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Bolivia  
Information about  
Bolivia

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explorer, and scholar



BOLIVIAN  
LEGATION

Washington, D. C.









BOLIVIA.

INFORMATION ABOUT BOLIVIA



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## BOLIVIAN LEGATION

WASHINGTON, D. C.

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### INFORMATION ABOUT BOLIVIA

GEOGRAPHIC POSITION AND BOUNDARIES—AREA—POPULATION—  
TOPOGRAPHY—GEOGRAPHY—HYDROGRAPHY—CLIMATOLOGY.

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#### GEOGRAPHIC POSITION.



BOLIVIA occupies the central part of the South American Continent; a position giving her very influential standing among the surrounding countries.

Within her boundaries is embraced the area lying between  $57^{\circ} 30'$  and  $73^{\circ} 47'$  west longitude, and  $10^{\circ} 20'$  and  $23^{\circ} 05'$  south latitude. Bolivia is bounded on the northeast by Brazil; on the southeast by Paraguay; on the south by Argentina; on the southwest by Chile, and on the west by Peru. The country has no seacoast, but by its navigable rivers, has a direct outlet to the Atlantic Ocean by way of the Amazon.

#### AREA.

The total area of the country is 1,450,000 square kilometers. The extreme length from north to south is about 2,000 kilometers, and in breadth from east to west about 1,384 kilometers. Bolivia is the third largest country of South America; being exceeded in area only by Brazil and Argentina.

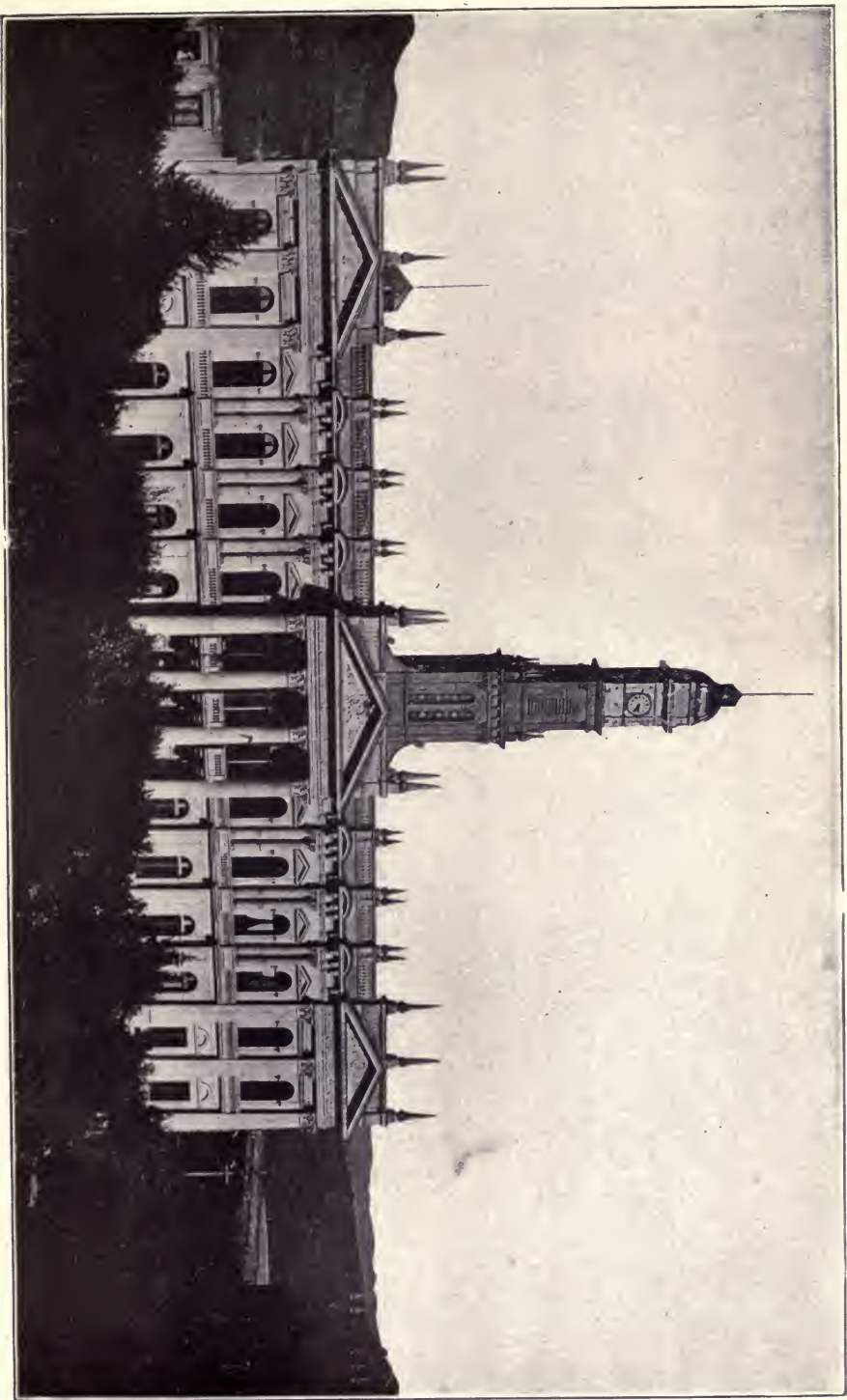
#### POPULATION.

According to the last report, Bolivia has a population of 2,265,801. The most thickly populated sec-

tion is the least attractive as regards climate and vegetation. The Spaniards, who settled the country, established themselves in the places where they found the mineral wealth; that is, on the high plateau embraced between the two great chains of the Andean mountains; while the beautiful and fertile val-



AYACUCHO STREET, LA PAZ, BOLIVIA

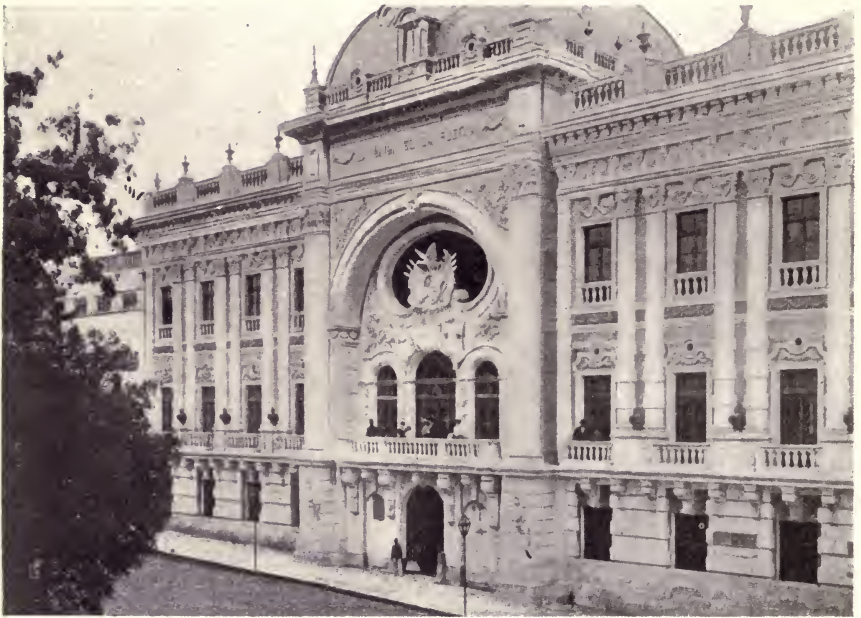


THE CAPITAL AT LA PAZ. BOLIVIA



leys lying in the eastern section are very sparsely settled.

The population of Bolivia in the cities is mostly of Spanish descent. Some half-breeds are also found; but the main portion of the rural population is of Indian origin, belonging to that great Inca Empire that flourished long before the Spanish conquest.



NEW GOVERNMENT PALACE AT LA PAZ

### CITIES—LA PAZ.

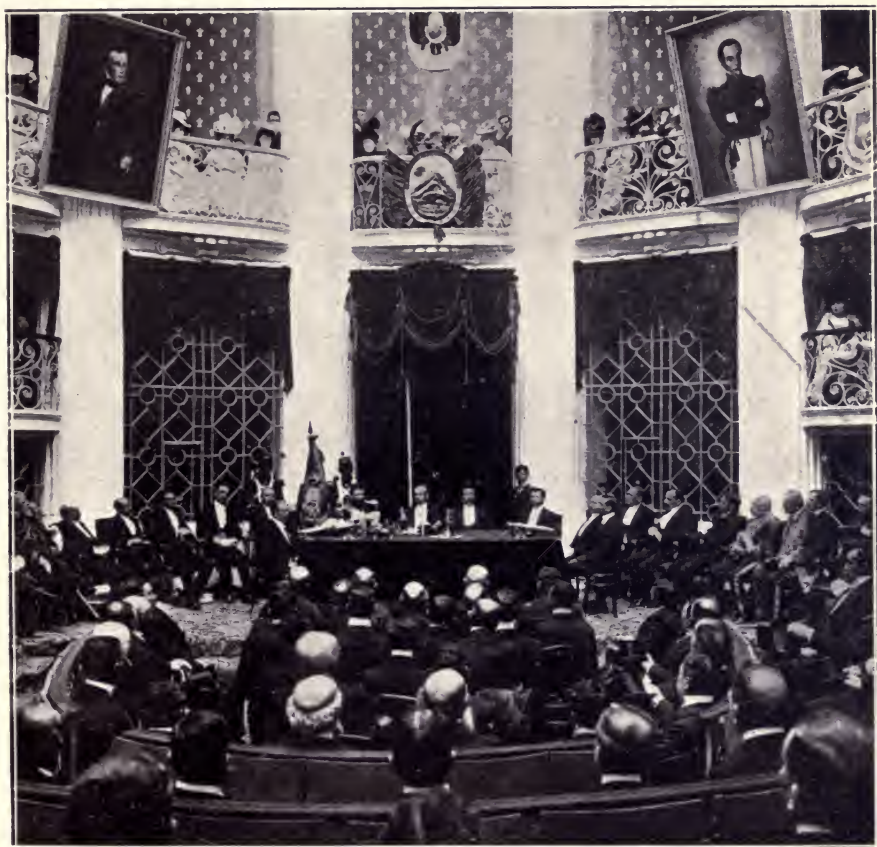
The city of La Paz, in the northern part of the country, is the most important and has a population amounting to more than eighty thousand. The situation of the city is very attractive and peculiar; deep within a depression of the table-land, it is seen only when the edge of the plain is reached, and the sudden appearance of its red tile roofs and green trees, crowned by the towering peak of Illimani, presents

a charming sight. La Paz is the terminal station of the different railroad lines: the Guaqui, the Oruro and the Arica roads, all of which connect the city with the Pacific coast.

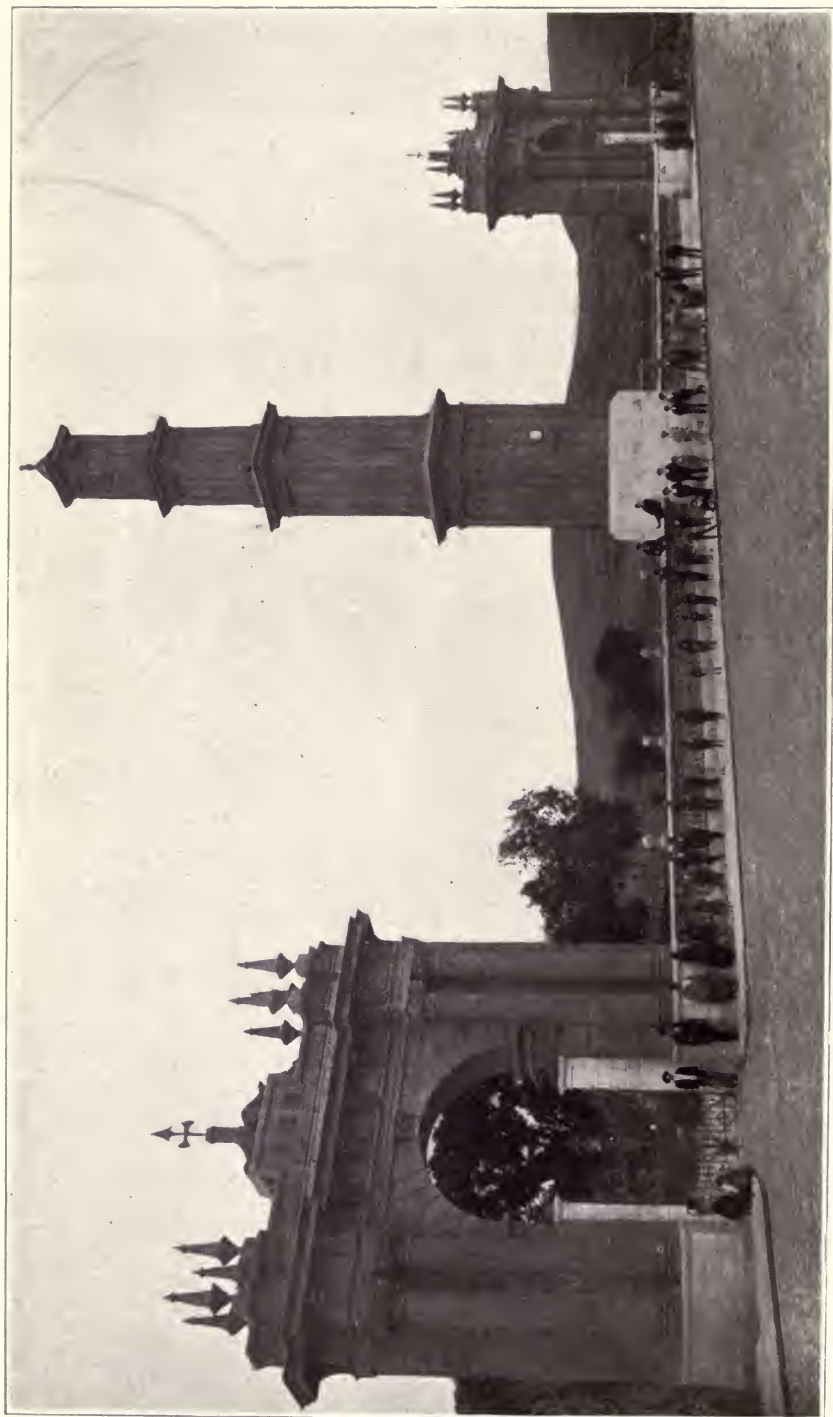
The city has many notable public buildings, such as the Legislative Palace, the Post Office, a fine penitentiary, many old and imposing churches, a theater, hospitals and numerous public parks.

### COCHABAMBA.

The next city according to population is Cochabamba, with 25,000 inhabitants, located in a fine and



OPENING OF CONGRESS, LA PAZ, BOLIVIA



ENTRANCE TO THE PARK IN SUCRE, BOLIVIA



fertile valley, adorned with a pretty public park and very attractive surroundings. The climate of Cochabamba is very mild, and with the completion of the railroad from Oruro, the city will attain great progress and improvement.

### SUCRE.

Sucre, the legal capital of the country, is also an attractive city, with 20,000 inhabitants. There are



GOVERNMENT BUILDING IN SUCRE, BOLIVIA

numerous fine public and private buildings, and the city is the seat of the Supreme Court and the Archbishopric.

### POTOSI.

Potosi is famous for the richness of its silver mines, which during the Spanish dominion, produced silver to the amount of more than three thousand six hundred million dollars. The city of Potosi was founded in 1545, and fifty years later, on account of the abundance of silver in the famous mountains, the

population reached over 160,000 inhabitants; and the city became the goal for all kinds of adventurers, and has many legends of romantic tales and feuds.

There are yet in use about 22 big dams, called lagunas, that the Spaniards constructed in the year 1621 at a cost of three million dollars, in order to supply the city with water.

The mint, dating from the year 1773, and cost-



THE CATHEDRAL AT POTOSI, BOLIVIA

ing more than \$1,100,000 for its erection, is one of the notable buildings; there are also some ancient churches.

Potosí is one of the highest cities of the world, standing at an altitude of 4,146 meters above sea level. Other important towns are: Oruro, the center of the railway system of Bolivia, situated on the high plateau south of La Paz. The town is barren and windy and it owes its existence to the mines near by.

Tarija and Tupiza, towards the south, and Santa Cruz, in the east, are cities of mild and pleasant climates, which will become the centers of great commercial and agricultural development when the proposed railroads reach them.

The Departamentos, corresponding to States in North America, of La Paz, Cochabamba, Potosi, and Sucre are the most thickly populated sections of the Republic.

TOPOGRAPHY AND OROGRAPHY.—At about 14° of



THE MUNICIPAL AND GOVERNMENT PALACES, POTOSI, BOLIVIA

south latitude the Andes branch into two great chains that cross the Bolivian territory from north to south; between these chains lies the high plateau separating the western or coast range from the eastern or central range, called the Cordillera Real. Besides these two main ranges there are branches, such as the Azanaques, Frailes, Lipez, etc., which are the starting points of a large number of ridges or *serranias*, traversing the country in all directions. The Bolivian plateau comprises nearly 170,000



square kilometers, with a mean width between the eastern and western Cordillera of 130 kilometers more or less, and with a general elevation of 3,800 meters above sea level, which means a cold climate and very scarce vegetation.

This region, somber and imposing in appearance, although barren of vegetation, is, on the other hand, a region of inexhaustible mineral deposits unequalled for abundance and richness.



MOUNT SORATA

The traveler entering Bolivia by way of Mollendo and Lake Titicaca, should he pass southward by the railway to Oruro, would be impressed with the great elevation of the Cordillera Real; with its splendid range of snow-capped peaks piercing the skies; such as the Illampu, with more than 7,600 meters of elevation and the Illimani, with 7,500 meters; and following the railroad toward the Pacific he may find wonderful and imposing the sight of a succession of volcanoes, some of which are always smoking, and the great salt lakes; but all this would probably leave

him with the impression of having visited a barren and desolate land—in fact, the Thibet of South America.

However, this zone is only a fraction of the territory of Bolivia. In the valleys formed between the spurs of the Córdillera and at an altitude of 2,500 meters above sea level there are found beautiful fields rich in agricultural products, of wheat, corn, rice, fruits of a temperate zone, such as peaches,



A SCENE IN BOLIVIA

pears, apples, grapes, and a great abundance of flowers.

The most extensive section of the country lies east of the great mountains; it is less populated, but it is the future center of population and greatness of Bolivia; a promising section capable of wonderful development by reason of its rich soil and numerous rivers which afford facilities for interior communication.



FORDING A RIVER IN THE MONTAÑA OF BOLIVIA

On the vast plains of Mojos and Chiquitos in the Department of Santa Cruz, the llanos of Manzo in the Chaco and those of Caupilican in La Paz, are abundant pastures for grazing millions of cattle. The wild cattle of this region are estimated at hundreds of thousands, but epidemics are greatly reducing their number.

Along with these grassy plains are found the vast secular forests, where the heavy foliage of the big





TYPICAL TREE IN THE OVERFLOWED SECTIONS OF A BOLIVIAN FOREST

trees forms a dense canopy of perpetual shade which keeps the ground free from all varieties of low bushes; while in other places the vines and trees are almost impenetrable, affording shelter for every kind of animal and insect.

Among the small bushes, the creeping vines and the big trees the exuberance of nature presents a spectacle of a constant fight for existence, all bursting forth from the same ground.

### HYDROGRAPHY.

The Republic of Bolivia may be divided into the following belts or regions:

**The Amazon Region.**—This region is formed by the numerous rivers emptying into the Amazon, either directly or through their tributaries.

The principal rivers are the Beni, the Mamore and the Madre de Dios, which, united, form the Madeira River, the largest tributary of the Amazon. The Abuna, which empties into the Madeira, is another large river of the same section. Most of these rivers and their affluents, such as the Orton, the Manuripi, the Itenes, etc., are navigable for steam launches through their entire courses. The navigable area of the region embraces about nine thousand kilometers.

### WESTERN REGION.

This region embraces the lakes and streams of the Altiplanicie Boliviana, or Bolivian High-Plateau. The region is formed by the waters flowing between the eastern and western Andes, consequently the courses of the rivers are short; the smaller streams generally being absorbed into the soil, while others empty into the lakes of the plateau.

RAPIDS ON A BOLIVIAN RIVER







A RAFT IN THE RAPIDS OF THE MADEIRA RIVER

—*Courtesy of Scribner's Magazine.*

The principal of these rivers is the Desaguadero, 297 kilometers long, with a depth of from 8 meters at its source to 3 in the middle section. This river is the outflow of Lake Titicaca and empties into Lake Pampa Aullagas, or Popo.

### SOUTHERN REGION.

This region is formed by the rivers flowing to the Paraguay and to the Plata. The principal rivers are the Pilcomayo and the Bermejo, the former is navigable for about 700 kilometers from its mouth; is very irregular, especially towards the middle section, making steam navigation rather difficult. There are also some waterfalls or cachuelas which obstruct navigation. The Pilcomayo has its origin in the Department of Oruro. The Bermejo, rising in the Department of Tarija, is very tortuous in its course of about 1,150 kilometers.

### LAKES.

The principal lake of Bolivia is Titicaca, situated in the western section of the Department of La Paz on the boundary of Peru. It has an area of 8,340 square kilometers, a width of 112 kilometers and a length of 223 kilometers. It is the highest fresh water lake of the world, being 3,914 meters above sea level. Its navigation is carried on by several steamers plying between Puno in Peru, the terminus of the railway coming from Mollendo on the Pacific, and the Bolivian coast at Guaqui, where the railroad connects that port with La Paz.

Lake Pampa Aullagas, in the Department of Oruro, is the second largest, occupying an area of 2,700 square kilometers. It receives the Desaguadero and many other streams and is remarkable from the fact that out of about 5,900 cubic meters of water



PIAZA AT LA PAZ





WORKSHOP ON A BORDER RIVER IN BOLIVIA.

that flow into the lake per minute, only 56 meters flow out; the remainder finding some unknown subterranean outlet.

### CLIMATOLOGY.

Although Bolivia lies within the tropics, the difference of altitude between the high tablelands and the valleys of the eastern section show the greatest variety of temperature, ranging from the frosty air of the high mountains to the hot plains of the primeval forests. The variations of temperature according to altitude of the places is striking and remarkable. For instance, from La Paz, situated at an altitude of 3,630 meters, and going 30 or 40 miles eastward the change of temperature is such that the traveler feels the balmy air of the orange groves succeeding the cold atmosphere of the highlands. Owing to this peculiarity, there are found in Bolivia all the products of the temperate as well as of the tropical zone.

The mean temperature of the lowlands of the Amazon region up to an altitude of 2,000 feet above sea level is  $74^{\circ}$ ; up to 8,000,  $63^{\circ}$ ; and in the central plateau situated between 10,000 and 13,000 feet, it is only  $50^{\circ}$ . It is calculated that to every 181 meters of ascent of the mountains there is a corresponding drop of one degree in temperature.

It may be said that in Bolivia there are really only two seasons: the rainy season, extending from December to May; and the dry season, from May to December. The rains in the east are very copious and at times the overflow of the rivers is such that they rise as much as ten meters above their ordinary level.



A "PICKETE" IN THE DENSE FORESTS NEAR THE MADEIRA-MAMORE RAILROAD



## NATURAL RESOURCES AND PRODUCTS.

There are three great branches of wealth in Bolivia, which when properly developed will make that country one of the richest and most prosperous on the South American continent.

Ever since the coming of the Spaniards the mineral wealth has been an object of admiration. The untold quantities of silver brought out of Potosi, Oruro, Chayanta, Carangas, Lipez and other centers of production are matters of history. Tin is found all along the eastern Cordillera, and at present forms one of the main exports of Bolivia. Zinc, copper, bismuth and gold are no less abundant; and there are also important deposits of borax, salts and sulphur.

It is difficult to say whether the obstacles offered by the great chain of Andean mountains forming the high plateau of Bolivia in an area of about 66,000 square miles, obstructing the rapid and easy communication between the various sections of country, are not more than compensated by the prodigious quantity of minerals contained in those mountains.

The vegetable wealth of Bolivia is found in the large territory east of the Andes, comprising nearly 91,000 square miles of primeval forests and rich grassy plains. Rubber grows along the Beni, Madre de Dios, Itenes, and other rivers; also in many places in the Departments of La Paz, Beni and the territory of Colonias. Peruvian bark, hard cabinet woods, many varieties of medicinal plants, cocoa, coffee, coca leaves, rice and all tropical fruits grow abundantly in that section; the complete enumeration of the products of this rich zone would include every vegetable known and used for food, commerce and industry.

The intermediate valleys, situated at an altitude of between 2,000 to 8,000 feet above sea level, are also abundant in products of the temperate zone, such as wheat, corn, peaches, pears, etc.

The animal industry is another one of great promise in Bolivia. Although the high plateau looks barren and somber, the raising of sheep, alpaca and



COURTYARD OF A HOTEL IN LA PAZ

llama herds would by no means be difficult or unprofitable. Even at the present time there are here and there sheep ranches, but they are very poorly kept. The vast plains extending through the Chaco, Mojos, Chiquitos, Caupolican, etc., are open to a great cattle-raising business; and there are now many thousand heads of cattle roaming wild in those sections.

## POLITICAL ORGANIZATION.

Bolivia is and has been for years one of the most orderly and progressive of Republics; ruled by a government freely elected by the people and in accordance with the Constitution, which is one of the most liberal in Spanish-America.

Freedom of the press, of speech, of religious beliefs and the right to hold property by any person whether native or not, are among the principal individual rights guaranteed by the Constitution. It establishes that the sovereignty resides in the people, who delegate its functions into three co-ordinate branches: the Executive, the Legislative and the Judicial, each independent of the other. The Executive power is vested in a President and two Vice-Presidents, elected by direct popular vote for a period of four years, without re-election.

The President appoints his cabinet officers, which are five, and they together with the President are responsible for their actions. No order of the President is valid unless countersigned by the corresponding cabinet officers. These are: Ministro de Relaciones Exteriores y Culto; Ministro de Hacienda, Ministro de Gobierno y Fomento, Ministro de Justicia é Industria, Ministro de Instrucción Pública y Agricultura and Ministro de Guerra y Colonias. Congress meets every year on the 6th of August and the President presents a general account of his administration in a special message. The cabinet ministers also present a detailed account of their respective branches. The Executive must also render full account of the revenues and expenditures of the year, and present a project of the budget for the following fiscal year to be voted by Congress.

The Republic is divided into eight main administrative sections, called *Departamentos*, and at the



head of each is a Prefect, appointed by the President. The Departamentos are subdivided into sub-prefecturas, of which there are several in each Departamento. The smallest administrative divisions are the *cantones*, under a *correjidor*. All of these authorities are part of the Executive branch of the Government and subject to the authority of the President.



THE ALAMEDA AT LA PAZ

The local interest, such as markets, street cleaning, public health, primary schools, hospitals and other institutions of charity or beneficence are subject to the Municipalities, whose members are elected by the people. In each Departamento there is a *Concejo Municipal*, renewed by half every year. They have their own revenues which they administer with entire independence.

Bolivia, being a unitary Republic, enjoys in this

way all the advantages of a free local administration.

The Legislature is composed of two branches, the House of Representatives and the Senate. The former consists of 72 members, elected for four years, and the latter numbers 16 senatores, two for each Departamento, presided over by the First Vice-President. Their term of office is six years, and they are renewed by thirds every two years.



GATEWAY TO THE ALAMEDA AT LA PAZ

All male citizens over 21 years of age, having a fixed independent income, knowing how to read and write and duly inscribed in the registers, have the right to vote.

The Judiciary is composed of the Supreme Court, lower courts and judges. The Supreme Court has seven members, elected by the House, upon lists proposed by the Senate. Their term of office is ten years, and that of the lower courts, four. Bolivia

was the first South American country to enact a complete system of codified laws.

FINANCIAL ORGANIZATION.

Bolivia's finances have kept a steady increase following the country's development.

The revenues are: national, departmental and municipal. The national revenues consist mainly in custom duties, the alcohol tax, export duties and other excises, consular fees, etc.

*Bolivianos.*

In 1890 the national revenues amounted	
to . . . . .	3,624,200
In 1900 they represented . . . . .	6,462,931
The budget for 1911-1912 amounts to . . . .	17,237,100

These figures alone show the importance of Bolivia's growth.

The departmental revenues reach to the sum of 2,591,915 Bolivianos.

The municipal revenues amount more or less to three millions. They are voted yearly by the Municipal Council, and before taking effect have to receive the approval of the National Senate. Up to 1906 Bolivia was a country without a foreign debt, but since then the following loans have been contracted. In addition to the £2,500,000 contributed by the Nation, a loan of £3,700,000 was contracted for the construction of railways, most of which are already built. Five hundred thousand pounds for the redemption of internal debts, and £1,500,000 for other purposes; of the latter amount a million has been appropriated to establish a bank of central issue of notes.

A *monetary law* voted in 1908 made gold the standard, and fixed a rate of Bs. 12.50 silver as equivalent to a sterling pound; this and the Peruvian gold



pounds being the only legal money. Unfortunately the provisions of this law cannot be carried out as Congress failed to provide the means to make it practical. It is to be hoped that it will not be long before the necessary steps are taken to make a gold standard a real fact. Only the English and Peruvian gold coins have a full legal tender value; the 50-cent and 20-cent silver pieces as well as the 10-cent and 5-cent nickel pieces are subsidiary money.

The Boliviano is worth about 40 cents American gold.



MOTERING IN LA PAZ

### BANKS.

By a law creating the "Banco de la Nacion Boliviano," in 1911, it was decreed that in the future no other banks would have the right to issue bank notes. At present there are six banks of issue, representing a total capital of Bs. 93,750,000, of which Bs.

38,137,500 have been paid up. The law allows them to issue notes for 150 per cent on their paid-up capital. On the 30th of June, 1911, the amount of bank notes in circulation was Bs. 24,868,850. The banks are required to keep 40 per cent reserve in coin against their notes. In addition to the banks mentioned there are three other mortgage banks that make loans exclusively on real estate. All of these



THE MILITARY COLLEGE AT LA PAZ

banks pay from 10 to 20 per cent dividends to their shareholders.

### PUBLIC INSTRUCTION.

The progressive march of Bolivia is marked also by new methods and more up-to-date organization of its public instruction. The primary schools have been divided into six-year courses so as to give the pupils the necessary preparation, either to enter the

secondary instruction or to start in some occupation to earn a living.

The colleges of secondary instruction comprise seven-year courses in mathematics, chemistry, literature, history, philosophy, geography, natural sciences and languages (French and English).

The University education is limited to the professions of medicine, theology and laws.

Recently schools of commerce, mines, engineering and mechanics have been established.

The primary schools are supplied with modern desks and other appliances, as well as text books, bought in the United States.

The primary education is compulsory by law, and is principally under the direction of the municipal authorities.

A normal school under competent foreign teachers is preparing a nucleus of professional teachers who are superseding the less prepared ones of former times.

According to the Census of 1908 the number of children attending school was about 50,000; and since that time there must have been a large increase. The number of schools is also increasing all over the country, as from the year 1907, in which the school population was only 36,690, to 1908 when the number had been increased by 13,000 scholars. The American Institute at La Paz is another new school under American teachers; the institution has a branch in Cochabamba.

### THE PRESS.

The freedom of the press is the greatest conquest of democracy and the surest sign of a free and orderly government. The Constitution of Bolivia



guarantees the right to publish all writings not libelous or immoral.

The numerous newspapers printed in all the principal cities of the country show how much this power and influence is appreciated.

There are about eighty newspapers published in the country. La Paz has eight, and all of them have a section of cable news giving the principal events of the day. Potosi, Sucre, Cochabamba, etc., each have several; there are also various reviews and technical magazines.



A NATIONAL BAND OF BOLIVIA

## ARMY.

Doubtless one of the most remarkable evolutions in Bolivia is the actual organization of the army. In former years during the revolutionary period, happily passed, the army was the center of all political disturbances. To-day it is an element of order and national pride. In fact, the Bolivian soldier is one of the best in South America; uniting his fighting



THE CATHEDRAL AT SUCRE, BOLIVIA



SECTION OF MONOLITHIC DOORWAY FROM PRE-INCASIC CITY OF  
TIAHUANACO, NEAR LA PAZ



qualities with great power of endurance, frugality, patience and subordination.

Under a commission of German officers, contracted for by the Government, the military organization has been put to a high degree of efficiency.

Every male Bolivian upon reaching the age of nineteen must enter the army and receive three months' instruction; after that time the Minister of War designates how many of these must remain in the army and serve for two years.

Every year Congress fixes the strength of the army, which consists of men in active service and the reserves. According to the latest statistics the Bolivian military strength is as follows:

	<i>Men</i>
Army .....	3,750
1st Reserve, from 20 to 25 years.....	40,000
2d and 3d Reserves, 25 to 40 years of age...	50,000
Reserves for home service only.....	10,000
	103,750

#### POSTAL AND TELEGRAPH SERVICE.

Bolivia has been a member of the Postal Union since the year 1885 and has also taken part in and approved the Postal Conventions of Rome of May, 1906; therefore, enjoys all the privileges of other countries signatory of those conventions, which provide for the sending and receiving of money orders and postal parcels.

As Bolivia has been deprived of its sea coast, it has made arrangements with Peru, Chile and Argentina for the transmission of all foreign mail from or to Bolivia.

The telegraph service is principally controlled by the Government, there being also some private lines:

in use. The Government owns about 4,520 kilometers of wires and there are 2,163 kilometers of private lines, making a total of 6,683 kilometers extending through the different sections of the country. The Government is negotiating to establish a wireless system to complete the present telegraphic service.

### CUSTOM HOUSE AND TARIFF.

The tariff laws of Bolivia have lately been published in English and Spanish, in pamphlet form, by the Pan-American Union, and any one wishing to have them can secure a copy at a small cost. The duties on general merchandise average 30 per cent ad valorem, and 25 per cent on provisions; liquors pay higher specific duties.

Goods shipped to Bolivia must be accompanied by a Consular invoice, furnished by the Bolivian Consul of the port of exportation. When no Consul exists, the invoice may be certified by a consul of a friendly nation, or by two reputable merchants of the place. In both of these cases the fees are payable only at the custom house of importation.

The consular fees are Bs. 3 for invoices of less than Bs. 200 value, and Bs. 2 for each hundred Bolivianos above that amount. An American dollar is officially equivalent to two Bolivianos and fifty cents (centavos).

Samples and personal baggage are admitted free; furniture and other household goods, are not considered as baggage.

By giving bond traveling salesmen can import their goods and have the bond cancelled when the goods are re-exported. The salesman is subject to a municipal tax which varies according to the importance of their sales, from Bs. 50 to Bs. 300.

## EXPORT DUTIES.

Bolivia collects export duties on the following products:

## MINERALS:

*Copper:* The duties are graduated according to the price in the English market. The lowest rate is Bs. 0.50, which increases to Bs. 1.31 for every hundred pounds of pure copper.

*Bismuth:* The export duties on this metal are also based on its value in the European market. Bismuth is handled in Europe by a trust which controls its sale. Minerals of this metal not concentrated are free of duties.

*Silver and Gold:* The export duties on these metals are very low; on silver, one cent per ounce, and on gold, twenty cents for each ounce.

*Tin:* The duties on tin are graded according to the London quotations for the bars of Straits tin, and rise from 0.90 for each 100 pounds when tin bars are quoted at £100 a ton to Bs. 3.30 if the price reaches £200 or more. These rates are for barrilla of 60 per cent; but the bars of pure tin pay Bs. 1.80 for each hundred pounds when the London quotations for Straits tin is £100 a ton, and Bs. 4.20 if the price is over £200. The exportation of zinc, wolfram and other metals is free.

*Rubber:* The rate is 8 per cent on the price of Para rubber in the English market, when exported by the Pacific side, and 10 per cent for all exportations going out through the Amazon.

The exportation of chinchilla skins, hides, llama and alpaca wool is also taxed with a small per cent duties ad valorem.

Bolivia has several custom houses for the impor-





GOVERNMENT PALACE AT SANTA CRUZ, BOLIVIA

tation of goods into the country. Merchandise going by the Argentine Republic passes through the city of Rosario in that Republic and is entered at the custom houses at La Quiaca, Tupiza, Yacuiba and Tarija on the frontier. The custom houses for the Amazon and the Beni region are: Villa Bella, on the boundary with Brazil at the confluence of the Mamore and the Beni Rivers; Cobija (formerly Bahia) on the Aquiri River, and the custom houses on the Abuna and on the Manuripi.

There is also a custom house at Puerto Suarez on the Paraguay River for goods entering by that route via Montevideo, Uruguay, for Santa Cruz and other eastern sections. At Antofagasta there is a Bolivian Agency Aduanera, where goods are appraised before entering the country; there are also custom houses at Uyuni and Oruro. At the Agency Aduanera in Arica goods are appraised before importation, in the same manner as at the Agency Aduanera in Antofagasta.

For traffic through Mollendo, Peru, Bolivia has in that port an Agency Aduanera that acts simply as a controlling agency, all merchandise being appraised at the Guaqui custom house, at Pelechuco and at various other ports on Lake Titicaca. Free transit is granted to all goods for or from Bolivia passing through the neighboring countries of Chile, Peru, Brazil and Argentina.

### MINERAL WEALTH OF BOLIVIA.

On the American continents there are three nations that stand pre-eminently as the richest in mineral wealth: the United States, Mexico and Bolivia, respectively. As we have little space to enlarge on the description of the great mineral richness of Bolivia we will refer the reader to the very

interesting Mönograph on the Mineral Resources of Bolivia by Pedro A. Blanco, and the special Monograph on the Gold of Bolivia and the Tin of Bolivia, all published in Spanish by Sr. Manuel V. Ballivian, the Director-General of Statistics at La Paz.

*Silver:* From the year 1873, when the white metal began to depreciate, Bolivia's production of silver decreased year by year, owing to the high cost of transportation. Silver mining became unprofitable, and Bolivia, from being the largest exporting coun-



CARTS OF SILVER ORE IN BOLIVIA

try of the metal after the United States and Mexico, saw its production much reduced.

	<i>Ounces.</i>
In 1895 the silver exports amounted to . . .	21,527,256
“ 1890                    “                    “                    “ . . .	14,562,104
“ 1905                    “ (lowest amount) . . . . .	3,086,400
“ 1909                    “ . . . . .	5,247,200



The decrease in the output of silver is not to be attributed to causes other than the enormous drop in the price of silver, as the mines are by no means exhausted.

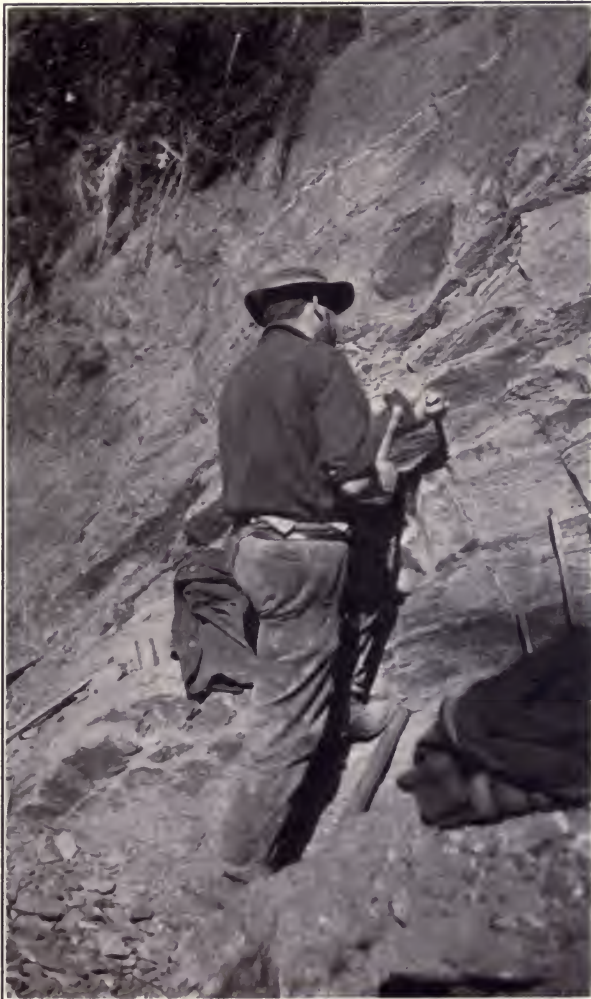
The principal centers of silver production are the Departments of Oruro and Potosi, where the richest mines exist, such as Huanchaca, Aullagas and Colquechaca, where the ores are so fine that the so-called



HYDRAULIC MINING IN THE CHUQUIAGUILLO RIVER

*rosicler* contains as high as 32,000 ounces of pure silver to the ton. The Huanchaca mine, which is still being worked, produced from 1873, the year the company was formed, to 1901 the enormous sum of 4,520 tons of pure silver. As regards amount of production this mine is considered second only to the famous Broken Hills mines. In Oruro are also found very rich silver mines, such as the San Jose, the Socabon, Itos, etc.

*Gold:* Perhaps there is no metal more generally distributed throughout the country than gold. In fact, it is found in the Departments of La Paz, Cochabamba and Santa Cruz, in all the rivers flowing from the eastern Cordillera to the great tributaries of the Amazon, and in many other places. The best known mines are: Chuquiaguillo mines on the outskirts of La Paz, which have been worked since



STARTING A NEW TUNNEL IN A TIN MINE

before the coming of the Spaniards; the Rio de los Cajones in Yungas; the Tipuani mines in the river of that name not far from the city of Sorata; the Araca mines in the Province of Loaiza; and the Suchez, on the northeastern boundary with Peru. All of these mines have produced very large quantities of gold; and to properly develop and work them all that is needed is sufficient capital to provide the



COROCORO, THE GREAT COPPER CENTER OF BOLIVIA

machinery adapted to the nature of the gravel and soil formation. Unfortunately the want of easy means of transportation has so far prevented the working of the mines.

Gold is also found in the Department of Oruro; and in the Department of Potosi are the well-known Poconata and the River San Juan del Oro mines.

*Copper:* This is another of the valuable metals found in many places in Bolivia. The principal centers of copper production are: Corocoro in the



Department of La Paz, where several very good and prosperous establishments are in operation; also in the Department of Oruro. Carangas is a section rich in copper mines, which are also abundant in the Province of Lipez, and in North and South Chichas. Outside of the Corocoro region most of the copper mines are not worked owing to the high cost of production compared with the market price of copper.



A TIN MINE IN THE ORURO DISTRICT OF BOLIVIA

*Tin:* Among the mineral resources of Bolivia at the present time tin is the main source of wealth. It is found almost everywhere in the eastern chain of the Andean mountains, along the main chain of the Cordillera Real and its numerous spurs. In the Departments of La Paz, Oruro, Potosi and Cochabamba there are large numbers of tin mines being profitably worked at the present time.

Tin appears in the form of cassiterites, oxides and other combinations. The finest grades of mineral contain up to 65 and 70 per cent of pure tin, and the ore is shipped for smelting just as it comes from the mines. The average grade of the tin ores worked at the Bolivian mines is about 10 per cent, and the lowest about 5 per cent.

Many of the mines are situated at great altitudes, such as the Tres Cruces, Huayna Potosi, Monte Blanco, etc. The latter is at an altitude of 5,300



TIN ORE FROM POTOSI, BOLIVIA

meters above the level of the sea. The principal tin mines in operation are in the Department of La Paz, the *Empresa de Estano de Araca*; the mean grade of the ores is from 12 to 19 per cent; the monthly output is from 200,000 to 250,000 pounds of pure tin, valued at 60,000 Bolivianos or \$24,000. The annual expenses of this mine are figured at Bs. 300,000 and the revenues at Bs. 800,000. In the Department of Oruro there are several very important mines as well as some of the best equipped, such as the *Negro Pabellon*, the *Huanuni* and the *Acicaya*, yielding about 350,000 pounds of pure tin monthly.

The richest tin mines now in exploitation are in the Department of Potosi: La Salvadora producing 1,700,000 pounds of pure tin a month, using the most up-to-date machinery; Uncia, the Company Estanifera de Lllallagua, yielding more than 560,000 pounds of mineral every twelve hours.

To mention all the most valuable and important mines would require too much space; the book of Mr. Pedro Aniseto Blanco, "Monografía de la Industria Minera de Bolivia," could be profitably consulted. In order to give an idea of the great boom



TIN ORE READY FOR SHIPMENT

that tin has been having in Bolivia it may be said that the old tales about poor clerks or laborers becoming rich and even millionaires in a short time are being realized.

The production of tin has grown from little over 4,000 tons in 1897 to over 36,000 tons in 1909, and since that time there has been a constant increase, as we shall see when speaking of the foreign trade of Bolivia.

Other minerals, such as wolfram, bismuth, zinc,



antimony, etc., represent only a small portion of the present mineral production of Bolivia.

### COAL AND PETROLEUM.

Although coal has not yet been found there are indications of its existence around Lake Titicaca and in some other localities.

Petroleum is found in the Department of La Paz, in the Province of Caupolican and in the Department of Tarija. In fact, an expert sent some years ago saw a number of remarkable springs of crude petroleum west of San Jose; in various localities above Puerto Pando extending to Rurenabaque on the River Tuiche and in other places near and about Apolo.

The expert who examined the whole of that section to see whether it would be possible by means of a pipe line to bring the oil to Guaqui for railway purposes, thus saving the high expense of coal, believes it feasible and thinks there is sufficient oil in the section mentioned to warrant an expenditure of some two million dollars in order to pipe the oil from Apolo to Guaqui.

### VEGETABLE RESOURCES.

Bolivia, with an area of 1,450,000 kilometers, has in its eastern section more than 940,000 kilometers of vast forests and enormous grazing plains. This region is well watered by great rivers and nature has lavished upon it every known product of the tropics. Among the most notable trees of tropical Bolivia are magnificent woods; such as palm, mahogany, rosewood, cedar, rubber, banana, fig, mimosa and bamboo. The flora is rich in grasses of great height, climbing vines and other herbaceous plants with the most gorgeous flowers.

The section of this region below 6,500 feet is essentially tropical; and first quality coffee, cacao, coca, pineapples, oranges, bananas, cotton, sugar cane, rice, cinnamon, vanilla, and many medicinal plants, such as cinchona or Peruvian bark, sarsaparilla, etc., are cultivated.

In the zone below the high plateau and in the section between 6,500 and 12,000 feet are the temperate



PICKING COCA IN BOLIVIA

vales where grapes, figs, peaches, pears, apples, etc., grow; while wheat, corn and barley are cultivated to some extent.

The high plateau, although treeless and cold, comprises extensive grazing lands suitable for sheep; and potatoes, quinoa, barley, etc., are raised in large quantities.

In Bolivia agriculture is still in a very primitive state; and notwithstanding the advantages of



BUILDINGS OF THE COVENDO MISION, ON THE BENI RIVER





A PICADOR OR RUBBER GATHERER.

climate and fertile soil, there are many commodities, such as flour, that have to be imported.

Owing to the high cost of transportation and the want of sufficient labor for cultivating more than a very small section of country, very many valuable products, like coffee, coca, all varieties of fruits, etc., are raised only in limited quantities for home consumption, very little being exported.

The chief article of export is rubber, which is very abundant. It is found along the Beni, Madre de Dios, Orton, Tahuamanu, Manuripi, Abuná, and Madidi, in the Provinces of Caupolican, Larecaja, Yungas and Muñecas of the Department of La Paz; in Cochabamba on the Champaré and Chimoré Rivers; in Santa Cruz along the Rivers Itenes, Tarbo, Verde, etc.

There are several varieties of rubber trees, and a careful study of the forests would doubtless result in finding new species. The principal species known at present are: the *siringuera*, or gold tree, as the rubber men call it. It is a magnificent specimen, 100 to 130 feet high; in winter time, that is, in July and August, its leaves take a crimson hue and the rubber gatherers look for them to guide them in their searches. This tree produces the finest variety of rubber and is found along many of the rivers, such as the Orton, Abuná, etc. The manihot or Ceara rubber, the micerandra, the cahutchue and others are scattered in many sections.

Labor is very scarce and the means of access and exportation from the interior are expensive and difficult. It is calculated that 100 pounds of rubber costs from \$40.00 to \$50.00 at the place of production, and about \$16.00 per 100 pounds for transporting the rubber to the sea coast.

The Bolivian rubber is exported by the way of

Pará, the Paraguay River, and the Pacific Coast, according to the place of production.

The amount of rubber exported from Bolivia does not represent the real importance of the industry or the quantity obtainable from the trees, as with more abundant labor and transportation facilities the production could easily be increased many times the present actual amount.

The exportation of rubber during the last five years has been as follows:

1906 .....	1,929,608 kilograms
1907 .....	1,830,513 “
1908 .....	2,606,591 “
1909 .....	3,052,452 “
1910 .....	3,117,650 “

The greatest part of the rubber went to England, Germany and France, and some to the United States.

For further particulars about this very interesting subject the reader is advised to consult the “*Monografía de la Industria de la Goma Elástica*,” by Mr. Manuel B. Ballivian and Mr. Casto F. Pinilla, which contains very valuable and extended information about Bolivian rubber.

### ANIMAL RESOURCES.

The possibilities of a large cattle trade development in Bolivia are particularly attractive. The vast plains of Mojos, Chiquitos, Caupolican, the Chaco region and many other places in the Departments of Sucre, Cochabamba and Santa Cruz are especially suited to cattle raising on a large scale. Even at present thousands of wild cattle are found in some of the above mentioned districts, especially in Mojos, Chiquitos and Caupolican.

The high plateau could also be made a center of



sheep-raising. Actually a few thousand sheep grow almost without any care or attention. Besides sheep, alpacas and llamas are animals especially adapted to the climatic conditions of the high plateau of Bolivia. At present a few thousand pounds of alpaca wool, vicuña and chinchilla skins are exported.

### RAILWAYS.

On the 15th of May, 1892, President Arce formally opened to traffic the first railway operated in Bolivia. It starts from Antofagasta, formerly a Bolivian sea-port now occupied by Chile, and runs to Oruro; the total length being 924 kilometers. President Pando undertook in the year 1900 to construct with public funds the first national railway, which was opened to traffic in October, 1903; it unites Guaqui, on Lake Titicaca, with La Paz, a distance of 97 kilometers.

Bolivia having accepted two million pounds sterling from Brazil for the Acre territory, President Pando originated the plan of constructing railways with that money, and the plan was put into execution by building a system of much-needed roads. Colonel Montes, who succeeded General Pando as President, concluded a contract with some American bankers for the construction of the railway system, designed to facilitate the communication between the various sections of country. This contract was afterward transferred by the American bankers to the English company operating the Antofagasta road. The lines so far constructed are as follows:

From a place called Viacha, near La Paz, to Oruro, 217 kilometers; from Oruro to Potosi, 322 kilometers; from Oruro to Cochabamba, 209 kilometers (half finished). The line from Uyuni to Tupiza, 241 kilometers, is in construction. The La



CONSTRUCTION WORK ON THE GUAQUI RAILROAD

Paz-Puerto Pando road has been studied and is now being definitely located. This line will be about 201 kilometers long.

Besides these roads there is the Arica-La Paz line, which starts from Arica, a port on the Pacific. This road has been built by Chile as a part of the indemnity to Bolivia for its sea-coast; it has been completed and will be opened some time this year. Its length is 498 kilometers.



RACK ROAD AND TUNNEL ON THE ARICA-LA PAZ RAILWAY

The Madeira and Mamoré railway was built by Brazil as part of the indemnity due to Bolivia for the Acre territory. It will be opened to traffic in September, 1912, as far as Villa Bella, the Bolivian custom house at the junction of the Beni and Mamoré Rivers, which united form the Madeira. The road is 340 kilometers to Guayaramerin from Porto Velho, 5 kilometers below San Antonio. The line will be extended to Esperansa Falls, some 40 kilometers up the Beni River in Bolivia and to Rivera Alta also about 100 kilometers in Bolivia.



Besides these roads already in operation or more or less completed there are others that are being studied and will soon be constructed, namely, from Potosi to Sucre, 145 kilometers. The interest in the early construction of this line is such that the people of Sucre have subscribed in a very short time something like 100,000 pounds towards the construction expenses; and as there are already about 300,000 pounds appropriated for this work it is only necessary to have the definite surveys of the route to press the work.

The railroad from the Paraguay River to Santa Cruz, 630 kilometers; from Cochabamba to the Chimoré River, 210 kilometers; and from Yacuiba on the Argentine frontier to Santa Cruz, 602 kilometers, are also contracted.

Total length of railways in Bolivia are:

In operation.

From La Paz to Oruro.....	237 kilometers
Oruro to Potosi.....	322 “
Antofagasta-Oruro .....	924 “
Arica to La Paz.....	498 “
Madeira-Mamoré .....	340 “
Guaqui to La Paz.....	97 “

In construction.

Oruro-Cochabamba .....	209 “
Uyuni-Tupiza .....	241 “

To be constructed.

Potosi-Sucre .....	145 “
Puerto Suarez-Santa Cruz....	630 “
Yacuiba-Santa Cruz .....	602 “
Cochabamba-Chimoré .....	210 “
La Paz-Puerto Pando .....	201 “

---

4,656 kilometers

In this list there are not mentioned several small

branches, such as Pulacayo to Huanchaca, on the Antofagasta line, etc.

Railway construction is not an easy matter in a country crossed by two great chains of high mountains that branch out into many abrupt spurs.

The importance of the railways already built and under construction will be clearly understood by looking at the map. The La Paz-Oruro-Potosi-Tupiza line is one of the principal links of the Pan American Railway; and by uniting with the Argentine lines that are already at La Quiaca, on the boundary with Bolivia, one of the main sections of the Pan American road will be finished, thus making all-rail connection from La Paz to Buenos Aires, a distance of about 2,875 kilometers.

The Oruro, Cochabamba, Sucre and Potosi roads are very important not only because they will give new life to the very rich and productive valleys of Cochabamba and Sucre, but will considerably strengthen the national bonds and internal commerce.

The lines from Cochabamba to Chimoré and from La Paz to Puerto Pando will remove the obstacles to trade and intercourse which to the present time have been presented by the high and difficult passes through the eastern Andean Cordillera; and the profitable exportation of the boundless resources of the forests and plains opened by the railways will be made possible.

No less promising and important will be the lines starting from Puerto Caceres, on the Paraguay River to Santa Cruz, and from Yacuiba, on the Argentine frontier, to Santa Cruz. The enormous extent of fertile country, well watered and capable of giving maintenance to millions of people will be a great field for immigrants seeking homes.

The Madeira-Mamoré road is the greatest achieve-



RAILWAY SIDING AT PUACAYO. ORE DUMPS AND INDIANS ASSORTING ORE



ment of tropical engineering and has opened to the world an immense and almost inaccessible territory in Bolivia as well as in Brazil. The fourteen rapids have hitherto been a tremendous hindrance to all progress; requiring more than a month for a round trip across the rapids, and the dangers of the route represented almost the loss of 50 per cent of the people who ventured into the treacherous falls. To-day in eight or ten hours' time in comfortable cars the traveler and merchandise will be taken through without special risk.

The completion of the railway system we have sketched will make of Bolivia a compact and strong country; develop its internal trade, give life to its wonderful natural resources of mines, animal and vegetable products and attract immigration; for the want of population much land that could be made a source of wealth for mankind's benefit is left idle and unproductive.

#### MEANS OF ACCESS TO BOLIVIA.

For complete, reliable and interesting information as to the ways and means of getting to Bolivia and traveling through the country the reader should consult the "Guia del Viajero en Bolivia," by Luis S. Crespo, published at La Paz in 1908. It is the *Baedeker* of Bolivia.

**Argentine Route.**—Should the traveler wish to go to Bolivia by way of the Argentine Republic the route to follow would be, starting from Buenos Aires or Rosario to take the "Central Argentine" to Tucumén, thence to Jujuy and La Quiaca, the frontier of Argentine and Bolivia. The distance from Buenos Aires to La Quiaca is about 1,797 kilometers. From La Quiaca, until the Bolivian lines reach there, it is necessary to take stage coaches as far as Tupiza, 92

kilometers, and from Tupiza to Uyuni, 230 kilometers. The latter town is one of the stations on the Antofagasta road, from whence train may be taken to La Paz by way of Oruro.

The railroad from Tucuman in the Argentine to Perico, 334 kilometers, takes the traveler towards the eastern section of Bolivia, and from Perico to Yacuiba, 465 kilometers, as well as from Yacuiba to the city of Santa Cruz, a distance of 602 kilometers, the journey is made mostly on mule back.

There is also the River Paraguay route for the eastern section of Bolivia by means of steamers going up that river to Curumba and to Puerto Suarez; from that point the traveler must engage mules or carts to proceed to Santa Cruz and intermediate places. The deficient means of transportation at present existing will be remedied by the construction of the proposed railroad from Puerto Suarez to Santa Cruz; a very necessary thing for all of that large and rich section.

**From Chile.**—There are two ways: the Antofagasta line starting from the Pacific port of that name runs to Oruro, a distance of 924 kilometers, and from Oruro to La Paz by rail, 402 kilometers. The 36 hours' journey to La Paz is made by weekly express trains leaving Antofagasta at 7 P. M. The ordinary daily trains take three days. The other and the shortest route is from Arica to La Paz, 438 kilometers, and requires 18 hours. This line will be opened for traffic some time this year (1912). Passengers wishing to go south may take train at Viacha or La Paz. Railroad fare from Antofagasta to Oruro is Bs. 50 (about \$20 gold) first class, and Bs. 25, second class.

**From Peru.**—A railroad starts at the port of

Mollendo, passes Arequipa, distant 172 kilometers, and thence to Puno, 351 kilometers. At Puno on the border of Lake Titicaca passengers are transferred to the steamer for crossing the lake, which requires about twelve hours, 237 kilometers, and land at Guaqui in Bolivia. From Guaqui there is a railway to La Paz, 97 kilometers. The fare for first class passage from Mollendo to La Paz is Bs. 58 (about \$23.20) and second class, Bs. 28 (about \$11.20).

**From Brazil** via the River Amazon.—From Para up the Amazon River for a distance of 1,713 kilometers to Manaus the trip may be made by ocean steamers operated by several companies. Some of the boats go up the Madeira River to San Antonio, a distance of 1,228 kilometers on that river.

The navigation of the Madeira above San Antonio is obstructed by a series of fourteen very dangerous rapids extending for about 307 kilometers to Villa Bella.

How great the risks encountered by shooting through the madly rushing rapids may be appreciated when it is known that almost 50 per cent of the venturesome men who undertake the trip are lost every year, and that the freight for a ton of cargo is \$240 from Villa Bella to San Antonio.

The recently completed railway to avoid such a deadly route, and to open to free communication that wonderful section of territory is one of the most important achievements of civilization. The journey that formerly required at least a month for a return trip is now made in about eight hours and a half, in comfort and safety. It is intended that the railway be carried 18 kilometers further to Cachuela Esperanza on the Beni River, in order to avoid some minor rapids in that river.



At Villa Bella the traveler finds two routes: one by the Beni River towards the northwest, leading to the Department of La Paz; and the other by way of the Mamoré to the Departments of Beni, Santa Cruz and Cochabamba.

The Beni is navigable for steam launches from Villa Bella to Puerto Pando, a distance of 1,215 kilometers.



SHORE OF THE RIVER HEATH

The railroad to be constructed from La Paz across the Andes will connect at Puerto Pando the high plateau with the great Amazon valleys.

The navigation of the Mamoré River from Gayamerin to the Rio Grande and Pirai, also by small steam craft, covers a distance of 1,300 kilometers. The Mamoré has many navigable tributaries; one of them, the Chimoré, will be the terminus of the projected railroad from the city of Cochabamba.

## FOREIGN TRADE.

The steady progress of Bolivia during the last decade is shown by the growth of its foreign trade, as follows:

In 1902 the total exports and imports reached Bs. 42,184,920. In 1905 to Bs. 69,930,410. In 1907 Bs. 88,229,158. In 1909 Bs. 100,098,794. In 1910 Bs. 121,424,541 (the Boliviano is worth 40 cents gold).

Bolivia's exports always represent a larger amount than the imports. The principal articles of exportation in 1910 were:

Tin	Kilo . . . . .	38,548,441	valued at Bs. 65,140,249
Silver (fine)	" . . . . .	142,977	" " 5,476,397
Copper	" . . . . .	3,211,987	" " 1,786,952
Bismuth	" . . . . .	311,050	" " 1,923,417
Rubber	" . . . . .	3,117,650	" " 27,653,555

Besides these there are various metals, such as gold, zinc, iron, antimony, that are exported on a smaller scale. We may also mention coca leaves, coffee, Peruvian bark and some medicinal plants as part of the exports, together with some hides, sheep and alpaca wool, chinchilla and vicuña skins.

The principal articles of importation are: mining machinery, lumber, alimentary products, flour, leather goods, shoes, all kinds of textiles, woolen and cotton goods, petroleum, sewing machines and so forth. The principal countries to which the Bolivian products are exported are England, Germany, France and Belgium.

The countries from which Bolivia draws most of her importations are: Germany, the United States, England, Chile, France, Italy, Peru and Belgium, in the order named. The imports from the United States, mostly flour, lumber, cotton goods, machinery, canned goods, plated ware, shoes, etc., have been growing steadily during recent years.

## SYNOPSIS OF THE LAND, IMMIGRATION, MINING AND PATENT LAWS.

**Land Laws.**—The law of the 13th of October, 1905, contains the following provisions:

All vacant lands belong to the nation, and can be acquired by purchase or otherwise, subject to special regulations. An hectare (2.47 acres) of land is the unit of measure. Any one may acquire as many as 20,000 hectares, paying cash at the rate of 10 cents per hectare, for farming and grazing land; and if the land contains any rubber trees the price is one Boliviano (40 cents gold) per hectare. The purchaser must settle at least one family on every thousand hectares. Any request for a grant of more than 20,000 hectares must be made to Congress.

When the grant is given the land must be measured and properly located by a government expert, and the expenses incurred must be borne by the purchaser. The government reserves some of the vacant lands for adjudication to immigrants, the lands being granted only by act of Congress. In no case can public lands be claimed which are not actually occupied.

**Immigration Laws.**—Any alien not over 60 years of age, upon proof of good moral character, desiring to establish himself in Bolivia will be granted the following privileges: The right to come into the country and be transported to the place of destination over the highways or railroads of the country. This right extends to his wife and children; the free transportation of his baggage; the right to occupy public lands for agricultural purposes, stock raising or any other useful industry.

Each immigrant can obtain 50 hectares (120 acres), the value of which is fixed at 10 cents per





WATERFALL TO BE UTILIZED FOR ELECTRIC POWER IN BOLIVIA

hectare. Children over fourteen years of age can secure 25 hectares extra. The immigrant may have the option of paying cash or in five-year installments. In the latter case 5 per cent annually will be charged for the value of the land. The immigrants may freely select the land desired in the designated zone. Children over 18 years of age have the right to acquire separate land. No immigrants may possess more than three lots or sections by purchase or other means. In case of purchase on time, the immigrant cannot alienate or mortgage the property, the government having first lien on the land.

#### PATENT LAWS.

The law secures to all inventors a full and undisturbed enjoyment of their invention provided it is not contrary to order or good morals.

New methods or processes discovered for the improvement of any industry or manufacture shall also be considered as an invention.

Devices tending to change proportion of things already known or to produce articles which are merely ornamental shall not be deemed inventions.

The Government has the right to purchase for public benefit the secret of any useful invention.

The patent of invention shall be issued only for a period of fifteen years.

#### TRADE-MARKS.

By a yearly payment of five Bolivianos (\$2.00 gold) a trade-mark can be secured from the Ministro de Fomento. It may be secured for engravings, monograms, vinettes, stamps in relief, letters and numerals with special designs, cards or wrappings of articles, and any other signs intended to distinguish from all other products of factory.

The trade-mark duly secured becomes the exclusive property of the manufacturer or business man who obtained it, who shall have the right to oppose its use by other persons. It gives the trade-mark owner the right to enforce before the courts its exclusive use, and to assign or transfer the same to third parties.

The transfer of the trade-mark must be recorded at the proper office. All applications must be accompanied by two copies or samples of the marks to be registered. No application shall be admitted unless accompanied by the receipt of the Treasurer showing that the tax has been paid.

The samples of marks or emblems are kept by the Notary of the Treasury. Counterfeiters will be punished by a fine of from 20 to 200 Bolivianos, besides the penalties of Art. 302 of the Penal Code.

### MINING REGULATIONS.

The mining laws in Bolivia are very liberal, all foreigners enjoying the same privileges and rights as the natives. Any person having legal capacity to contract may ask for as many as thirty (30) mineral concessions (*pertenencias*). The measurement for each concession is fixed at 100 square meters (about 327 sq. ft.) in the direction desired by the applicant and indefinitely in depth.

The procedure is as follows: Any person finding deposits, placers, veins, etc., must make application to the Prefect of the Department in which the claim is situated, accompanying the application with a sketch showing clearly the position in which the mining claim shall be surveyed, and pointing out also its position in regard to adjoining claims. The application must be filed on stamped paper of the value of 10 Bolivianos (about \$4.00).





CARVED STONE DOORWAY IN SAN LORENZO CHURCH AT POTOSI

The Prefect, after having published the application in the papers for some time to see if there is any opposition to the claim, shall issue the decree of concession, and the applicant becomes the owner of the mine, paying the annual tax of 5 Bolivianos (about \$2.00 United States currency) for each pertenencia.

An application is considered abandoned if the survey and setting of landmarks are not made within 70 days from the first publication. Any person may denounce the abandonment of an application, asking to be granted the same, when the owner has failed to comply with the laws relating to the matter or the owner of a concession has failed to pay the yearly tax or patent fee.

For prospecting it is not necessary to get a special permission. Any person may do that kind of work, giving notice to the authorities of the district in which he intends to prospect.

Machinery and tools for mining purposes may be imported into the country free of duty.



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