishment of the University of Wisconsin in 1848 and the University of Minnesota in 1851. Here was the place, beginning with the presidency of Henry P. Tappan in 1852, where the second main aim of the North American university, scientific investigation, began to receive careful consideration. This aim had been present in the founding of the University of Virginia and was passed from Virginia to other places in the South, West, and North, including Michigan, but Tappan got his main stimulus in this direction from the University of Berlin, itself a fairly new institution, founded in 1810.

#### c. From the Civil War to 1900

The great development of universities in the United States occurred in the thirty-five years following the Civil War. There were four main features of this development:

1. The establishment of new universities by private donors.
2. The extension of graduate, scientific, and professional education.



3. The growth of state higher educational institutions.
4. The broadening of the curriculum on an elective basis.

Before the Civil War higher educational institutions in the United States had generally received only modest gifts from individual donors but after the war this picture changed dramatically. Cornell University, founded in 1868, received \$ 500,00 from Ezra Cornell. Vanderbilt University started in 1872 with a gift of \$ 1,000,000, Johns Hopkins University was founded in 1876 with \$ 3,500,000. Stanford University, chartered in 1885, received an initial gift of \$ 20,000,000 from Governor Leland Stanford. The University of Chicago was started in 1891 with gifts from John D. Rockefeller finally totaling \$ 30,000,000.

These famous benefactions were only symbolic of the tremendous array of gifts from private donors to higher education in general. Even state universities were in some cases recipients of large donations. In 1959 there were 156 colleges and universities in the country with endowments of more than \$ 5,000,000 at book value. The actual market values were considerably higher. The state system of the University of Texas, for example, headed the list with book-value endowment of more than \$ 330,000,000. Harvard came next with approximately \$ 300,000,00, and about twenty more had endowments above the \$ 40,000,000 mark. Some of these endowments, in the case of the state institutions, as for example at the University of Texas, came from various kinds of land grants, but most of them came from individual gifts.

The development of the modern university idea in the United States, with its emphasis on the discovery as well as the transmittal of knowledge and its application to the needs of society came from two main sources. The first of these was the tremendous industrial expansion of the country after the Civil War, and the second was the influence of the German University.

The new industrialized society demanded specialized skills of all kinds, new scientific processes, and new kinds of administrative abilities. There were many different kinds of higher educational institutions, and they had great freedom to develop measures of instruction and research to meet these new needs. When



current institutions could not or would not meet the needs, new educational enterprises were started with relative ease.

In the 19th century, and particularly after 1850, many North Americans attended German universities, most of them in the graduate courses of the philosophical faculties. In the first half of the century only 200 students from the United States studied in Germany, but after the Civil War about 5,000 of them enrolled at the University of Berlin alone prior to 1900. About the same number studied in other German universities, mainly at Leipzig, Heidelberg, Bonn, Munich, and Göttingen.

The German university of this period believed that the student should be given freedom to study what, when, and where he wanted to study, and that the professor should carry on research on any problem he thought worth investigating and should have freedom to disseminate the results in his teaching and publications. After the founding of the German Empire in 1871, moreover, the universities came to be regarded as service institutions for the nation and the German people. In this manner the three modern university functions of instruction, research, and service were carried on side by side in a distinguished manner.

The first North American university to be consciously modeled from its founding on the German pattern was John Hopkins. Under the leadership of its first president, Daniel Coit Gilman, the new university at Baltimore began as a strictly graduate institution. It announced its desire not to duplicate the work of other universities. It secured its students and professors from all parts of the country and from abroad. Not one member of the original faculty was even a Marylander, and several of the most notable were foreigners. In the list of its early students were such later-to-be-famous names as John Dewey, Woodrow Wilson, Frederick Jackson Turner, Walter Hines Page, John R. Commons, Josiah Royce, Herbert Baxter Adams, J. McKeen Cattell, Abraham Flexner, and Albion Small.

The influence of John Hopkins on the development of university education in the United States is remarkable. It was a small institution and not especially wealthy in relation to several of its main competitors. Yet, in 1926, of 1,000 of the most

distinguished North American scientists, 243 were graduates of Hopkins. In 1896, only twenty years after the university was founded, over 60 colleges and universities of the country had three or more members of their faculties holding graduate degrees from Hopkins. Wisconsin had nineteen, Columbia, thirteen, and Harvard ten.

All the main universities of the United States in the period 1876-1900, stimulated in large part by the example of Hopkins as well as by the German universities, began to establish graduate schools and foster advanced instruction and research. Harvard, under the dynamic leadership of Charles Willian Eliot, started a graduate department in 1872, but as Eliot himself testified, the department did not thrive until the brilliant success of Hopkins forced Harvard to strengthen its graduate faculty. Columbia, Princeton, Wisconsin, Michigan, and Yale followed the example of Hopkins and Harvard.

The new universities of Stanford, Chicago, and Clark were also Hopkins-German-style institutions. Clark was very small and had to remain so because its founder quarreled with its first president over the latter's desire to have only graduate instruction in the university. Stanford was also small and was plagued by financial uncertainties for some years after the founder's death. Chicago, on the other had, was really the show-piece of the new universities. It was organized in new manner to make university extension, university libraries, university publications, and university laboratories coordinate with university instruction proper. President William Rainey Harper, who set up this organization, believed and practiced the thesis that a university in a democracy must be devoted to the ceaseless investigation of every realm of knowledge, must try to put that knowledge to use for human service, and must maintain many more ways of entrance into the university that had been the case in former days and have many more direct channels of communication with the world outside the university. Harper also divided the undergraduate college into junior and senior divisions of two years each. He hoped ultimately that the junior college work would be done in affiliated local branches.

Hopkins had started with forty graduate students and a faculty of seven or eight. Chicago, however, opened its doors in 1892

with a faculty of 120 prepared to give advanced work in 27 subject-matter fields. Instruction began with 594 students, half of them in graduate status. The faculty included such men as John Dewey, Albion Small, Thorstein Vablen, Hermann von Holst, James Rowland Angell, Jacques Loeb, William Vaughn Moody, and J. Lawrence Laughlin.

In 1889, the Catholic University of America was organized and began graduate instruction in the District of Columbia. Through its first rector, John J. Keane, it was profoundly influenced by the example of John Hopkins. Until 1904 it offered no undergraduate instruction, concentrating on graduate work in arts, sciences, social sciences, and philosophy, professional theological training, and professional training in law.

In 1863 the Federal Government, under the provisions of the Morrill Act offered large tracts of nationally owned lands to the individual states for the purpose of establishing college especially designed for instruction in agricultural and mechanical arts while not excluding other scientific and classical studies. This was probably the most significant single event in the history of higher education in the United States. Although the Federal Government had given land grants for education as early as 1787 through the Ohio and Scioto Companies, and had continued to grant them to Western areas until a total of thirty-one states had received them it left the type of education to the states' discretion.

Under the provisions of the Morrill Act the Federal Government gave grants only for specific purposes. The colleges set up with land-grant aid had to offer instruction in agriculture, the mechanical arts, and military science and tactics. Federal grants could not be spent for buildings. Later grants under the Hatch Act of 1887 and the second Morrill Act of 1890 required increased supervision by the Federal Government since they listed in greater detail the kinds of researches and courses for which the money could be spent.

The most famous of the land-grant colleges is not generally known as one, since it is largely under private control. It is the Massachusetts Institute of Technology. It started instruction at the close of the Civil War, although it had been incorporated in 1861 by

the state legislature as "a school of industrial science... aiding advancement, development, and practical application of science in connection with arts, agriculture, manufactures, and commerce". Today Massachusetts has a state university, which was chartered in 1863 as the Massachusetts Agricultural College, and is the main land-grant college of the state.

At present there is at least one university, controlled and maintained by the state, in each of the 50 states. New York, through an executive agency called the State University of New York operates 22 four-year colleges and 6 two-year agricultural and technical institutes. It also supervises 18 locally-operated two-year community colleges.

Throughout much of the 35-year period from the close of the Civil War to 1900, the higher educational institutions of the United States were moving toward an expansion of their curricula both horizontally and vertically. The vertical expansion was done by the extension of higher education into the professional and graduate levels, as has already been mentioned. The horizontal expansion came about through the development of the system of more election of courses and curricula by students.

The leaders of the elective movement were largely the same people as those who pioneered in establishing the new graduate universities, Charles W. Eliot who came to Harvard as president from a professorship of chemistry at the Massachusetts Institute of Technology in 1869 and held the presidency for forty years, Andrew D. White of Cornell, William Rainey Harper of Chicago, and Henry P. Tappan of Michigan. Those who opposed them were the entrenched professors, who, profiting by the system in vogue, always fight any change in the system.

There had been various attempts before the Civil War to make the college curriculum more flexible. The most successful and the best known of these innovations was at the University of Virginia where there was no annual promotion and a student advanced at his own pace until he thought he was ready for the final oral and written examinations for his degree. Other colleges, particularly Harvard, Brown, Union, and Michigan, were influenced by the Virginia



example and attempted in various ways to give the student more freedom of choice in determining what he should study.

When Eliot assumed the presidency of Harvard, therefore, the way was paved for a complete reform which he announced and proceeded to carry through. The essence of the reform was contained in three propositions:

1. The student must have freedom of choice in studies, since one field of learning was as good as another for the development of mental abilities.

2. The student must be given a chance to become distinguished in the areas of his special interests.

3. The student must discipline himself and assume the responsibility for his own success or failure.

From 1870 to 1910 a large number of the colleges followed Harvard's example and made practically all their courses elective. A second group of colleges had about half their curriculum prescribed and half elective. A third group followed the major-minor system in which at the beginning of the third year of college the student chose one field for his major and one for his minor, concentrating his last two years of study in those two fields. A fourth system followed by a number of colleges, headed by John Hopkins, was called the group system in which all courses in the college were classified in the science, philosophy, history, or other groups. The student had to take most of his work in one or two of these groups. There were a few small colleges, including practically all the Jesuit institutions, which clung to the old prescribed curriculum to the last, but finally they, too, by 1900, had introduced some form of election.

#### d. Developments in the Twentieth Century

The 1959-60 directory of higher educational institutions, published by the United States Office of Education, lists 2,011 colleges and universities that are accredited by a recognized agency, that operate under state control, or that have their credits accepted by at least three fully accredited institutions. According to their programs these institutions are classified as follows:

Junior colleges, offering less than four-year (usually two-year) programs.....	585
Colleges offering only the baccalaureate or first professional degree.....	718
Institutions offering work through the master's degree.....	462
Those offering programs through the doctor of philosophy or equivalent degrees.....	205
Not classified because of irregular programs.....	<u>41</u>
Total .....	2,011

These institutions are controlled as follows:

By the Federal Government.....	12
By state governments.....	375
By local governments (cities, districts, or counties),,	311
By private, non-denominational groups.....	520
By protestant church groups.....	494
By Roman Catholic church groups.....	294
By Jewish groups.....	<u>5</u>
Total.....	2,011

There are 228 of these institutions for men only, 252 for women only; the remaining, 1,531 are coeducational.

In 1900 the enrollment in the country's higher educational institutions was less than 240,000 for a total population of about 76,000,000. In 1960-61, it was about 3,500,000 for a total population of over 176,000,000. About three persons in 1,000 attended college or university in 1900; about twenty per 1,000 in 1960. Conservative estimates place the 1965 enrollments in higher education at 5,000,000 and those of 1970 at 6,500,000. Previous experience with enrollment estimates suggest that the actual figures will be greater.

What developments in the first sixty years of the century foreshadow the main purposes and procedures of higher education flood of students in the next forty years?

Four major trends since 1900 are particularly illuminating in this connection. They are:

1. The swing toward general humanistic or general education studies in the colleges.

2. The development of personnel services in higher education.
3. The extension of adult education and other community services.
4. The expansion of scientific research and professional training in new fields.

Early in the century there were signs of a reaction in the liberal-arts colleges against excessive freedom of election. During the depression years of the 1930's particularly, many colleges introduced courses in general humanities with the purpose of giving all students a common core of instruction in fields with which educated persons should be familiar. This new general education differed from the older concept of liberal education in being related to the current problems of society. It soon included survey courses in science, social studies, literature, and the arts.

Some of its chief leaders are convinced that all three of Eliot's propositions were wrong. They believe: (1) that the student would not have freedom of choice in studies, since some fields of learning are superior to others in the development of intellect and character; (2) that the student must be guarded against dangers of excessive specialization; and (3) that the college must assume large responsibility for disciplining and guiding the student.

In connection with this responsibility various college personnel services have grown up, particularly since World War I.

The fundamental notion underlying these services is that the student's total personal development must be the concern of the college. Where the student lives, what he eats, how he secures employment, his physical and mental health, and his educational and personal guidance have all become increasingly the business of university and college officers.

While the liberal-arts colleges have been particularly concerned with general education, both such colleges and the large universities have developed the various student services until one of the chief impressions gained by foreign observers of higher education in the United States has been that students are babied,



directed, and counseled to a degree that impedes their attainment of intellectual and emotional maturity.

The larger universities, especially the state institutions, led the way toward the extension of adult education and other community services. The chief pioneer in this movement was Charles R. Van Hise, president of the University of Wisconsin from 1904 to 1918. He stated in 1904 the principle that the university should serve all the people and that its campus should cover the whole State of Wisconsin. In line with this policy, the university extension service had 5,000 people taking its correspondence courses by 1910. University laboratories tested soils, ores, and water. Debates on controversial issues were sponsored throughout the state, and package libraries were loaned to local discussion groups. Professors, including the president himself, served on state railroad and tax commissions, helped draft legislation, planned road-building programs, developed the dairying industry, and improved local governments. The University of Wisconsin, both its supporters and critics agreed, was being used for the purposes of political reform, economic and social improvement, and general human welfare.

Its supporters believed that these were the proper functions of a state university. Its critics thought that such an institution would inevitably become a tool of the ruling political party.

Other state universities and the newly organized municipal universities generally followed the Wisconsin example. By 1960 practically all publicly supported and controlled universities and most of the larger private institutions regarded services to their areas as one of their three chief functions alongside instruction and research.

The extension of research and professional training often accompanied the universities' attempts to give the services of their specialists to their areas. Thus the field of petroleum engineering, hotel management, soil conservation, forestry, school administration, public health nursing, and literally scores of other new areas of study and professional endeavor grew out of the universities' surveys, experiment stations, legislative reference bureaus, and initial short courses.