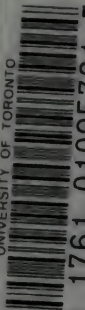


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HANDBOOK OF THE RIVER PLATE.

IMPRESA HELVETIA
ALEMANN, HERPIG Y RIESEN
BUENOS AYRES

HANDBOOK

OF

THE RIVER PLATE

COMPRISING

*THE ARGENTINE REPUBLIC, URUGUAY
AND PARAGUAY*

WITH RAILWAY MAP

BY

M. G. and E. T. MULHALL

PROPRIETORS AND EDITORS OF THE BUENOS AYRES "STANDARD".

SIXTH EDITION.

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M. G. AND E. T. MULHALL, STANDARD COURT.

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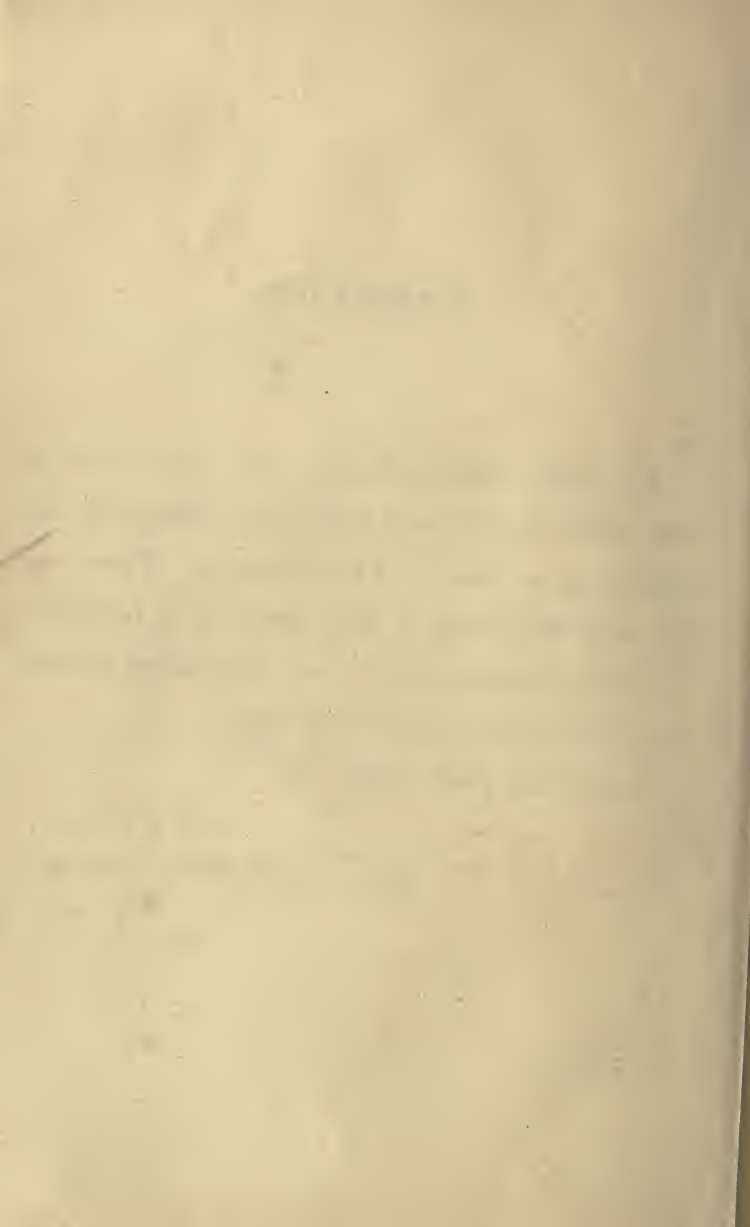


P R E F A C E .

The first edition of this work was given to the public thirty years ago: this is the sixth and makes up a total of 11,500 copies. There can be no better proof of its utility. It is moreover the first English book of any dimensions printed and published in this Continent.

September 24th 1892.

M. G. AND E. T. MULHALL.



GLOSSARY.

Aduana, *custom-house*
Alfa, *clover*
Arroyo, *creek*
Barraca, *store-house*
Barranca, *cliff or bluff*
Calle, *street*
Cañada, *valley*
Cerro, *peak*
Chacra, *grain-farm*

Ensenada, *bay*
Estancia, *cattle-farm*
Gaucho, *peasant*
Laguna, *lake*
Matrero, *outlaw*
Monte, *Plantation*
Quinta, *country-house*
Saladero, *beef-saltery*
Villa, *town*

CORRECTIONS.

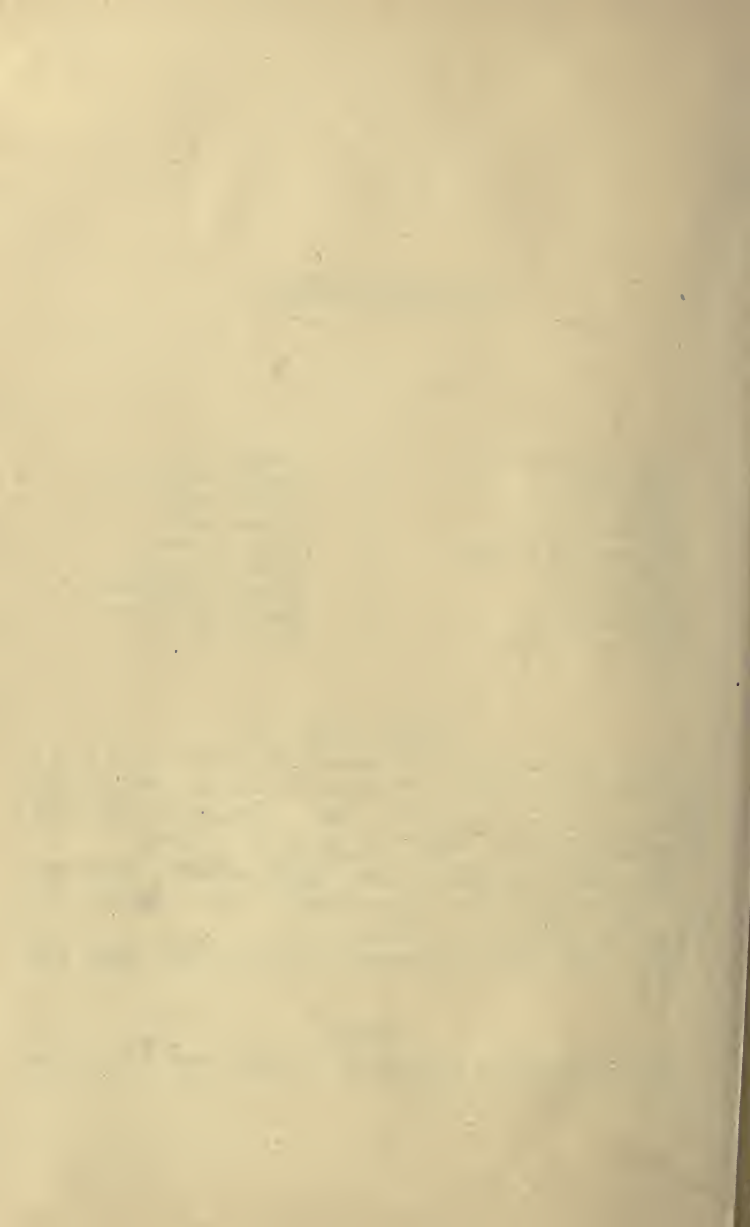
At p. 55 the table of causes of death is for the Province (not city) of Buenos Ayres in 1883: later returns will be found at p. 320. Those for the city of Buenos Ayres (1891) are given at p. 290.

At p. 257, respecting the English church there are no special pews for ship-captains, nor is there any longer a school for children.

At p. 313, line 18, instead of £3 an acre read £2.

NOTE:

There is no Table of Contents, but a complete Index will be found at end of the book, page 673.



THE ARGENTINE REPUBLIC.

I. Natural features.

The area is 1,212,600 sq. miles, the extreme length, from the frontier of Bolivia to States Island, Tierra del Fuego, being 2,300 miles and the average width about 500. There are questions of limits pending with Chile, Bolivia and Brazil, but the following is the actual line of frontier: on the side of Paraguay the Upper Paraná; of Bolivia an imaginary line from the foot of the Andes at 26° 45' S. Lat. to the Pilcomayo; of Chile the Cordillera of the Andes; of Brazil the Yguazú and Upper Uruguay; of Banda Oriental the rivers Uruguay and La Plata. Within these limits, the Republic comprises an area six times as large as that of France. It may be divided into 4 great sections viz:—

	sq. miles	Population
Ardine, from Mendoza to Jujuy	296,000	1,015,000
Central Provinces	395,000	2,312,000
Gran Chaco	125,000	50,000
Patagonia	316,000	30,000
Argentine Mesopotamia	80,600	640,000
TOTAL	1,212,600	4,047,000

The watershed drained by the Rio de La Plata has a superficies of 1,560,000 sq. miles. being second only to that of the Amazon. The outflow per second of the four greatest rivers in the world is as follows:—

Amazon.....	1,030,000	cub. ft.
La Plata.....	850,000	„ „
Mississippi.....	570,000	„ „
St. Lawrence.....	470,000	„ „

The Paraná contributes 80 per cent, the Uruguay 20 per cent, of the waters that form La Plata, this great estuary being 28 miles wide at Buenos Ayres and 65 at Montevideo; the depth varies from 15 to 36 feet, with a bottom of fine sand. The mean current is 118 feet per minute on the surface and 41 at the bottom. The ordinary tide rises 16 inches at Buenos Ayres.

The mountain system consists of three groups:—
 1st The Andes, from Magellan's Straits to the Bolivian frontier. 2nd The Sierras of Cordoba and San Luis. 3rd The Patagonian ranges of Tandil, Guamini and Curumalan. There are 12 well-known passes over the Andes, that of Uspallata being 12,870 feet above sea-level, which is the one most in use. The farthest south is that of Bariloche, 41°.20 S. Lat., only 2,770 feet above the sea. In the Sierras of Cordoba the highest point is 7,600 feet, and among the Patagonian ranges the Ventana peak rises to 3,360 feet.

There are two remarkable lakes, Nahuel-Huapi at the foot of the Andes and head-waters of the Rio Negro with an area of 1,200 sq. miles, and Biedma in Patagonia covering 400 sq. miles; besides many of less note.

Forests cover about one-half of the Gran Chaco, say 60,000 sq. miles, not in a compact mass, but with level plains intervening. There are also the forests of

Montiel in Entre-Rios, Pay-Ubre in Corrientes, Chañar in Cordoba; the principal kinds of wood being ñandubay, quebracho, espinillo, algarrobo, lapacho, cedar and urunday, all indigenous. European and other trees have been introduced, especially by the Jesuits, and are found to thrive. Forty years ago the Australian Eucalyptus or gum-tree was first brought hither, and now there are millions of these trees. All kinds of fruits and garden products of the old world are found in abundance.

It seems that before the Spanish conquest there were neither horses, dogs, cows nor sheep. Among indigenous animals is the Llama, a species of camel, which can carry a load of 100 lbs. on a long journey, averaging 15 miles daily: it flourishes nowhere but in the dry, cold climate of the Andes. The Alpaca is of the same family, with finer wool and preferring a damp climate: it has been domesticated by Mr. Ledger. The Guanaco is supposed to be a species of Llama grown wild, and is found alike in the warm valleys of the northern provinces and the cold plains of Patagonia. More beautiful than any of the preceding is the Vicuña, which is threatened with extinction, the hunters being allowed recklessly to kill males and females at all seasons. The species of ostrich known as ñandú is found in many provinces, but is likewise being exterminated. There is a kind of prairie-dog called Biscacha, the flesh of which is good but seldom eaten. Rattlesnakes are found in the Gran Chaco, and a viper called Vivora de la Cruz is common in the Pampas.

II. Population.

The population trebles in 30 years, being a more rapid rate of increase than in the U. States or Australia, viz:—

	1860	1890	Increase
U. States.....	31,443,000	62,481,000	99 p. cent.
Australia.....	1,224,000	3,910,000	218 „ „
Argentina.....	1,260,000	4,047,000	221 „ „

The normal rate of increase is 4 per cent per annum, and on this basis the Republic will have 5,500,000 inhabitants by the close of the century, being a little more than the United States had in 1800. The various provinces shew as follows:—

Provinces	1857	1890	Increase	Area sq. miles
Capital.....	78,500	541,300	595 p. cent.	—
Buenos Ayres...	198,300	850,000	320 „	106,000
Santa Fé.....	41,300	240,300	485 „	36,500
Córdoba.....	137,100	380,000	178 „	69,600
San Luis.....	37,600	100,000	165 „	40,500
Mendoza.....	47,500	160,000	237 „	50,000
San Juan.....	45,500	125,000	175 „	45,000
Ríoja.....	33,000	100,000	202 „	35,000
Catamarca.....	57,000	130,000	128 „	77,500
Santiago.....	77,600	160,000	106 „	35,000
Tucuman.....	84,000	210,000	150 „	16,500
Salta.....	67,000	200,000	200 „	48,000
Jujuy.....	33,000	90,000	173 „	22,000
Entre Rios....	79,300	300,000	280 „	36,000
Corrientes.....	85,400	290,000	239 „	40,000
Territories.....	58,000	190,000	228 „	555,000
TOTAL	1,161,000	4,046,600	221 „	1,212,600

The figures for 1890 are the official estimates, but no general census has been taken since 1869, when the population was found to reach 1,837,000, including an

estimate of 100,000 for the Indian territories. According to that census there were then living 234 persons who had passed 100 years of age. The distribution of sexes shewed:—

	Males	to	Females
Buenos Ayres.....	55	to	45
Upper Province.....	49	„	51
All Republic.....	51	„	49*

The provinces of Buenos Ayres, Santa Fé and Entre-Rios, to which foreign immigration chiefly flowed, had 20 per cent more males than females, but Cordoba, Rioja and San Luis shewed an excess of females, ranging from 8 to 12 per cent.

Birth-rates and deaths-rates cannot be ascertained, the returns for the upper provinces being unreliable. It would appear, however, that the birth-rate is about 38, death-rate 25, leaving a natural increase of 13 per thousand on the population, yearly, equal to 52,000 souls. Although the seasons are the reverse of those in Europe the distribution of births is almost as in France or Germany:—

Quarter ending	Argentina	France	Germany
March 31st.....	276	270	257
June 30th.....	234	250	243
Sept. 30th.....	227	240	250
Dec. 31st.....	263	240	250
Year.....	1,000	1,000	1,000

Immigration plays a leading part, the increase under this head averaging $2\frac{1}{2}$ per cent (or 25 per 1000) of the population: the returns from 1861 shew the number of arrivals thus:—

* In Europe the average is 49 males to 51 females; in the United States 51 to 49.

	Number	Per annum
1861—70	184,500	18,450
1871—80	432,100	43,210
1881—90	1,089,600	108,960
1891	75,400	75,400
31 years	<u>1,781,600</u>	57,400

The classification as to nationality from 1861 to 1890 does not include 419,400 arrived by way of Montevideo, but only those who came direct. Allowing the same ratios for those by Montevideo the result is as follows:—

	Direct	Total
Italians	773,860	1,032,000
Spaniards	229,360	301,500
French	136,040	179,300
British	30,030	40,200
Austrians	22,910	30,500
Swiss	20,600	26,700
Germans	19,140	24,900
Belgians	17,070	22,200
Various	37,740	48,900
<u>TOTAL</u>	<u>1,286,750</u>	<u>1,706,200</u>
Males	931,260	1,233,500
Females	355,490	472,700
<u>TOTAL</u>	<u>1,286,750</u>	<u>1,706,200</u>

The number of emigrants who returned to Europe in the said 30 years was 413,410, leaving a balance of 1,292,790. It is computed that 331,000 have died: the number of foreign residents, therefore, in 1891 would be 962,000, and the population of the Republic would be made up thus:—

Argentines	3,085,000
Italians	581,000
Spaniards	174,000
French	104,000
British	23,500
Germans etc.	79,500
<u>TOTAL</u>	<u>4,047,000</u>

In the above table Argentines, of course, include the children born of foreign parents in the country.

Official statistics of Buenos Ayres shew that Italian settlers are the most prolific, the annual birth-rate of the various classes in our population resulting as follows:—

Per 1,000 of population			
Italians	60	Spaniards	39
French	40	Argentines	19

Birth-rate in Europe rarely exceeds 40 per thousand.

III. Rural Industries.

Pastoral industry dates back to the time of the earliest Spanish settlers, but the period of its greatest development was the half-century from 1830 to 1880, in which time the number of sheep rose from 2,500,000 to 61,000,000. The increase in horses and horned cattle has been by no means commensurate with that of sheep; the estimates for 1864 and 1888 compare as follows:—

	1864	1888
Horses	3,875,000	4,400,000
Cows	10,215,000	22,870,000
Sheep	23,111,000	70,450,000

The growth of sheep-farming is shewn by the export of wool and the estimated number of sheep, as in the following table:—

Year	Sheep	Wool, lbs.	Lbs. per sheep
1830	2,500,000	6,000,000	2.3
1840	5,000,000	13,000,000	2.6
1850	7,000,000	21,000,000	3.0
1860	14,000,000	45,000,000	3.2
1870	41,000,000	137,000,000	3.3
1880	61,000,000	215,000,000	3.5
1891	78,000,000	310,000,000	4.0

It appears that in the last forty years, while the number of sheep has multiplied 11-fold, the wool-clip has increased 15-fold, three sheep at present yielding as much wool as four did in 1850. The relative importance of Argentina in the wool-clip of the world is shewn thus:—

	Sheep	Wool, lbs.	Lbs. per sheep
Europe	197,700,000	860,000,000	4.3
U. States.	43,500,000	320,000,000	7.2
Australia.	96,600,000	420,000,000	4.4
Argentina.	78,000,000	310,000,000	4.0
Other countries.	27,500,000	120,000,000	4.4
The World	443,300,000	2,030,000,000	4.5

Argentine wool is, however, of inferior quality, owing to the quantity of dust, so that when washed it yields only 35 per cent, whereas Australian gives 56, and Cape wool 70 per cent. Irish and Scotch farmers in Buenos Ayres and Santa Fé possess 22,000,000 sheep and 16,000 sq. miles of land, being at the rate of 1,400 sheep per sq. mile or 14,000 per sq. league, that is a fraction over two sheep to the acre, or double the Australian average.

Cattle-farming is mostly in the hands of Argentine landowners; the quantities of tallow, meat etc., exported have been as follows:—

	1871	1881	1891
Meat, tons	32,200	22,400	62,600
Tallow ,,	34,300	10,700	20,700
Cow-hides N ^o	2,430,000	2,190,000	3,940,000

The above figures refer to the Argentine Republic, but the Saladero business of all this part of South America is shewn in the following table of slaughter of horned cattle:—

	1875	1884	1891
Buenos Ayres. . .	321,000	98,000	448,000
Montevideo	163,000	349,000	223,000
Rivers.	625,000	705,000	838,000
Rio Grande	433,000	325,000	455,000
TOTAL	1,542,000	1,477,000	1,964,000

The saladeros of the Argentine Republic in 1891 killed 844,000 head, and as the cow-hides exported were 3,100,000 in excess of that number the consumption of beef must be enormous, since there was no drought to account for excessive mortality of cattle.

The official statement of live stock in the Argentine Provinces in 1888 was as follows:—

	Cows	Horses	Sheep	Value \$ gold
Buenos Ayres	9,600,000	1,860,000	55,800,000	135,000,000
Entre Rios..	4,100,000	720,000	4,900,000	38,000,000
Santa Fè....	2,300,000	530,000	2,900,000	22,500,000
Córdoba	2,100,000	410,000	2,400,000	19,500,000
Corrientes . . .	1,800,000	260,000	610,000	15,200,000
Santiago	590,000	110,000	780,000	5,500,000
San Luis	480,000	110,000	240,000	4,200,000
Catamarca. . . .	240,000	50,000	150,000	2,200,000
Tucuman	200,000	40,000	40,000	1,700,000
Mendoza	180,000	45,000	120,000	1,700,000
Salta	160,000	30,000	160,000	1,600,000
Jujuy	90,000	20,000	30,000	700,000
Ríoja	160,000	25,000	60,000	900,000
San Juan	50,000	25,000	60,000	600,000
Provinces . . .	22,050,000	4,235,000	68,250,000	249,300,000
Territories. . .	820,000	165,000	2,200,000	7,800,000
TOTAL	22,870,000	4,400,000	70,450,000	257,100,000

Notwithstanding the large number of live-stock the exportation of meat is a business of minor importance, as shewn by the trade-returns, viz:—

Years	Tons exported yearly			Value \$ gold
	Beef	Mutton	Total	
1876—80	32,300	—	32,300	2,800,000
1881—85	24,100	650	24,750	3,300,000
1886—90	34,400	14,800	49,200	4,900,000
1891	39,300	23,300	62,600	5,400,000

If more attention were given to pastoral industry the country could easily export 400,000 tons of meat yearly. The total production is at present about 360,000 tons, namely 300,000 for consumption and 60,000 for export.

The capital value of pastoral industry may be estimated thus:—

	\$ gold	=	£ sterly
Live stock.....	257,100,000	=	51,000,000
Land.....	528,000,000	=	104,200,000
Sundries.....	41,000,000	=	8,100,000
TOTAL	826,100,000	=	163,300,000

This is by far the most important industry in the country, representing a value equivalent to 230 gold dollars or £46 sterling per inhabitant. The annual products are approximately as follows:

	Quantity	Value \$ gold
Wool, tons.....	138,000	36,100,000
Meat, tons.....	360,000	21,600,000
Cow-hides.....	4,200,000	9,600,000
Sheepskins.....	24,000,000	7,200,000
Tallow, tons.....	40,000	4,800,000
Live cattle	—	5,200,000
Sundries.....	—	31,900,000
TOTAL		116,400,000

This is equal to nearly 14 per cent on capital, and if we deduct one-half for working-expenses it will be seen that pastoral industry gives about 7 per cent per annum as an investment.

Agriculture or tillage has made great strides in recent years, as the following table of acreage shews:—

Year	ACRES		
	Grain	Sundries	Total
1854	150,000	225,000	375,000
1864	200,000	306,000	506,000
1874	470,000	355,000	825,000
1884	2,542,000	1,718,000	4,260,000
1890	5,534,000	1,893,000	7,427,000

The official statement in 1890 was as follows:—

	ACRES		
	Grain	Sundries	Total
Buenos Ayres	2,870,000	550,000	3,420,000
Santa Fé.	1,155,000	315,000	1,470,000
Entre Rios.	580,000	28,000	608,000
Córdoba	340,000	250,000	590,000
Santiago	225,000	75,000	300,000
Mendoza	25,000	199,000	224,000
San Juan	38,000	162,000	200,000
Corrientes.	65,000	50,000	115,000
Catamarca.	11,000	104,000	115,000
Other provinces	225,000	160,000	385,000
TOTAL	5,534,000	1,893,000	7,427,000

Since 1890 the area under crops in Santa Fé has risen to 2,220,000 acres, and the total for the republic must be now at least 8,200,000 acres, or more than two acres per head of the population.

The growth in the principal branches of tillage has been as follows in the last 7 years:—

	ACRES	
	1884	1891
Wheat	1,717,000	3,310,000
Maize.	825,000	1,680,000
Flax.	198,000	110,000
Sugar	43,000	90,000
Wine	63,000	85,000
Tobacco	11,000	12,000
Lucerne, etc.	1,403,000	2,140,000
TOTAL	4,260,000	7,427,000

With increased production of grain the surplus available for exportation has risen prodigiously, the average having been as follows:—

	Tons, yearly
1878—80	30,100
1881—83	81,000
1884—88	342,000
1889—91	801,000

It cannot be said that the country is specially adapted for grain-growing, since there is constant danger from drought and locusts. Even in good years the wheat-crop ranges from 8 to 10 bushels per acre, or one ton per cuadra, which is only half the average in European countries. The soil, meantime, is very rich, bearing a close resemblance to that of the Mississippi valley or the black loam of Southern Russia: it yields crops in succession without manure of any description. Exceptional crops are obtained where irrigation is employed: in Mendoza, for example, it is not uncommon to get 30 bushels of wheat per acre.

Wine is grown in the following provinces:—

	Acres	Tons grapes	Gallons wine
Mendoza	22,500	25,000	3,500,000
San Juan.	25,000	30,000	4,000,000
Rioja.	15,000	15,000	2,000,000
Catamarca	5,000	5,000	700,000
Buenos Ayres.	15,000	18,000	1,000,000
Salta	2,500	2,500	300,000
TOTAL	85,500	95,500	11,500,000

The vineyards of Mendoza in 1891 counted 76,000,000 vines, or 3,500 per acre and yielded more than one ton of grapes per acre, the production of wine being about one gallon for 20 vines. The value of the vineyards of Mendoza was put, down at

\$10,000,000 currency or £550,000 sterling. The *Economista* in March 1892 estimated for the whole Republic an area of 100,000 acres under vines and a vintage of 13,300,000 gallons, adding that as soon as the new vineyards be in full bearing the yield will not fall short (say in 1895) of 22,000,000 gallons. The ordinary consumption of wine ranges from 20 to 24 million gallons yearly or double the production.

Sugar is now grown in such quantity that the importation has fallen to 12,000 tons or one sixth of the consumption. Tobacco is grown of an inferior quality, but the crop stands for about two-thirds of the total consumption. The production of these two articles is estimated as follows:—

	Acres		Crop, tons	
	Sugar	Tobacco	Sugar	Tobacco
Tucuman	50,000	2,000	35,000	1,000
Santiago	15,000		10,000	
Salta	9,000	2,000	6,000	1,000
Jujuy	6,000		4,000	
Corrientes	1,500	6,000	1,000	3,000
Chaco etc.	8,500	2,000	6,000	1,000
TOTAL	90,000	12,000	62,000	6,000

Linseed has greatly fallen off: it was first tried in 1880, and the industry reached its maximum in 1887, when 81,000 tons were exported, but at present the exportation is hardly one-fourth of that figure.

Alfa or Lucerne is one of the great crops of the republic, being grown in nearly all the provinces: about 3,000,000 tons are raised, but it is nearly all used for home consumption, the quantity of hay exported not exceeding 30,000 tons yearly.

Potatoes were imported from Europe down to 1876, but the production at present exceeds consumption, no

less than 3,000 tons having been exported in 1891. There are, apparently, at least 40,000 acres under this crop, yielding about 60,000 tons per annum.

The crops of 1891 were estimated thus:—

	Acres	Tons	Value, \$ gold
Wheat	3,300,000	825,000	25,500,000
Maize	1,700,000	930,000	13,500,000
Barley etc.	400,000	160,000	3,200,000
Linseed	110,000	20,000	600,000
Sugar.	90,000	60,000	3,000,000
Tobacco.	12,000	6,000	600,000
Lucerne.	1,200,000	3,000,000	23,000,000
Wine	105,000	45,000	4,500,000
Sundries.	683,000		11,800,000
• TOTAL	7,600,000		85,700,000

The amount of capital employed in tillage may be estimated as follows:—

	\$ gold
8,200,000 acres of land.	96,000,000
Implements, houses, sundries.	48,000,000
TOTAL	144,000,000

If we deduct half the annual products for working expenses the balance, say \$43,000,000, will represent an annual profit of 30 per cent on capital, as compared with 7 per cent for pastoral industry, but it must be observed that tillage is exposed to great risks.

The capital and product of rural industries may be summed up thus:—

	Capital \$ gold	Gross product \$ gold	Net product \$ gold
Pasture.	826,100,000	116,400,000	58,200,000
Tillage.	144,000,000	85,700,000	42,900,000
TOTAL	970,100,000	202,100,000	101,100,000

This shews a net yield of $10\frac{1}{2}$ per cent per annum on the capital employed, land forming 65 per cent of said capital.

The value of products in the several provinces stands approximately thus:

	Gold dollars		
	Pastoral	Tillage	Total
Buenos Ayres...	59,400,000	33,000,000	92,400,000
Santa Fé.....	10,100,000	13,400,000	23,500,000
Entre Rios.....	16,800,000	5,700,000	22,500,000
Córdoba.....	8,500,000	5,600,000	14,100,000
Tucuman.....	1,100,000	7,100,000	8,200,000
Corrientes.....	6,700,000	1,100,000	7,800,000
Mendoza.....	1,100,000	4,400,000	5,500,000
Santiago.....	2,200,000	2,900,000	5,100,000
Salta.....	900,000	2,800,000	3,700,000
San Juan.....	800,000	2,800,000	3,600,000
Catamarca.....	1,200,000	1,900,000	3,100,000
San Luis.....	1,400,000	900,000	2,300,000
Rioja.....	600,000	1,700,000	2,300,000
Jujuy.....	500,000	1,700,000	2,200,000
Territories.....	5,100,000	700,000	5,800,000
TOTAL	116,400,000	85,700,000	202,100,000

Buenos Ayres stands for 52 per cent of the pastoral, and nearly 40 per cent of the agricultural, products of the republic.

The value of rural products as compared with other countries and population is as follows, reduced to English money:—

	Products yearly	£ per inhabitant
U. Kingdom.....	£251,000,000	7.0
France.....	460,000,000	11.5
Germany.....	424,000,000	8.5
U. States.....	776,000,000	12.5
Canada.....	56,000,000	11.0
Australia.....	62,000,000	16.0
Argentina.....	40,000,000	10.5

This country is nearly on a par with Canada as regards agricultural products per inhabitant.

IV. Lands.

The value of lands has risen as follows according to official and semi-official returns:—

Year	\$ gold
1857	107,000,000
1884	487,000,000
1886	646,000,000

The official statement for 1886 (to which is appended a scale of present values) shews as follows:—

	\$ gold	Ordinary price (in 1892) per sq. league
Buenos Ayres..	351,000,000	30,000 to 60,000 \$
Santa Fé.....	44,500,000	20,000 „ 40,000 „
Entre Ríos....	90,200,000	20,000 „ 40,000 „
Córdoba.....	45,200,000	5,000 „ 10,000 „
San Luis.....	7,200,000	3,000 „ 5,000 „
Mendoza.....	25,500,000	3,000 „ 5,000 „
San Juan*.....	5,700,000	2,000 „ 4,000 „
Rioja.....	3,000,000	1,000 „ 2,000 „
Catamarca.....	10,100,000	1,000 „ 2,000 „
Santiago.....	9,100,000	1,000 „ 2,000 „
Tucuman.....	17,200,000	5,000 „ 10,000 „
Salta.....	14,100,000	1,000 „ 2,000 „
Jujuy.....	2,000,000	1,000 „ 2,000 „
Corrientes.....	21,300,000	10,000 „ 20,000 „
TOTAL	646,100,000	

The total landed value of the republic may be summed up thus:—

* This figure is incorrect: see chapter on Wealth.

Description	Sq. leagues	Value \$ gold	Per league \$
Agricultural.....	1,200	96,000,000	80,000
Good pasture.....	36,400	528,000,000	14,500
Waste, forest etc...	29,000	22,000,000	750
TOTAL	66,600	646,000,000	

A square league contains 6,666 English acres, or a little more than 10 square miles. The best land is in the province of Buenos Ayres, and as a rule the lands in the northern part of this province carry more sheep, and fetch a higher price, than those in the south; the capacity and price per square league averaging as follows:—

	Cows and horses	Sheep	Value per league \$ gold
North.....	600	20,000	80,000
South.....	1,000	10,000	40,000
Frontiers.....	1,300	3,000	10,000

Most of the lands within 100 miles of the city of Buenos Ayres (besides large areas in Santa Fé and Entre Rios) are now given up to tillage, in small farms, which greatly enhances their value. The following scale shews the value approximately with reference to distance:—

Miles from B. Ayres	Value \$ gold per sq. league	Shillings per acre
Under 100	160,000	100
100—200	100,000	60
200—400	30,000	20
over 400	15,000	10

In many of the Upper Provinces, as well as in Patagonia and elsewhere, there are great tracts of land utterly valueless. The total area of the republic may be briefly summed up thus:—

	Sq. leagues	Acres English
In use.....	37,600	251,000,000
Forest etc.....	29,000	193,000,000
Desert.....	54,660	365,000,000
TOTAL	121,260	809,000,000

The land under the above item of "desert" is not wholly barren; much of it may one day be made available for pasture or tillage, but it is at present unoccupied. In fact only 30 per cent of the republic, or 251 million acres, is productive.

The system of Homestead grants is unknown in the Argentine Republic, although a law to this end was passed by Congress, under President Sarmiento in 1872; no facilities were given to settlers, and the law proved a dead-letter.

Numerous colonies have, however, been established in Santa Fé, Entre Rios and Cordoba, in which the land has been sold by owners to immigrants at prices averaging \$20 to 40 gold per cuadra, say from £1 to £2 per acre. The Government has also started some colonies in a similar way. The first agricultural colony was founded by D. Aaron Castellanos at Esperanza, Santa Fé in 1856, and now that Province counts no fewer than 249 colonies with 108,000 European settlers.

Land-grants have at times been given by the National Government, in lots of 32 sq. leagues, or 200,000 acres, with conditions of introducing a certain number of families. Concessions of this kind, were given between 1881 and 1889 to the extent of 17,000 square miles, but the Government has since cancelled some, for very good reasons.

It is impossible to arrive at the extent of public lands, some of which are held by the National Govern-

ment, others by the governments of the respective provinces. The national territories cover an area of 55,000 sq. leagues or 370,000,000 acres, one-third of which would perhaps be useful for settlers. The Government of the Province of Buenos Ayres in 10 years down to 1882 sold 3,000 sq. leagues or 20,000,000 acres, at an average price of \$4,000 gold per square league or half-a-crown per acre.

The Land Law passed by Congress in January 1884 permits settlers to lease land from the National Government for a term of 8 years, in lots of one square league, at \$100 currency (say £5 sterling) per lot, but as these lands are situate in the Gran Chaco and Patagonia no settlers are likely to take them.

V. Wealth.

The growth of wealth in the first half of the 19th century was slow. We have no estimates earlier than 1857, from which date down to 1884 the public fortune multiplied itself 5 times over. In 1886 a period of inflation commenced, owing to the issue of 550 millions of dollars in bank-notes and Cedulas, and a fictitious kind of wealth was created. Between 1890 and 1892 a corresponding fall of values took place, averaging 67 per cent, so that all descriptions of real estate are now (1892) worth only one-third of what they were in 1889.*

* An official table on this subject will be found in the Appendix.

According to the Receiver of Revenue in the Province of Buenos Ayres all landed-property has fallen 60 per cent.

The following table shews approximately the wealth at three dates:—

	Millions of \$ gold		
	1857	1884	1892
Land	107	527	646
Houses.	95	472	520
Cattle.	91	331	257
Railways		79	382
Sundries.	75	466	602
TOTAL	368	1,875	2,407

All the above values are in gold. It will be observed that cattle shew a decline of \$74,000,000 (or 22 per cent) since 1884, the result of depreciation in paper-money, the present value being 950 millions currency or nominally almost three times as much as in 1884. The new capital sunk in railways since 1884 is over 300 million gold dollars, or £60,000,000 sterling.

The annual increase of wealth, in gold dollars, as compared with population shews thus:—

Period	Medium pop.	Annual Increase \$	Dollars. yearly per inhab.
1857—1884	2,100,000	56,000,000	27
1884—1892	3,500,000	64,500,000	18

It appears that in the period ending 1884 the annual savings of two men were equal to those of three in the period ending 1892; which shews that the crisis has diminished by one-third the power of the people to accumulate wealth.

The following table, reducing the values to English money, shews the wealth of Argentina as compared with some other countries:—

	Millions £ sterling	Value per inhabitant, £.
Argentina	478	130
Australia	1,373	343
Canada	980	196
U. Kingdom	9,400	247
France	8,600	224
U. States	12,820	210

The distribution of wealth in the various Provinces and the annual earnings of the people shew approximately as follows:—

	Millions \$ gold		Per inhabitand	
	Wealth	Earnings	Wealth \$	Earnings \$
Buenos Ayres	1,332	205	950	148
Entre Rios	197	42	660	140
Santa Fé	188	40	740	165
Córdoba	192	34	505	90
Corrientes	96	18	330	65
Tucuman	59	16	280	76
Mendoza	69	13	420	80
Salta	49	11	250	60
Santiago	56	11	350	70
Catamarca	40	9	320	68
San Luis	37	7	370	70
San Juan	53	9	420	75
Rioja	24	6	240	60
Jujuy	15	5	170	55
TOTAL	2,407	417	590	104

The foregoing table of wealth is based on the official returns and an allowance of 25 per cent for sundries. As regards the Province of San Juan the official value of lands quoted at page 16 from a table published by the National Government is evidently much too low, since we have before us returns by the San Juan Government, in 1888 which sum up \$42,200,000 gold. This is, on the other hand, an exaggeration, the

real value being about the same as in Mendoza. The table quoted at page 16 is also at fault in putting an excessive value on the lands of Entre Rios and Cordoba. After making due allowance for the above inaccuracies the component parts of wealth in the several Provinces will be found as in the subjoined table:—

	Millions of gold dollars					Total
	Land	Cattle	Houses	Railways	Sundries	
Buenos Ayres..	341	135	333	190	333	1,332
Santa Fé.....	45	23	28	45	47	188
Cordoba.....	40	20	29	55	48	192
San Luis.....	10	4	6	8	9	37
Mendoza.....	26	2	11	13	17	69
San Juan.....	26	2	8	4	13	53
Rioja.....	6	2	6	4	6	24
Catamarca.....	10	3	9	8	10	40
Santiago.....	9	6	12	15	14	56
Tucuman.....	17	3	14	9	16	59
Salta.....	14	3	12	8	12	49
Jujuy.....	4	1	4	2	4	15
Entre Rios....	70	38	27	13	49	197
Corrientes.....	28	15	21	8	24	96
TOTAL	646	257	520	382	602	2,407

It will be seen that Buenos Ayres (city and province together) stands for more than half the wealth of the republic, and Entre Rios holds the second place.

VI. Railways.

The first line was that constructed from Buenos Ayres to the suburb of Flores, 6 miles, in 1857, at a cost of £65,000 sterling. The progress of railway construction in the past 35 years is shewn thus:—

Railways in Argentina see Map.	INITIALS	MILES WORKING VARIOUS GAUGES.		
		Broad.	Medium	Metre.
Audine (National)	A.R.	158	—	—
B. Blanca North Western	B.B.N.W.	127	—	—
Central Argentine	C.A.R.	754	—	—
Central Cordoba	C.C.R.	—	—	679
Central Northern (National)	C.N.R.	—	—	247
Chubut Central	C. Chu	—	—	44
Chumbicha and Catamarca (Nat.)	C. & C.	—	—	41
Cordoba and Rosario	C.R.R.	—	—	178
Dean Funes and Chilecito (Nat.)	D.F.C.	—	—	182
East Argentine	E.A.R.	—	99	—
Ensenada Port	E.P.R.	95	—	—
Entre Rios (and First E. Rios)	E.R.R.	—	377	—
Great Southern	G.S.R.	1,338	—	—
Great Western	G.W.R.	319	—	—
North East Argentine	N.E.A.	—	150	—
North West Argentine	N.W.A.	—	—	95
North West Argentine to Rioja	N.W.A.R.	40	—	—
North West Cordoba	N.W.C.	—	—	94
Pacific	P.R.	426	—	—
Rosario and Tucuman	R.T.R.	900	—	—
San Cristobal and Tucuman	S.C.T.	—	—	373
Santa Fé Provincial	S.F.P.	—	—	748
Santa Fé Southern and Cordoba	S.F.S.C.	186	—	—
Santa Fé Western	S.F.W.	129	—	—
South American Central	S.A.C.	—	—	—
Trasandine and Valparaiso	T.V.R.	—	—	75
Villa Maria and Rufino	V.M.R.	141	—	—
Western of Buenos Ayres	W.B.A.	360	—	—
		4,983	626	2,756

Railways in Uruguay		Miles working.
Central Uruguay	C.U.R.	602
Midland	M.R.	198
North Western	N.W.R.	113
Northern of Uruguay	N.U.R.	71
		984

Railways in Paraguay	P.R.	142
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Brazilian frontier lines		
Cuareim to Itaquí		156
Cacequí to Bagé		438
„ „ Bejiga		162
		406

On the Map are given the names of terminal Stations and of most junctions. The main rivers are also indicated.

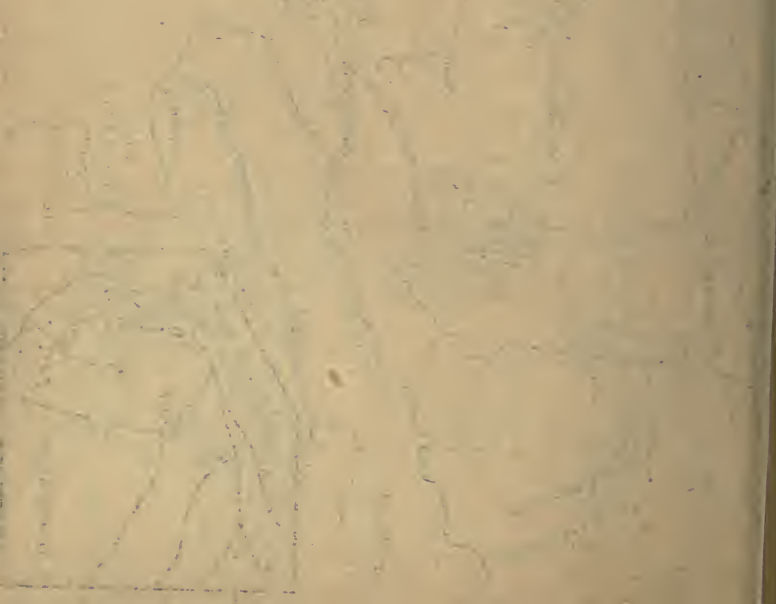
In the squares Buenos Ayres and Rosario the chief Terminal Station of each Railway is shewn.

National Capitals	●	Lines working	—
Provincial „	●	„ in construction	- - - -
Junctions and Terminal stations	●	National boundaries	+ + + +
	●	Provincial „	- - - -

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Year	Miles open	Cost £
1857	6	65,000
1875	770	7,300,000
1884	2,290	15,750,000
1890	5,710	68,800,000

At present there are 7,230 miles either in actual traffic or in a condition to be ready before the end of 1892, the various provinces shewing thus:—

	Miles	Cost, £
Buenos Ayres.	2,210	37,800,000
Santa Fé	1,505	9,200,000
Córdoba.	1,210	10,900,000
Santiago.	485	2,900,000
Entre Rios	440	2,600,000
Mendoza.	260	2,500,000
Tucuman	210	1,800,000
Corrientes,	190	1,600,000
Catamarca	180	1,500,000
Salta.	180	1,500,000
San Luis	180	1,500,000
Rioja	80	700,000
San Juan.	60	700,000
Jujuy	40	400,000
TOTAL	7,230	75,600,000

The amount of capital invested in railways, as compared with population is very great, being £18 per inhabitant, against £15 in France, £10 in Germany, £5 in Italy, £22 in U. Kingdom, £24 in Australia and £35 in the United States.

The mileage, capital and gross earnings (in English gold) for the year ending December 1890 were as follows:—

	Miles	Capital £	Earnings £
G. Southern.....	838	11,000,000	480,000
B. Ayres & Rosario..	738	8,400,000	610,000
North Central.....	688	6,200,000	300,000
Western, B. Ayres...	634	12,800,000	730,000
S. Fé Colonies.....	506	2,000,000	170,000
Central Argentine....	432	6,800,000	310,000
Pacific.....	425	3,300,000	220,000
G. Western.....	318	3,900,000	150,000
Entre Ríos.....	184	1,200,000	40,000
N. E. Argentine.....	170	6,200,000	4,000
Andine.....	157	850,000	40,000
East Argentine.....	99	1,000,000	20,000
West. S. Fé.....	130	800,000	55,000
Ensenada.....	66	1,800,000	200,000
Various lines.....	325	2,550,000	106,000
TOTAL	5,710	68,800,000	3,430,000

The passenger and goods traffic on the principal lines in 1890 shewed thus:—

	No. of Passengers	Tons Goods	Per mile	
			Passengers	Goods
Central Argentine ...	2,380,000	870,000	5,530	2,020
G. Southern.....	2,120,000	950,000	2,520	1,130
Ensenada.....	1,785,000	405,000	26,800	6,100
B. Ay. & Rosario...	1,510,000	805,000	2,040	1,090
B. Ay. Western.....	905,000	590,000	1,420	920
North Central.....	350,000	420,000	510	610
Pacific.....	200,000	215,000	470	505
S. Fé Colonies.....	235,000	340,000	460	670
Various lines.....	582,000	870,000	415	620
TOTAL	10,067,000	5,465,000	1,760	960

Four of the lines with an aggregate of 640 miles, were worked at a loss, the working-expenses exceeding the earnings. The net earnings of the other lines shewed thus:—

	Net earnings		Profit on capital
	Amount £	£ per mile	
B. Ayres Western....	320,000	505	2.5
B. Ayres & Rosario..	255,000	345	3.3
G. Southern.	250,000	300	2.2
Central Argentine....	120,000	285	1.8
Ensenada	90,000	136	5.0
S. Fé Colonies.....	36,000	71	1.8
North Central.....	31,000	45	0.5
Pacific.....	28,000	66	0.8
Various.....	40,000	44	0.5
TOTAL	1,170,000	231	2.0

Deducting the 640 miles that earn nothing the annual net proceeds on the remainder amount to just 2 per cent on capital. But if the 640 miles were included the net earnings on the whole railway capital would be only $1 \frac{3}{4}$ per cent.

The following table shews the number of locomotives, the mileage run by them, in 1890 and the gross earnings per mile run:—

	Locomotives	Miles run	\$ gold per mile
G. Southern.....	149	2,220,000	1.10
B. Ay. & Rosario	97	2,080,000	1.50
North Central....	94	1,860,000	0.80
Central Argentine.	107	1,420,000	1.10
Various.....	433	4,820,000	
TOTAL	880	12,400,000	

The ordinary gauge is 5 feet 6 inches, but the Entre Rios lines are 4 feet $8\frac{1}{2}$ inch, and the North Central as well as most of the Santa Fé railways are only 40 inches.

Much capital has been wasted in the construction of lines nearly parallel: there are, for example, two lines from Buenos Ayres to Bahia Blanca, two to Rosario, two to Mercedes, three from Rosario to Tucuman; the duplicate lines making up fully 1,600 miles, the con-

struction of which cost about £14,000,000 sterling. Moreover, some of the lines built had no other object than to fill the pockets of concessionaires, who obtained Government guarantees and then sold their concessions in London. These guarantees have weighed heavily on the Treasury, the sums paid on this account shewing thus:—

Years	Amount, £ stg.	Line	Amount £
1874—82	530,000	E. Argentine.	990,000
1883—86	365,000	Pacific.	880,000
1887—88	760,000	G. Western.	530,000
1889	630,000	North Central.	360,000
1890	620,000	Various.	145,000
<u>TOTAL</u>	<u>2,905,000</u>		<u>TOTAL 2,905,000</u>

The guarantees actually running in 1891 were:—

North Central.	£ 208,000
Pacific.	192,000
Great Western.	144,000
N. E. Argentine.	86,000
East Argentine.	68,000
Various.	222,000
<u>TOTAL</u>	<u>920,000</u>

The sums already paid by the Argentine Government for guarantee account of the East Argentine line exceed the total expended in its construction.

The following is a brief sketch of the various lines:—

1. Western of Buenos Ayres, begun in 1857. It belonged to the Provincial Government of Buenos Ayres down to 1890, when it was sold to a London company.

The mileage was as follows:—

	Miles
1866	73
1876	150
1886	418
1890	756

The gauge is $5\frac{1}{2}$ feet. The company has re-sold some sections, the length being now only 634 miles.

2. Northern of Buenos Ayres, built for an English company in 1862–64, is 20 miles long, $5\frac{1}{2}$ ft. gauge, was leased in 1890 at £50,000 a year to the Central Argentine.

3. Great Southern, commenced in 1864 by Messrs. Peto and Betts for an English company, the Government of Buenos Ayres giving a 7 per cent guarantee. Mr. Robert Crawford was the constructing engineer. The mileage at various dates was:—

	Miles
1865	72
1875	203
1885	640
1891	934

This line in 20 years ending 1890 paid 180 per cent in dividends, averaging 9 per cent yearly. Some new branches are in construction. The company surrendered the guarantee some years ago. Gauge $5\frac{1}{2}$ feet.

4. Central Argentine, begun by Mr. Wheelwright, at Rosario in 1863 and opened to Cordoba in 1870; length 246 miles, gauge $5\frac{1}{2}$ feet. The company received a Government guarantee of 7 per cent on a cost of £6,400 per mile, besides a grant of 3,000,000 acres for colonies. During many years the line earned dividends of 10 to 12 per cent, down to 1890, in which year a branch of 95 miles was made to a place called Sastre, in the Chaco, and another to Pergamino; besides which two lines were leased by the company, namely the Northern of Buenos Ayres and the Western branch from Pergamino to Luxan. In 1891 the line was worked at a loss, the system worked being 432 miles long.

5. Ensenada line, made by Brassey and Wheelwright in 1863 as far as Barracas, and completed to Ensenada

in 1870 at a cost of £20,000 per mile. There was no Government guarantee. Mr. Wheelwright intended making a port at Ensenada, but his death in 1873 was fatal to the scheme. The line has recently been prolonged to Magdalena. Gauge $5\frac{1}{2}$ feet.

6. The Andine, 157 miles, from Villa Maria to Villa Mercedes (Rio Quinto) was begun by Messrs. Jackson & Co, in 1870 and opened to Rio Cuarto in 1873. The second section was made by Messrs. Rogers & Thomas in 1875. This line was built for the Argentine Government and has been very unprofitable: the Government has made repeated efforts to sell it, as the gross receipts do not exceed £250 a mile. Gauge $5\frac{1}{2}$ feet.

7. East Argentine, from Concordia to Caseros, 99 miles, 4 ft. $8\frac{1}{2}$ inch gauge, was built by an English company in 1874—76, on a Government guarantee of 7 per cent for £10,000 a mile. In 14 years, ending 1890, the Government had paid £990,000 on account of this guarantee.

8. Buenos Ayres & Rosario: the first section to Campana was made in 1875 by an English company, who had a guarantee for £8,000 a mile. The line was opened to Rosario in 1886, and a prolongation to Tucuman, in 1891. Length 738 miles, gauge $5\frac{1}{2}$ feet.

9. Central Northern was built by Count Telfener for the National Government as far as Tucuman, 341 miles, in 1874—76 at a cost of £4,460 per mile. Mr. Wheelwright had desired to make this line a prolongation of the Central Argentine, but the Government unluckily preferred the narrow-gauge project of Telfener, and Mr. Wheelwright died of a broken heart. The introduction of the 40—inch gauge was disastrous, causing much trouble and expense by the break of gauge at Cordoba. The line has since been prolonged

to Jujuy: total length 688 miles, of which 540 have been sold to an English company, for the sum of £3,200,000 sterling. The remaining 148 miles belong to the Government.

10. G. Western, 318 miles, $5\frac{1}{2}$ ft. gauge, was built by Government engineers. It is in reality a continuation of the Andine line, from Villa Mercedes to the Andes. The section to San Luis was opened in 1880, that to Mendoza in 1884, and to San Juan in 1886. It has been sold to an English company: the gross receipts are under £500 a mile.

11. Santa Fé Western, 130 miles, $5\frac{1}{2}$ feet gauge, was commenced by Carlos Casado in 1883, to connect his colony of Candelaria with the port of Rosario, the Government of Santa Fé giving him a guarantee on an outlay of £4,800 per mile, besides a grant of 50 square leagues or 330,000 acres for colonies. A second section was afterwards made to Melincue, and a third known as the Sanford-Celman branch.

12. Santa Fé Colonies, 506 miles, 40-inch gauge: this is a group of narrow-gauge lines constructed for the Santa Fé Government: one goes to Reconquista on the river Paraná, facing Goya; another to the Murrieta colony of San Cristobal in the Chaco.

13. Pacific line, 425 miles, from Buenos Ayres to Villa Mercedes, was made in 1887 by Messrs J. & M. Clark, who had a concession with 7 per cent guarantee from the Government: they sold it to an English company, gauge $5\frac{1}{2}$ feet.

14. Entre Rios Central, 184 miles, 4 feet $8\frac{1}{2}$ inch gauge, was built by the Provincial Government and ceded in March 1892 to an English company. It crosses the province from Paraná to Concepcion, and has branches to Victoria, Villaguay, Gualaguay and Gualaguaychú.

15. Transandine: about 65 miles of this line are working, from Mendoza to Cuevas, and it is hoped to have it completed in two years to Chile. The tunnel at the Cumbre will be 10,568 ft. over sea-level.

16. North-east Argentine: this line is in construction for an English company by Messrs. Clark. One section is completed, from Caseros to Mercedes, 80 miles; and another, 70 miles, from Corrientes to Saladas. When the section from Saladas to Mercedes is completed the line will be 230 miles long: gauge 4 ft. 8½ inches. It is also proposed to make a line from Caseros to Posadas, crossing Misiones, 250 miles in length.

17. North-west Argentine, from Tucuman to Monteros and Lamadrid, 112 miles, was built in 1888 by an English company. It forms a loop-line with the North Central. The gross receipts in 1890 were £200 per mile, the net earnings nil.

18. Santa Fé Southern, from Constitucion to Carlota, 190 miles. The net proceeds in 1890 were only £3,600 sterling: the gross earnings averaged £100 per mile.

19. Rufino and Villa Maria, 137 miles. 5½ ft. gauge. was built by an English company in 1890, who have leased it to the Pacific Railway Co.

20. Cordoba & Rosario, 260 miles. 40-inch gauge, constructed by Hume & Co. for an English company: it was opened in 1891.

21. Funes to Famatina, 280 miles, gauge 40 inches, is a branch of the North Central not yet completed. The section open to traffic terminates at Padquia, about 180 miles from the junction at Dean Funes.

22. Recreo to Catamarca, 130 miles, 40-inch gauge, is another branch of the North Central.

23. Frias to Santiago, 100 miles, is also a branch of the same line.

24. Cordoba North-western, 70 miles, gauge 40-inches, connects Cordoba and Cruz del Eje.

25. Bahia Blanca North-western, $5\frac{1}{2}$ ft. gauge was intended to cross the Pampas from Bahia Blanca to Villa Mercedes (Rio Quinto), but the works, on conclusion of the section to General Acha, 172 miles, were suspended.

VII. Finances.

The revenue of the republic, reduced to gold dollars, has been as follows:—

	\$ gold	£ sterling
1864	7,010,000	1,400,000
1870	15,330,000	3,060,000
1880	20,250,000	4,050,000
1887	42,200,000	8,440,000
1890	29,300,000	5,860,000
1891	19,200,000	3,840,000

If we sum up the revenue and expenditure for 26 years the account will stand thus:—

	Revenue \$ gold	Expenditure \$ gold	Debt \$ gold
1866—70	61,600,000	83,700,000	47,510,900
1871—75	88,100,000	123,500,000	82,880,000
1876—80	90,300,000	93,700,000	86,310,000
1881—85	145,700,000	177,800,000	118,400,000
1886—91	203,300,000	566,100,000	481,200,000
26 years	589,000,000	1,044,800,000	

Debt has multiplied 10-fold in the above interval of 26 years. The following table, from the official returns, shews its growth more clearly:—

Year	Foreign \$ gold	Internal \$ gold	Total \$ gold
1861	10,900,000	6,200,000	17,100,000
1871	50,300,000	23,300,000	83,600,000
1881	82,700,000	24,400,000	107,100,000
1885	92,600,000	25,800,000	118,400,000
1891	234,200,000	246,600,000	481,200,000

The foreign debt in Dec. 1891 was composed thus:—

	\$ gold
Pellegrini loan.....	40,500,000
Loans suspended.....	118,700,000
Moratorio loan.....	75,000,000
<u>TOTAL</u>	<u>234,200,000</u>

Internal debt was made up thus:—

	\$ currency	\$ gold
Currency loans.....	22,500,000	5,000,000
Gold „.....		29,100,000
Free Banks.....		212,500,000
<u>TOTAL</u>	<u>246,600,000</u>	

If the unissued portion of the Moratorio loan (which in June 1892 was about 40 millions) be deducted the foreign debt will not exceed 194 millions, and the total debt will then be only 441 millions, or about £88,000,000 sterling.

If we take merely the funded debt of the Nation and compare it with public wealth at various dates we find as follows:—

Year	Millions \$ gold		Ratio of debt
	Wealth	Nat. Debt	
1857	368	15	4 p. c.
1884	1,875	118	6 „
1892	2,391	441	18 „

The public debt in 6 years, from 1885 to 1891, rose 323 millions which is accounted for thus:—

	\$ gold
Free Banks.....	212,500,000
Public Works etc....	110,500,000
TOTAL	323,000,000

Besides the funded debt there, are various obligations which in some countries are treated as public debt:—

	Amount \$ gold	Interest \$ gold
Guaranteed railways...	80,400,000	4,500,000
Cedulas.. .. .	42,800,000	3,400,000
Paper-money.	75,000,000	
TOTAL	198,200,000	7,900,000

In the above table Cedulas and paper-money are reduced to a gold equivalent at 350 per cent: the Provincial Cedulas of Buenos Ayres are not included.

Provincial Finances.

The latest returns (1891) shew the estimated revenue, the debt and the annual service of debt as follows:—

Province	Revenue \$ gold	Debt \$ gold	Interest \$ gold
Buenos Ayres..	3,400,000	49,200,000	3,820,000
Entre Rios....	1,700,000	18,300,000	1,860,000
Córdoba.....	1,700,000	19,200,000	1,340,000
Santa Fé.....	2,300,000	37,300,000	2,090,000
Mendoza.....	570,000	5,100,000	350,000
Salta.	300,000	5,000,000	350,000
Santiago.	510,000	5,100,000	350,000
Corrientes....	720,000	5,200,000	350,000
Rioja.	380,000	4,300,000	280,000
Tucuman.....	550,000	3,000,000	210,000
Catamarca....	330,000	3,100,000	210,000
San Juan.....	300,000	2,100,000	75,000
San Luis.....	200,000	2,600,000	55,000
Jujuy.	80,000	—	—
TOTAL	13,040,000	159,500,000	11,340,000

Municipal Finances.

	Revenue \$ gold	Debt \$ gold	Interest \$ gold
Buenos Ayres..	3,100,000	13,100,000	800,000
La Plata	200,000	—	—
Rosario	550,000	6,500,000	330,000
Córdoba.....	300,000	2,800,000	140,000
Tucuman	100,000	600,000	40,000
Santa Fé.....	240,000	1,200,000	90,000
Paraná.....	100,000	800,000	60,000
Various towns .	220,000	400,000	30,000
TOTAL	4,810,000	25,400,000	1,490,000

The revenue, debt and annual cost of service of debt, national, provincial and municipal, sum up as follows:

	Revenue \$ gold	Debt \$ gold	Interest \$ gold
National	19,200,000	441,200,000	22,400,000
Provincial	13,040,000	159,500,000	11,340,000
Municipal	4,810,000	25,400,000	1,490,000
TOTAL	37,050,000	626,100,000	35,230,000

The inventory of National properties drawn up in 1888 by order of Pres. Juárez Celman shewed a total of 708 millions currency or \$ 362,700,000 gold, say £72,000,000 sterling. Some of the items were, however, exaggerated and others had no real value. The figures may be summed us thus:—

	\$ gold Valuation	\$ gold Real value
Lands.....	141,500,000	56,700,000
Public buidings ...	40,600,000	18,100,000
Bank shares.....	29,200,000	900,000
Bank deposits	76,200,000	—
Drainage works....	14,000,000	14,000,000
Railways.....	43,200,000	32,000,000
Sundries.....	18,000,000	6,000,000
TOTAL	362,700,000	127,700,000

The bank-shares which were valued at £32 each may now be bought for £1, and the bank-deposits were not available, the banks being insolvent.

VIII. Banking.

On the 15th January 1822 the first bank in the River Plate was founded under the name Casa de Moneda, by a number of English and Argentine merchants, simply as a bank of discount, all currency being in gold and silver. In 1826 it was reformed as the "Bank of the United Provinces," and a board of directors constituted, in which we find the names of Joshua Thwaites, James Britain and James Barton. Paper-money was then first created, namely to the amount of \$2,700,000, exchange being at the rate of 44 pence, or 18 dollars to the doubloon. The capital paid-up was one million dollars, or £180,000 sterling, and the business was so profitable that the first dividend was 30 per cent., the shares, of \$1,000 each, rising to a premium of 70 per cent. The war with Brazil ensued, and the bank was compelled to make advances to the Government, which entailed a fresh issue of paper-money. In October 1829 the dollar had fallen to $7\frac{1}{2}$ pence, or 108 to the doubloon. General Rosas re-modelled the bank in 1836 as the Casa de Moneda: in that year the issue amounted to \$15,200,000, exchange being 122 to the doubloon, that is a fraction over 6 pence to the dollar. In 1839 the issue was raised to 24 millions, and the dollar had fallen to less than 3 pence, or 300 to the doubloon. In 1846 there was a fresh issue, which raised the amount in circulation to 126 millions, the dollar falling

below 2 pence. In 1852 and the following year there were 7 issues, in the aggregate 91 millions. Another issue of 100 millions attended the campaign of Pavon. in 1861, and of this amount 55 millions were consumed by monthly amortization down to 1863, in which year the currency stood at 340 millions. In 1866 Governor Alsina established the Oficina de Cambios to convert the currency at 25 for one, that is about two-pence.

The currency remained stationary until May 17th 1876, when the Oficina de Cambios closed its doors, and gold rushed up to 12 per cent premium. The currency was increased by repeated issues, from 420 millions in 1867 to 865 millions in 1882, the gold premium rising to 35 per cent.

President Roca re-modelled the currency, a second time, in 1883, the old money being called-in (July) at the rate of 25 for one. The new issue therefore comprised about 35 millions, convertible for gold, say £7,000,000 sterling. Since then there have been various issues, by other banks, the actual amount in circulation being officially stated at 261 millions, which has caused a depreciation of 70 per cent. The dollar now stands at 14 pence, and the total issue represents about 15 millions sterling.

The National Bank was founded in 1873 with a capital of 8 million hard dollars, say £1,600,000 sterling, which was raised in 1884 to 20,600,000 dollars, and afterwards to 50,000,000. It is now in liquidation.

A new National Bank was started by Government in December 1891, with a capital of 50 millions of inconvertible currency, involving a new issue.

The first private bank was that of Baron Mauá founded in 1858, which carried on a good business for 17 years, till 1875, when it was closed. The second

was the London and River Plate Bank, opened 1st January 1863, with a paid-up capital of £600,000. Branches were established in Montevideo, Cordoba and Rosario. This bank has given dividends averaging more than 10 per cent per annum, and has now over 100 clerks.

Carabassa's bank opened in 1860, has recently been amalgamated with the London and River Plate Bank.

The Italian Bank, founded in 1872 by Messrs. Demarchi and others, paid more than 150 per cent in dividends down to 1890.

The English Bank of the River Plate, founded in 1880, failed in 1891.

In late years several foreign banks have established agencies in this city, such as the London and Brazilian, the English Bank of Rio Janeyro &c., besides some new banks opened, including the Anglo-Argentine, the Banco Comercial, the French, German, Spanish and others.

In 1884 there were 6 banks, the balance-sheets shewing thus, in gold dollars (5 equal to one pound sterling):—

	Capital \$ gold	Deposits \$ gold	Issue \$ gold
Provincial.....	32,700,000	66,900,000	34,600,000
National.....	20,700,000	14,000,000	21,600,000
Carabassa.....	7,000,000	6,700,000	—
London & R. Plate .	7,400,000	5,300,000	—
Italian.....	1,600,000	3,200,000	—
English of R. Plate..	5,000,000	2,100,000	—
TOTAL	74,400,000	98,200,000	56,200,000

In January 1885 President Roca issued a decree authorizing the banks of issue to suspend specie payments. In 1888 Congress passed the famous Pacheco bill for

Free-banking, by which new banks of issue were created without any obligation to pay their notes in specie. The consequence was that in October 1889 there were 52 banks, and the country was flooded with inconvertible paper-money.

The balance sheet for Dec. 31st 1888 of the Pache-co Free Banks shewed thus:—

Bank	Capital paid \$	Funds deposited \$	Reserve fund \$	Issue \$
National	41,300,000	41,300,000	15,900,000	86,600,000
Provincial B.A.	34,300,000	34,400,000	13,950,000	65,600,000
Cordoba	13,800,000	8,000,000	2,810,000	15,200,000
Santa Fé.	5,000,000	5,000,000	2,900,000	25,000,000
Tucuman.	3,000,000	—	—	—
Salta	300,000	125,000	150,000	125,000
Entre Rios.	3,000,000	3,000,000	300,000	8,500,000
Santiago	1,800,000	2,070,000	210,000	2,100,000
Mendoza	2,800,000	3,000,000	300,000	3,000,000
Catamarca	1,500,000	1,200,000	120,000	1,200,000
Salta	4,100,000	4,800,000	480,000	4,800,000
San Luis.	600,000	600,000	60,000	600,000
Rioja.	3,200,000	1,045,000	100,000	1,040,000
San Juan.	2,400,000	1,660,000	110,000	1,100,000
Corrientes	1,800,000	2,120,000	200,000	2,000,000
Private	2,800,000	1,980,000	310,000	1,835,000
TOTAL	121,700,000	110,300,000	37,900,000	218,700,000

The issue of the above banks was supposed to be guaranteed by gold deposited with the Government, but the gold was made use of and none of it remains.

Official returns were published in 1889 of 24 banks (the others having given no statement) shewing the assets on Dec. 31st 1888 in gold dollars (reduced from currency at 140 per 100) as follows:—

Bank	\$ gold	£ sterling
Provincial (B. A.) . . .	141,000,000	= 28,000,000
National	103,000,000	20,400,000
London and R. Plate	39,500,000	7,800,000
English Bank of R. P.	29,500,000	5,800,000
Constructor	18,500,000	3,600,000
Italian	14,000,000	2,700,000
Cordoba	11,800,000	2,300,000
Santa Fé	10,600,000	2,100,000
Spanish	7,200,000	1,400,000
Comercio	5,800,000	1,100,000
Territorial	5,200,000	1,000,000
French	5,000,000	1,000,000
Prestamos	4,500,000	900,000
Credito Real	4,200,000	800,000
Entre Rios	4,200,000	800,000
La Plata	4,000,000	800,000
New Italian	3,500,000	700,000
Mercantil	3,500,000	700,000
Popular B. Ayres	2,800,000	550,000
Popular Argentino	1,800,000	350,000
Descuento	1,300,000	250,000
Santa Fé Constructor . .	900,000	170,000
Salta	900,000	170,000
Cuyo	800,000	150,000
TOTAL	423,500,000	= 83,540,000

The sum totals of the said 24 banks shewed as follows reduced to gold at the same date thus:—

Assets	\$ gold	£ sterling
Discounts	266,200,000	= 52,800,000
Pub. fund	24,400,000	4,800,000
Real estate	13,100,000	2,600,000
Debts	31,700,000	6,300,000
Sundries	39,300,000	7,440,000
Cash	48,800,000	9,600,000

TOTAL 423,500,000 = 83,540,000

Liabilities

Capital	115,500,000	22,800,000
Deposits	184,800,000	36,600,000
Issue, &c,	123,200,000	24,140,000

TOTAL 423,500,000 83,540,000

The capital, deposits and issue of all banks in the Republic reduced to gold value, were as follows:—

	1884	1888	1892
	\$ gold	\$ gold	\$ gold
Capital....	74,400,000	115,500,000	29,200,000
Deposits...	98,200,000	184,800,000	—
Issue.....	56,200,000	123,200,000	75,000,000

The existing banks and their capital reduced to gold in April 1892 were:—

	Paid Capital	
	\$ gold	£ sterling
Argentine.....	3,000,000	600,000
London and R. Plate	4,500,000	900,000
British and S. American	1,500,000	300,000
London and Brazilian.	3,800,000	750,000
Anglo-Argentine.....	1,250,000	250,000
Italian.....	4,800,000	950,000
French.....	2,000,000	400,000
German.....	2,500,000	500,000
Spanish.....	1,800,000	360,000
New Italian.....	1,500,000	300,000
Roman.....	600,000	120,000
Commercial.....	000,000	180,000
	28,150,000	5,610,000

All these are in Buenos Ayres, those in the other Provinces counting for nothing. There has been a loss of 75 per cent in the banking capital of the republic, or £17,200,000 sterling in the last four years.

The value of the currency as compared with gold since the suspension of specie payments in January 1885 has been as follows:—

Year	Average for 100 \$ gold in currency			Dollar in pence
	Highest month	Lowest month	Annual average	
1885	148	122	137	35.8
1886	156	116	139	35.3
1887	145	124	135	36.3
1888	154	142	148	33.1
1889	233	151	180	27.2
1890	311	225	257	19.0
1891	437	319	373	13.1

In April 1892 the quotation fell to 334, giving the paper-dollar a value of nearly 15 pence (14.7).

The following table shews the amount of currency at various dates and its value in gold:—

	Value	
	\$	£ sterling
1826	2,700,000	500,000
1836	15,200,000	350,000
1846	90,000,000	750,000
1856	170,000,000	1,700,000
1866	420,000,000	3,400,000
1876	711,000,000	4,800,000
1886	70,000,000	11,500,000
1892	261,000,000	15,200,000

The Hypothecary or Mortgage Bank of Buenos Ayres was founded by the Provincial Government in 1873, and the amount of Cédulas in circulation was as follows:

	\$	Market price	Value in gold, \$
1873	6,500,000	85	85
1880	13,000,000	80	64
1885	49,700,000	85	63
1888	178,000,000	83	55
1891	305,000,000	43	11

The National Mortgage Bank was started by the

National Government in December 1886, and the Cédulas in circulation in currency and in gold were:—

	\$ currency	\$ gold
1887	49,300,000	
1889	83,500,000	18,000,000
1891	83,300,000	19,700,000

The total amount of national and provincial Cédulas in circulation and the saleable value of same were as follows:—

Year	Amount \$	Value, gold \$	Discount
1873	6,500,000	5,530,000	15 p. c.
1880	13,000,000	8,300,000	36 »
1888	253,000,000	143,400,000	44 »
1892	408,000,000	65,200,000	84 »

Payment of coupons on Provincial Cédulas has been suspended since April 1891. It is estimated that the cost to the public of all kinds of Cédulas in circulation was:—

	\$ gold
Provincial	190,500,000
National	75,500,000
TOTAL	<u>266,000,000</u>

The present market value being only \$65,200,000 gold there has been a loss of \$201,000,000 gold, or £40,500,000, in this description of investment.

IX. Commerce.

The values of imports and exports, reduced to gold dollars, were at various dates as follows:—

Years	Imports \$	Exports \$	Total \$
1825	7,700,000	6,100,000	13,800,000
1842	6,700,000	7,100,000	13,800,000
1850	10,500,000	11,300,000	21,800,000
1865	27,100,000	22,100,000	49,200,000
1875	55,800,000	50,300,000	106,100,000
1885	92,200,000	83,900,000	176,100,000
1891	67,200,000	96,700,000	163,900,000

The above were the official values, which are in some respects misleading, because gross exaggerations. For example:

	Value \$ gold per ton	
	Official	Real
Sugar	190	80
Rice	80	40
Tea	1,000	500
Salt	50	15
Wheat	60	40

After careful examination we find that imports were valued 50 per cent, exports 20 per cent, above their real value,

On this basis we find that the real trade of the last 5 years was as follows:—

Year	Real value		
	Imports \$ gold	Exports \$ gold	Total \$ gold
1887	78,300,000	70,300,000	148,600,000
1888	85,600,000	83,400,000	169,000,000
1889	109,700,000	75,100,000	184,800,000
1890	94,800,000	84,000,000	178,800,000
1891	44,800,000	80,600,000	123,400,000
Average	82,800,000	78,700,000	161,500,000

The imports and exports from and to various countries in 1891 shewed thus:—

	Official value, \$ gold		
	Imports from	Exports to	Total
G. Britain . . .	28,300,000	14,800,000	43,100,000
France	7,900,000	23,700,000	31,600,000
Germany	6,200,000	11,400,000	17,600,000
Belgium	6,500,000	16,600,000	23,100,000
U. States	3,400,000	4,200,000	7,600,000
Italy	4,200,000	3,200,000	7,400,000
Brazil	1,500,000	9,100,000	10,600,000
Spain	1,600,000	1,300,000	2,900,000
Various	7,600,000	12,400,000	20,000,000
TOTAL	67,200,000	96,700,000	163,900,000

The import trade during the last four years shewed as follows:—

	1888	1889	1890	1891
Sugar, tons	19,400	34,500	29,500	12,800
Rice, »	13,600	15,900	17,600	11,800
Coffee, »	3,200	2,700	3,200	1,900
Tobacco, »	4,600	4,500	7,400	3,200
Yerba, »	18,000	21,000	23,000	18,000
Iron, »	65,000	85,000	24,000	14,000
Coal, »	330,000	660,000	515,000	350,000
Paper, »	3,500	5,000	4,800	2,500
Ploughs N ^r	26,900	39,500	26,800	12,200
Pianos »	2,100	2,600	850	100
Sewing-machines N ^r	25,000	22,000	13,000	3,200
Clocks N ^r	76,000	101,000	39,000	13,000
Wine gallons	18,000,000	23,000,000	19,000,000	7,200,000
Beer »	770,000	1,360,000	860,000	45,000
Bran 'ly »	260,000	350,000	240,000	90,000
Gin »	350,000	330,000	240,000	45,000
Olive oil »	1,100,000	1,400,000	1,100,000	600,000
Petroleum »	3,100,000	4,000,000	3,600,000	2,300,000
Lumber sq. metres.	11,900,000	18,300,000	9,900,000	4,100,000
Dry goods, \$ gold.	29,050,000	32,300,000	30,100,000	17,100,000

The export trade in the same years was:—

	1888	1889	1890	1891
Wool, tons	131,700	141,800	118,400	138,600
Sheepskins »	28,100	36,400	27,100	24,200
Tallow »	14,800	18,300	17,400	20,700
Meat »	44,800	58,300	63,900	62,600
Wheat »	186,900	27,100	342,800	317,700
Maize »	162,300	432,600	707,300	583,200
Hay »	9,300	20,400	19,100	30,100
Linseed »	40,200	28,200	30,700	6,500
Hides N ^o	3,670,000	3,590,000	4,560,000	4,290,000

The total export trade was classified according to value as follows:—

Class	1888 \$ gold	1889 \$ gold	1890 \$ gold	1891 \$ gold
Pastoral . . .	78,500,000	100,600,000	69,500,000	67,200,000
Agricultural	16,900,000	17,400,000	25,600,000	21,900,000
Sundries . .	4,700,000	4,800,000	5,700,000	7,600,000
TOTAL	100,100,000	122,800,000	100,800,000	96,700,000

The different ports of the republic stood thus in 1890 (nominal values):—

	Imports \$	Exports \$	Total \$
Buenos Ayres . . .	103,200,000	57,700,000	160,900,000
Rosario	15,700,000	16,000,000	31,700,000
Santa Fé	5,400,000	1,100,000	6,500,000
Bahia Blanca	3,400,000	3,100,000	6,400,000
San Nicolas	500,000	5,100,000	5,600,000
Concordia	2,100,000	2,700,000	4,800,000
La Plata	3,000,000	1,100,000	4,100,000
Various	9,000,000	14,000,000	23,000,000
TOTAL	142,200,000	100,800,000	243,000,000

The ratio of customs-dues to commerce was as follows:—

Year	Commerce \$ gold	Duties \$ gold	Ratio
1870	76,800,000	14,000,000	18 p. c.
1880	100,600,000	15,600,000	15 »
1891	163,900,000	14,700,000	9 »

We have already shewn that the official valuation is too high and that the real total of trade in 1891 did not exceed \$123,400,000 gold: hence the customs-dues in that year were not 9 but 12 per cent on the gross value.

The carrying-trade as regards vessels trading with foreign ports in 1890 compared with previous years thus:—

Year	Tonnage		
	Entered	Cleared	Total
1881	1,320,000	1,170,000	2,490,000
1885	3,600,000	3,350,000	6,950,000
1890	6,340,000	5,510,000	11,850,000*

The coasting-trade and river traffic shewed as follows:—

Year	Tons		
	Entered	Cleared	Total
1881	1,790,000	1,770,000	3,560,000
1885	2,950,000	3,050,000	6,000,000
1890	3,320,000	2,880,000	6,200,000

It is worth observing that while foreign trade multiplied nearly five-fold in 9 years the tonnage of coasting-vessels did not double itself.

The trade from foreign countries shewed entries as follows:—

	Tons		
	Steam	Sailing	Total
1881	910,000	410,000	1,320,000
1885	2,830,000	770,000	3,600,000
1890	5,050,000	1,290,000	6,340,000

The entries of sailing-vessels multiplied three-fold. those of steamers $5\frac{1}{2}$ fold.

* This is not strictly trade of the high seas, since it embraces that of Montevideo, Paysandú and other riverine ports, not Argentine.

Coasting and river-port entries shewed:—

	Tons		
	Steam	Sailing	Total
1881	1,280,000	510,000	1,790,000
1885	2,275,000	675,000	2,950,000
1890	2,540,000	780,000	3,320,000

The various ports shewed the following tonnage of entries from foreign countries, in 1890:—

Ports	Steam	Sail	Total
Buenos Ayres . . .	1,860,000	860,000	2,720,000
Rosario	610,000	140,000	750,000
Concordia	380,000	15,000	395,000
Colon	350,000	5,000	355,000
San Nicolas	270,000	10,000	280,000
La Plata	75,000	120,000	195,000
Various	1,505,000	140,000	1,645,000
TOTAL	5,050,000	1,290,000	6,340,000

The daily local traffic between Montevideo and Buenos Ayres is included in the above, and as this trade is mostly done by steamers carrying the Argentine flag the said flag figures very largely in the so-called foreign trade of the Republic, viz:—

Flag	Entries, tons
British	2,650,000
Argentine	1,830,000
French	395,000
Italian	305,000
German	290,000
Norwegian	230,000
Various	640,000
TOTAL	6,340,000

Excluding the steamers on the Buenos Ayres and Montevideo route we find the foreign trade of the Republic shews 4,500,000 tons of entries, and that 60 per cent of it is done on British bottom,

X. Public Departments.

The army of the line on peace footing comprises 7,000 men, of whom 3,500 infantry. There are 15 generals, 240 field officers and 880 under field rank. The National Guard counts 540,000 men, of whom 420,000 are "activos" between the ages of 17 and 45, and 120,000 "pasivos" or reserve, between 45 and 60 years of age.

The navy comprises 3 ironclads, 16 cruisers and gunboats, and 15 torpedo-vessels. The Admiral Brown is a sea-going armor-clad, 4,200 tons, 5,400 horse-power, protected by 9-inch steel armor, and carrying 8 heavy Armstrong guns, 11½ ton breech-loaders: she is equipped with Whitehead torpedoes and electric light, and was built by Messrs. Samuda from designs by Sir W. White. The "25 de Mayo" was built in 1891 and is considered one of the finest cruisers afloat. The torpedo-vessel Muraturi has a speed of 26 miles an hour, and carries torpedoes of 16-inch diameter, the largest in the world. The fleet is manned by 320 officers, 810 seamen and 370 marines.

The troops of the Line use Remingtons, the artillery Krupp and Gatling guns, and the navy Armstrong and Vavaseur guns. There are a naval school at Martin Garcia and a military college at San Martin. The total annual expenditure for army and navy averages \$15,000,000 currency or £800,000 sterling.

Public instruction has made great progress in recent years, as we see by comparing the official returns of 1891 with those of 1883, viz:—

	1883	1891
Schools	1,746	3,233
Scholars	124,900	249,700

The schools of 1891 shewed as follows:

	Schools	Teachers	Scholars
Public	2,400	5,399	194,700
Private	833	1,656	55,000
TOTAL	3,233	7,055	249,700

The number of pupils and the expenditure shewed as follows:—

	Pupils	\$ currency
B. Ayres city	54,600	1,520,000
Province of B. Ayres	50,100	2,120,000
Tucuman	15,700	450,000
Cordoba	12,600	380,000
Corrientes	9,300	220,000
Santa Fè	9,300	1,000,000
Other provinces	98,100	3,720,000
TOTAL	249,700	9,410,000

The above expenditure is equal to £550,000 sterling or 44 shillings per pupil. Compared with population it is 3 shillings per inhabitant. These figures compare with other countries thus:—

	Shillings	
	Per pupil	Per inhabitant
Argentina	44	3
U. Kingdom	43	5
France	20	3
Germany	11	2
Italy	7	1
U. States	66	9
Australia	71	10
Canada	48	5

The number of children of school age is 720,000; it appears, therefore, that only one-third attend school, in spite of the efforts made to provide primary education.

The National Government has recently built 40 superb schools in the capital, besides many in the Provinces. There are 16 National Colleges, one in each province and two in the capital, with 449 professors and 3,017 pupils; besides 34 Normal Schools, with 1,005 teachers and 12,746 pupils. The University of Buenos Ayres has 1,010 students and 60 professors. that of Cordoba 120 students and 14 professors. There are also a school of Mines at San Juan, two agricultural, one naval. and one military school.

The Museum of Buenos Ayres was for 30 years under the charge of the eminent professor Hermann Burmeister, who retired in March 1892. That of La Plata has for curator the naturalist and explorer Francis Moreno. The Observatory of Cordoba, founded by Dr. Benjamin Gould for the Argentine Government in 1874, is directed by Professor Thome. There are state Libraries at Buenos Ayres and La Plata, and various free libraries of less note.

The newspaper-press comprises 24 daily and 146 other papers. The oldest papers are, the *Nacional* founded in 1853, and the *Standard* in 1861. The latter was the first English daily paper founded in South America. There are 15 papers published daily in Buenos Ayres, in Spanish, English, French, Italian and German, with an aggregate issue of 90,000 copies, that is about 2,500,000 monthly.

The Post Office returns compare as follows:---

Year	Letters and papers	Population	Pieces per 100 inhab.
1860	410,000	1,340,000	30
1865	993,000	1,610,000	62
1875	6,920,000	2,330,000	295
1882	17,758,000	2,900,000	610
1891	126,534,000.	4,000,000	3,160.

These compare with other nations as follows:—

Pieces per 100 Inhab.			
Argentina	3,160	Germany	5,320
U. Kingdom . . .	6,110	Switzerland . . .	7,430
France	3,950	U. States	11,020

Only 6 countries of Europe surpass Argentina in postal traffic. The postal revenue reached \$2,250,000 or £120,000 sterling in 1891.

The telegraph service shews as follows:—

Year	Miles of line	Telegrams
1871	3,400	61,000
1882	10,250	438,000
1891	19,600	2,330,000

The ratio of telegrams to population is less than in G. Britain, France or U. States, but greater than in Germany or Italy.

XI. Mines.

Although mining has been carried on for nearly 300 years in various parts of the Republic the industry has never attained much importance, the annual yield seldom reaching £300,000 sterling.

The first mines worked by Europeans were those of Famatina, in Rioja, in 1596. There were others near Mendoza in 1636, probably those of Uspallata. The first regular mining company was in 1755, with a capital of 2,700 subscribed in Chile, to develop the Uspallata mines. The Jesuits certainly worked copper mines in Misiones early in the 18th century, which gave rise to the rumor that they were taking out gold in large quantities: this rumor provoked the jealousy

of the Spanish Government. They appear at the same time to have worked a gold mine near Andalgalá, which was closed by order of the King of Spain after their expulsion.

Professor Hoskold believes that the mines in Salta and elsewhere were worked by the Indians in the time of the Incas. There were Spanish miners at Lerma, in the valley of Salta, in 1655, whose concession stipulated that the King of Spain was to have 20 per cent of all metals extracted. Soria's mines, in San Juan, were working as early as 1716, and the Gualilan gold-field in that province was discovered in 1757. The Carolina mines were worked by virtue of a licence from Viceroy Sobremonte in 1786.

Coming down to the 19th century we find the Fatatina Mining Co. established in London in 1824, the Directors being Messrs. Brooke, Crichton, Rowan &c, who sent out an engineer, named French. This gentleman was succeeded by Mr. Van der Hollen, who was shot by Gen. Quiroga, and this stopped the works for 20 years. They were resumed in 1847 by Chilian miners, the number of hands being then 304, but in 1854 only 11 mines were working (118 being closed) and the total number of workmen was only 59. Two brothers named Erdmann carried on mining at Vinchina, Rioja, from 1848 to 1856.

In 1861 Governor Sarmiento of San Juan procured a mining expert from Chile, Mr. Francis J. Rickard, who reported so favorably on the silver-mines of that province that a Company was formed at Buenos Ayres which brought out machinery from England, to work the mines of Tontal, but the enterprise proved disastrous.

In 1873 Mr. Taaffe began working the Carolina gold-fields, in San Luis; in 1875 Mr. Parchappe the mines

of San Miguel in Rioja; and in 1887 Mr. Carlyle and others the gold-washings in Jujuy.

The most successful mining establishment in the present century in this republic seems to be that of Mr. Lafone Quevedo, an English gentleman, who has been working at Pilciao, Catamarca, for more than 30 years.

When Mr. Rickard was Inspector General of Mines, in 1869, he estimated that the mines of the republic employed a capital of £300,000 sterling, the number of hands reaching 2,700, and the annual product averaging:—

Gold	230 lbs.
Silver	2,600 „
Copper	700 tons
Lead	1,000 „

The official estimates in 1882 shewed an annual output of minerals worth £190,000 sterling, of which one-third was produced by Catamarca. The value of minerals exported from the republic was as follows:—

Year	\$	£ stg.
1888	1,520,000	= 300,000
1889	1,630,000	320,000
1890	670,000	130,000
1891	1,290,000	250,000

The values in 1891 were made up thus: silver \$950,000, lead \$100,000, copper \$40,000, sundries \$200,000. In 1888 and 1889 small quantities of gold (\$75,000 and \$35,000 respectively) obtained from washings were exported, but none since.

XII. Climate.

The climate (except in some of the northern, sub-tropical provinces) is the healthiest in South America.

In a country of such vast area there is a great variety. The seasons are, of course, the reverse of those in Europe, the hottest months being January and February, the coldest July and August. The readings of temperature, in Fahrenheit, are as follows:—

	Summer	Winter	Monthly average		Annual
			Hottest	Coldest	
Buenos Ayres . .	74	53	76	49	63
Bahia Blanca . . .	72	51	76	46	61
Cordoba	70	54	73	47	61
Salta	68	59	70	55	64
Tucuman	73	61	77	54	67
Catamarca	78	57	83	47	68
Corrientes	83	62	84	58	72
Rosario	74	57	76	52	64
Paraná	76	58	77	55	66
San Juan	77	57	79	50	66

The temperature of Cadiz is almost identical with that of Buenos Ayres, while Malta is the same as Tucuman, Lisbon as Cordoba, New Orleans as Catamarca, Palermo as Rosario, and Canton as Corrientes.

Rainfall, according to seasons, is as follows, in inches:—

	B. Ayres	Rosario	San Juan	Mendoza
Spring	9.0	11.4	1.8	2.0
Summer	9.3	12.2	1.5	1.6
Autumn	9.5	10.8	2.0	3.6
Winter	6.8	4.8	0.2	0.8
* YEAR	34.6	39.2	5.5	8.0

The yearly average is 42 inches at Tucuman, 36 at Paraná, 31 at Cordoba, 22 at San Luis and 18 at Bahia Blanca. The general average for the whole republic seems to be 26 inches, as compared with 13 in Spain, 25 in Germany, 27 in France, 32 in G. Britain and 37 in Italy and 44 in U. States.

Although the climate is in general salubrious some

cities have been rendered unhealthy by a gross neglect of sanitary measures. Others are subject to ague and fever from their position. Latzina's tables of mortality shew some of the causes of death as follows:—

	In 1,000 deaths			
	Phthisis	Typhoid	Small-pox	Bronchitis
B. Ayres	77	30	9	30
Rosario	64	49	78	41
Corrientes	64	28	377	—
Concordia	96	18	—	70
Concepcion	134	24	—	12
San Nicolas	93	27	9	35
San Juan	80	46	23	49
San Luis	—	50	71	60
Rioja	46	46	—	30
Salta	45	9	13	3
Jujuy	26	114	3	80
Catamarca	81	5	—	20
Tucuman	31	1	—	7
Paraná	63	46	156	—

The above returns were for 1889, the latest published.

The causes of death at Buenos Ayres and in England compare as follows:—

	England	Buenos Ayres
Tetanus	1	102
Phthisis	89	77
Pneumonia	52	66
Fever	11	40
Bronchitis	114	30
Accident	30	27
Homicide	6	21
Small-pox	1	18
Apoplexy	30	18
Measles	22	12
Cancer	30	12
Old age	56	22
Various	558	555
TOTAL	1,000	1,000

The Argentine tables already quoted shew that the number of persons who pass 60 years of age in 1,000 inhabitants is as follows:—

Rosario	47	San Luis	75	San Nicolas	98
Santiago	63	Rioja	77	Jujuy	111
Tucuman	68	B. Ayres	86	Catamarca	112
Corrientes	72	Salta	90	Concordia	139
Bahia Blanca	74	San Juan	92	Concepcion	156

The above table confirms in a measure the census report for 1869, which shewed the largest number of centenarians to be in the provinces of Jujuy, Salta and Catamarca.

XIII. Constitution.

The form of Government is a Federal Republic, composed of the 14 provinces already enumerated. The President and Vice-President, who must be native-born, are elected for 6 years, and cannot be re-elected, unless after an interval of 6 years. The established religion is the Roman Catholic, but other forms of worship are permitted, and non-Catholics are eligible to Congress or to public employments. There are no prerogatives of birth, no titles, nor can slaves exist in the Republic. Foreigners may become citizens, and are then eligible to Congress. Taxation is alike for all, natives or foreigners.

Congress sits every year at Buenos Ayres, from May to October, and is composed of the following members:—

	Senators	Deputies		Senators	Deputies
Buenos Ayres.	4	22	Mendoza . . .	2	3
Corboba	2	11	Entre Ríos .	2	6
Corrientes	2	6	Santa Fé . . .	2	4
Santiago	2	7	San Juan . . .	2	3
Tucuman	2	5	San Luis . . .	2	3
Catamarca	2	4	Ríoja	2	2
Salta	2	4	Jujuy	2	2

Senators must be 30 years of age and have resided 6 years in their province; Deputies 25 years of age with 2 years residence; the former sit for 9, the latter for 4 years: salary \$8,400 per annum.

The Cabinet consists of 5 Ministers—Interior, Foreign Affairs, Finance, Instruction, and War; salary \$16,800 per annum. They cannot be members of Congress, but are allowed seats at the table, and take part in debates, without voting. They are responsible to the President of the Republic, but may be impeached by Congress.

The Supreme Federal Court overrides the decisions of all other tribunals in the country. It has, moreover, a Federal Judge resident in each province, and his court is specially for suits between Argentines and foreigners. Each province has also its own judiciary, from whose decision there is appeal to the Federal Court. The maintenance of law courts and prisons costs the nation \$960,000 per annum.

The hierarchy consists of the Archbishop of Buenos Ayres, who must be an Argentine born, the Bishops of Cordoba, Cuyo, Salta, and Paraná, with 650 parish priests, curates and missionaries, exclusive of 200 monks, friars, and Jesuits engaged in teaching. Bishops and priests are eligible to Congress, but not friars. The annual subsidy from Government for religious maintenance is about \$270,000.

Each of the 14 provinces makes or re-makes its own constitution, provided there be no infringement of the preceding national constitution. Some provinces, such as Buenos Ayres and Cordoba, have 2 Chambers—Senate and Deputies, others Deputies only. Some elect the governor for 3, some for 4 years. No province can levy import or export dues, or impose special burthens on foreigners or Protestants. No province can declare war against another. No governor can sit in Congress.

All male Argentines are liable to military service in the National Guard between the ages of 17 and 45, and in the reserve from 45 till 60. Naturalized foreigners are exempt for 10 years after becoming citizens.

The rivers of the Republic are open to vessels of all flags. Foreigners may engage in trade, buy property, and reside in any part of the Republic. Protestants or Jews may establish places for Divine worship, cemeteries or schools. Private banks cannot emit paper-money in Buenos Ayres. Freedom of the press is guaranteed. The Republic has joined the Berne postal league. Decimal and metrical systems are adopted. Spanish is the official language. Complete statistical departments are maintained by the nation, by the province of Buenos Ayres, and some other provinces.

The country is represented abroad by 16 Ministers and 322 Consuls.

XIV. Historical Summary.

The River Plate was discovered by Juan Diaz de Solis (1515), who was murdered by Charrua Indians near Maldonado. Twelve years later Sebastian Cabot

arrived and sailed up to Paraguay, but found the Guaycurus so hostile that he came down to the mouth of the Carcarañal, and built there Fort Sancti-Spiritus, returning to Spain in 1530. An officer named Pedro de Mendoza, having obtained permission to equip an expedition of 1,800 men at his own cost, landed at the Boca in 1535, and laid the first foundation of Buenos Ayres. He sent Juan de Ayolas to conquer Paraguay, who, after founding the city of Asunción, proceeded to open a route to Peru, but returning with silver from that country, Ayolas and his 200 followers were killed by Indians in the Chaco. Meantime, the Querandi Indians harassed Mendoza so much that he sailed for Spain to procure reinforcements, and died on the voyage.

Domingo Irala, whom Ayolas had left in command at Asunción, rescued the survivors of Mendoza's colony at Buenos Ayres, 600 in number, removing them to Paraguay, which became for 2 centuries the headquarters of Spanish power. After a vigorous government of 20 years, Irala died, and was succeeded by his son-in-law, Vergara. A few years later a gentleman from Biscay, Juan de Garay, became governor, and with 60 followers descended the Paraná, founded Santa Fé, and in 1580 rebuilt Mendoza's settlement at Buenos Ayres, where he remained 4 years. He was killed by Indians on his return voyage to Paraguay, his colony at Buenos Ayres remaining subject to the governor of Asunción till 1618, when the King of Spain divided these dominions into 3 distinct governments—Paraguay, Tucuman, and Buenos Ayres.

Towards the close of the 16th century the Spaniards from Peru had already established settlements at Santiago del Estero, Mendoza, San Juan, Tucuman, Cordoba, Salta, Rioja, Jujuy, and San Luis, in many of

which places Franciscan and Jesuit missionaries were introduced to convert the natives. The cruelties of the Spanish "conquistadores" in Paraguay towards the Indians induced the governor, Hernando Arias, himself a Paraguayan, to invite the Jesuits to protect his countrymen. Father Thomas Field and Father Ortega arrived in 1591, and 37 years later the Jesuit missions numbered 110,000 neophytes.

Buenos Ayres progressed so rapidly that only 10 years after its foundation by Garay, the King of Spain was persuaded by the merchants of Seville to prohibit any imports unless by way of Peru and Tucuman, and a few years later a second edict limited the exportations from Buenos Ayres to 16,000 bushels of wheat, 25 tons of beef, and the same quantity of tallow. These prohibitions stimulated a contraband trade, to share which the Portuguese built Colonia. in front of Buenos Ayres, in 1680, from which time the new settlement proved an unfailing source of trouble.

By the treaty of Utrecht, in 1713, the British secured a monopoly for 30 years for importing African slaves into the River Plate, with right to establish a residence at Buenos Ayres; this was the origin of a settlement that has become, for its numbers, the most flourishing British community in the world. In order to strengthen the Spanish hold of the River Plate, the governor of Buenos Ayres founded Montevideo, in 1726, bringing families from the Canary Islands to reside there. The same year is memorable for the arrival of Dr. Falkner, an English Protestant physician, who became a Jesuit in Buenos Ayres, and spent 40 years of his life in converting the Pampa and Patagonian Indians, until the expulsion of the Order (1767).

The first English invasion was led by General Be-

resford. in 1806, when the viceroy, Sobremonte. fled to Cordoba, leaving 800 British troops masters of Buenos Ayres. Subsequently, Beresford had to capitulate to the local militia commanded by Colonel Liniers. In the following year, General Auchmuty took Montevideo, but General Whitelocke. with 10,000 men. failed to recover Buenos Ayres.

On the 25th May 1810 Buenos Ayres threw off the yoke of Spain, and elected a Provisional Committee, composed of Messrs. Saavedra, Castelli, Belgrano, Azcuenaga, Alberti, Mateu, Larrea, Paso, and Moreno. General Belgrano, at the head of the patriot army, gained the victory of Tucuman in 1812, and in the following year captured the army of General Tristan. The Spanish authorities at Montevideo held out for some time, but Admiral Brown attacking the place by water, and General Alvear by land, the commander, General Vigodet, surrendered in 1814. These events led to the Congress of Tucuman, which declared the Argentine provinces an independent Republic, July 9, 1816. Six months later, General San Martin led an army of 5,000 men across the Andes, by the Patos pass, and falling upon the Spanish army in Chile, won his first great battle of Chacabuco. Still more decisive was his second victory, in 1818, at Maypu, which sealed the independence of Chile, and enabled him to carry his arms into Peru.

The government of Buenos Ayres fell, in 1823, into the hands of General Las Heras, whose Prime Minister, Rivadavia, succeeded in raising a loan in London for the sum of one million sterling, to construct a port at Ensenada and introduce Irish immigrants, but war breaking out with Brazil, the money was spent in military supplies. Admiral Brown defeated the Brazilian

fleet at Juncal, and 40 days later General Alvear won the battle of Ituzaingó, which terminated the war. Banda Oriental then took the title of Republic of Uruguay, with General Rondeau for its first Governor.

Civil war broke out in the Argentine provinces as soon as the war with Brazil was over; the Republic splitting up into 5 quasi-independent States. Dorrego ruled at Buenos Ayres, Lopez in Santa Fé, Ibarra in Santiago, Bustos in Cordoba, and Quiroga in Cuyo. It was in 1828 that Juan Manuel Rosas, an estanciero of Guardia del Monte, was named Commander of Rural Militia, at the time that the army returning from Brazil got up an *emete* under General Lavalle. The latter seized Governor Dorrego at Navarro, and shot him, which began the feud between the Unitario and Federal fractions. Being defeated by General Rosas at Puente Marquez, Lavalle escaped to the Banda Oriental, and the citizens of Buenos Ayres proclaimed General Viamont Governor.

General Paz espoused the cause of Lavalle in the interior, establishing his head-quarters at Cordoba, whereupon Quiroga, the tyrant of Rioja, assembled all the cavalry of the west to overthrow Paz, and reinstate Bustos. A decisive battle was fought at Tablada, within gunshot of Cordoba, the army of General Paz consisting of 800 infantry; it lasted 36 hours, and on the close of the second day Quiroga fled with the remnant of his Gauchos (22—23 June 1829). In the following year Quiroga collected another army, and was again defeated by General Paz at Oncativo, which made the latter master of all the interior.

Rosas succeeded General Viamont in 1829, and resolved to extend his rule to the whole Republic, sending Quiroga in 1831 to reconquer the Cuyo provinces,

Quiroga with great promptitude shot Colonel Pringles at Rio Cuarto, routed General Videla at Mendoza, and cut up the army of General Lamadrid in the suburbs of Tucuman, at the same time that General Paz was caught by surprise near Cordoba and carried prisoner to Santa Fé. The civil war being thus ended, Rosas caused General Balcarce to be named Governor, and proceeded, in 1833, on his great expedition against the Indians, driving them beyond the Rio Negro. In 1835 he resumed power, as Dictator, and sent Quiroga as his lieutenant to rule the interior, but the latter was assassinated on his journey. Rosas shot the Governors of Cordoba and Santa Fé, Reynafé and Cullen, for the crime, without any proof of their complicity. In 1839 Corrientes revolted, under Governor Estrada, but Rosas won the battle of Pago Largo, the Governor being among the slain.

The revolt of Lavalle quickly followed, but that general was ultimately shot at Jujuy in October 1841, a few months after the decree of Rosas closing the rivers Paraná and Uruguay to all foreign flags. The Unitarios at Montevideo having confided the defence of that place to General Paz, the siege, by order of Rosas, was begun in January 1843 by General Oribe, which lasted 8 years. Meantime the British and French Ministers, Gore-ouseley and Deffaudis, instructed their admirals to cut the boom at Obligado, which was done after a sharp combat of 9 hours, the allied fleets throwing open the navigation of the Paraná. In 1851 Brazil and General Urquiza having agreed to overturn Rosas, the allied army under General Urquiza raised the siege of Montevideo and fought the battle of Caseros. February 3, 1852, close to the city of Buenos Ayres, which resulted in the tyrant's overthrow.

Civil wars again ensued until 1861, when the Republic was reconstituted under General Mitre, after the battle of Pavon. Unfortunately, the question of a capital was left open, causing much uneasiness for 20 years, until Buenos Ayres was definitively adopted and federalized in 1881 under the administration of General Rocá. Specie payments were suspended by the State-banks in January 1885, and in 1888 the Free Banking law produced a number of rotten banks and tremendous inflation of the currency. A sharp crisis ensued in July 1890, from which the country first began to shew signs of recovery in March 1892.

The following table recapitulates the dates of principal events:—

1515	Arrival of Solis	1807	Whitelocke's capitulation
1527	Cabot ascends to Paraguay	1810	Revolt against Spain
1535	Mendoza founds B. Ayres	1812	Belgrano's victories
1537	Ayolas founds Asunción	1814	Surrender of M. Video
1553	Aguirre founds Santiago	1816	Congress of Tucuman
1555	Latorre, first bishop	1818	Victory at Maypú
1559	Mendoza founds S. Juan	1821	Brazil annexes B. Oriental
1565	Villaroel founds Tucuman	1824	First English loan
1573	Cabrera founds Cordoba	1826	Rivadavia's administration
1580	Garay rebuilds B. Ayres	1827	Victory of Ituzaingó
1582	Lerma founds Salta	1830	Rosas takes power
1588	Vera founds Corrientes	1841	Death of Lavalle
1591	Jesuits arrive in Paraguay	1843	Siege of M. Video
1596	Loyola founds San Luis	1852	Fall of Rosas
1631	Jesuits remove to Misiones	1861	Battle of Pavon
1680	Portuguese found Colonia	1865	War with Paraguay
1713	British settle at B. Ayres	1871	Pest at B. Ayres
1726	Zavala founds M. Video	1878	Roca's Indian campaign
1730	Portugal annexes Misiones	1881	B. Ayres made capital
1767	Expulsion of Jesuits	1888	Free Banks invented
1806	Beresford takes B. Ayres	1891	State Banks closed

XV. Table of Comparison.

The Argentine Republic compares with Canada and Australia as follows:—

	Argentina	Canada	Australia
Population.....	4,050,000	5,020,000	3,800,000
Area, sq. miles....	1,212,000	3,372,000	3,104,000
Cattle No.....	22,870,000	3,790,000	9,300,000
Sheep »	70,450,000	2,610,000	96,600,000
Acres tilled.....	8,200,000	12,860,000	13,800,000
Rural prod. £.....	40,000,000	56,000,000	62,000,000
Revenue £.....	5,500,000	7,800,000	29,200,000
Debt, £.....	88,000,000	49,200,000	185,700,000
Commerce £.....	24,600,000	41,700,000	132,600,000
Railways, miles....	7,230	12,630	11,400

If Buenos Ayres city be included with the province of that name the 14 Federal States will be found to stand thus:—

	Population	Wealth	Instruction	Gen. Average
Buenos Ayres .	35.7	55.4	49.2	46.6
Cordoba.....	9.8	8.0	6.3	8.0
Entre Rios ...	7.8	8.2	3.4	6.5
Santa Fé.....	6.2	7.8	4.5	6.1
Corrientes ...	7.5	4.0	4.5	5.3
Tucuman.....	5.4	2.4	7.7	5.1
Mendoza.....	4.1	2.9	2.7	3.2
Salta.....	5.2	2.0	3.9	3.7
Santiago.....	4.1	2.3	4.4	3.6
Catamarca.....	3.4	1.6	1.8	2.3
San Juan.....	3.2	2.2	4.5	3.3
San Luis.....	2.6	1.6	3.7	2.6
Rioja.....	2.6	1.0	2.9	2.2
Jujuy.....	2.4	0.6	1.5	1.5
	100.0	100.0	100.0	100.0

PART II.
R O U T E S.

I. From Europe to Buenos Ayres.

There are forty steamers monthly entering River Plate ports from Europe, and the voyages varies from 22 to 35 days. Some call at most of the Brazilian ports, others at Madeira, the Canary Islands or the Cape Verds. The Royal Mail Co. began running in 1853, and has very fine steamers, from Southampton twice a month. The Messageries Maritimes, from Bordeaux, dates from 1861. Lamport and Holt's, carrying the Belgian mails, began in 1863 from Liverpool, but now runs from Southampton. The Chargeurs Reunis line has been running from Havre since 1866. The Pacific Co. ran its first steamers to the River Plate, from Liverpool, in 1868. The Transports Maritimes started from Marseilles in 1870; the Veloce line from Genoa in 1871; the North German Lloyd from Bremen in 1873, and in later years have been established the Houston, Houlder, Nelson, MacIver and other lines. All the principal lines charge from £35 upwards for first-class, and £25 second-class, but some of the lines, with very comfortable steamers take first-class passengers at £25. In all cases return-tickets are given for a fare and a half, but if the passenger prolong his return over 12 months he must get his ticket viséed by the agent in Buenos Ayres.

Travellers or emigrants require no passport for landing, but a Foreign-Office passport, which can be obtained through any bank in London, is most useful. As regards money it is advisable to get a draft or letter of credit on one or other of the English banks in Buenos Ayres. Light clothing, flannels, a fowling-piece, a revolver, a saddle and bridle are desirable: any more would be subject to duty.

The voyage direct, in 22 days, is not so amusing as when the steamer touches at various ports. In the former case Madeira is generally sighted on the fifth day, and Montevideo 17 days later. Nine times out of ten the sea is as calm as a mill-pond, except crossing the Bay of Biscay. The distance from Southampton to Montevideo is 6,126 nautical, equal to 6,730 English statute, miles.

Lisbon is reached on the fifth day from England. The mouth of the Tagus is picturesque, the steamer passing within sight of delightful Cintra, but the bar of the river is sometimes troublesome. Passing the old castle of Belem, with the quarantine lazaretto on the opposite or southern bank, we get a fine view of the city, the port being, moreover, usually crowded with war vessels and merchant shipping, although the commerce of Lisbon has declined in recent years. This decline is partly owing to the vexatious Customs regulations; for example, there are 87 classifications of cotton goods, and if the merchant make a mistake his goods are confiscated. Landing at Black Horse Square, we find the new part of the city, which was rebuilt by Pombal after the earthquake of 1755, is spacious and elegant, the houses being six storeys high and built of stone. The best streets are those called Aurea, Augusta, and Prata. The hotel Braganza, frequented

by Englishmen, crowns one of the 7 hills of the city, near the opera-house. Lisbon has 5 parks, 6 theatres, 12 squares, 355 streets. 281 travessas or crossways. 36 fountains, 200 churches, and 224,000 inhabitants. English book-store in Rua do Carmo. If the traveller has a day to spare let him take the tramway to Cintra, 17 miles.

The Canary Islands are 4 days from Lisbon; few steamers touch here, but pass in sight of Santa Cruz, where Lord Nelson lost an arm in one of his battles. The Peak of Teneriffe, 12,036 feet, is seen more than 100 miles off. They were formely called Fortunate Islands, but the Spaniards gave them the name of Canarias, on account of the number of dogs. They enjoy a charming climate and produce wine, cochineal and fruit, but have been for some time declining, it being impossible for any colony of Spain to thrive under heavy taxes and trade restrictions. The temperature never goes over 79°, nor below 64° Fahr.

Cape Verds are 3 days from the Canaries, and steamers usually coal at San Vicente, a barren rock with some bold ranges of mountains and no sign of vegetation. A few lemon trees in pots stand near the Custom-house. The Portuguese flag flies from the fort that overlooks the bay, and the mountain in front bears at the summit a likeness in profile to the head of Washington. Inland, perched on a rock, is the cottage residence of the British Consul, Mr. Miller, a native of S. Antonio, who has made a fortune in coal. On the beach, about a mile from the village, there is a monument over the grave of an English lady, the wife of an Indian colonel, who died here on her way home. The natives are black, and the garrison is of Portuguese soldiers. There is a telegraph station with a

number of English clerks, who have a handsome residence: telegrams can be sent to Europe or Brazil. Boatmen sell feather-flowers, mats, embroidery and inlaid workboxes. Beware of bathing, as sharks are numerous, although they seem to take no notice of negroes. Good supply of fruit may be obtained, which is brought from the adjacent island of San Antonio. Passengers very often throw a silver coin into the water, which the natives dive after and catch before it reaches the bottom, the water being perfectly clear.

Between San Vicente and Pernambuco we cross the Line, sea very smooth and heat a little trying. The old custom of shaving passengers is no longer allowed, but Neptune sometimes comes aboard to salute the captain and passengers and receive a bottle of grog. Myriads of flying-fish are seen, and now and again a shark or a shoal of porpoises, or the Portuguese man-of-war (nautilus) scudding before the wind. The sea is phosphorescent at night, and we see the Southern Cross, which is so poor a constellation as to disappoint us. Sleep not on deck, lest you catch a cold, and intermit the morning bath, which has a relaxing tendency, the sea-water being warmer than the atmosphere.

Fernando Noronha is sighted on the seventh day from Cape Verds. It is a small, rocky island used as a Brazilian penal settlement, and has a lighthouse. We now begin to see numbers of birds, and the first point of the continent visible is Cape San Roque, which juts out into the Atlantic, 200 miles N. of Pernambuco. The fish hereabout have such sharp teeth that they cut the South Atlantic cable 5 times in 3 years, until the Company was compelled to lay down a special cable, which has now remained uncut since 1877.

Pernambuco is a disagreeable port, in spite of the

new harbour built by Sir John Hawkshaw. The mail-steamers generally lie off the port, as there is a nasty reef near shore. Passengers have commonly to be slung overboard, let down in an armchair 'securely lashed, and it is not easy getting into the boat alongside. It rains every day at 1.30 p.m., when the weather may get unpleasant and the sea rough. Passengers have sometimes been left behind, to continue their voyage by the steamer of the following month. Bathing is not recommended, as there are sharks: indeed, there are mud-sharks in some of the swamps near the city, of which it is well to be careful. Yellow fever is also common. There are several English and German houses. Imports £3,300,000, exports £2,200,000 per annum; population 90,000 souls.

From Pernambuco to Bahia is only 36 hours by sea distance 450 miles. In these waters we meet catamarans or "jangadas," which are a kind of raft used by coast fishermen, often venturing 100 miles out to sea with only a barrel of fresh water aboard. Bahia, the oldest city in Brazil, was known in the last century as San Salvador, and sometimes All Saints. The bay would be famous as one of the grandest in the world, but for its proximity to the superior beauty of Rio. The city is famous for the largest oranges and fattest black women in the world, the former often weighing 20 to 30 ounces. The old quarter is unpleasant from the variety of offensive smells. Palanquins may be hired to carry you up the hill, or you can use the steam-lift, which is constructed like a shot-tower and puts you instantaneously on the top of the cliff. Here you may take a carriage and 4 mules, to drive to Victoria, a delightful English suburb, overlooking the Atlantic, in close neighbourhood with the botanica

garden and cricket-ground. Bahia was the metropolis of Brazil from 1549 to 1763, and is still the ecclesiastical capital of the empire. There are 60 churches, of which the finest is that of the Jesuits; here is the tomb of the famous F. Almeyda, superior of the Order in Brazil, whose real name was John Martin, and on the tomb you may read "Non Anglus sed Angelus," in allusion to his origin.

Rio Janeyro is 860 miles from Bahia, the voyage taking 3 days. The entrance to the bay is very striking, the scene changing every moment as the steamer advances, and the mountains seeming to move one behind another. At last we cast anchor in full view of the city, the background being filled by the Organ Mountains, the bay studded with islands in which houses, convents and villas arrest the eye, the white walls contrasting with the rich dark foliage and the oranges on the trees: the Sugar-loaf looking down upon the scene, from a sky of clearest blue. The bay is 110 miles round, and could hold all the shipping of the world: it is so completely shut in as to appear a lake, and small steamers are constantly plying about in all directions, between the numerous suburbs and the city. It is protected by two fortresses—Santa Cruz, mounting 100 guns, and Villegaignon, near the entrance. Nevertheless, Rio Janeyro was sacked in 1835, but it was by 200 English sailors to whom the Brazilian Government owed 2 years' wages, and who at last took their pay in this manner, holding the city for 3 days and nights. The landing-place is at the custom-house, alongside the market. The houses are high and the streets so narrow that when an equipage passes it is well to step into the nearest shop. The carriages are drawn by mules, and the black servants have splendid

liveries. The shops are small but very rich, and the people courteous to everybody. In Plaza Constitucion there is a fine equestrian statue of Peter I., father of the late Emperor. If you have time you should take a bond (that is, a tram-car) to the botanical gardens, the finest in the world, with the unrivalled avenue of palms. There are also bonds to Botafogo, Laranjeiras, Gloria, and the other beautiful suburbs. The best hotels in Rio are Exchange, Carson's and Estrangeiros, but if you have a few days disposable you cannot do better than take the tramway to Tijuca, 12 miles, where Mr. Whyte has an English hotel, in the midst of the most enchanting scenery that ever delighted the human eye: the hotel was formerly known as Bennet's, the name of the founder. Another place to be seen is Petropolis, in the Organ Mountains, 2,600 feet over sea-level, where diplomatists reside in summer: from there to Juiz da Fora is a lovely drive by mail-coach, and you can return to Rio Janeyro by the Entre Rios railway. Beetles, diamonds, &c., may be bought in Rua Ouvidor. The British Consulate is in Rua Direita, as are also the post-office, exchange and most of the steamboat agencies. There are in the city 8,943 houses of business, of which 7,263 belong to Europeans. Imports and exports make up an aggregate of 21 millions sterling. Population 420,000 souls, including the suburbs.

From Rio Janeyro to Montevideo is 1,100 miles, and takes from 4 to 5 days, according to weather. Stiff pamperos are sometimes met with off the mouth of the River Plate, where the numerous sandbanks made navigation so difficult in the old times of sailing vessels that sailors called it Boca de Inferno. Even before land be in sight the colour of the ocean is changed

by the volume of fresh water from the River Plate, 52 million cubic feet per minute. Seal-fishing was for many years so lucrative on Lobos Island that no lighthouse could be erected there, lest it should drive away the seals. Maldonado is seen on the mainland, and abreast of it is Flores Island, which is now the lazaretto ground of the River Plate.

Montevideo is seen to great advantage from the bay, the Cerro completing the picture. The latter stands 505 feet over sea-level, and has a lighthouse. The Oriental is the best hotel in Montevideo, and charges \$3 a day. Steamers leave in the afternoon, arriving in the roadstead of Buenos Ayres by daybreak, and passengers are landed at the new dock which admit vessels drawing 24 feet.

At Buenos Ayres the Customs officers are very polite, but will certainly charge duty on whatever may not be for personal use in the passenger's baggage. Travellers will find excellent hotels, such as the Grand, Provence, Globe, &c., where the charge ranges from 2 to 3 dollars a day for board and lodging, wine included. It is unwholesome to drink water or spirits, unless medicinally, and by no means daily. Strangers should also beware of lockjaw, which may result from a cut finger if exposed to the air. The climate is very healthy, but the city is not in a sanitary condition. The metro-decimal system is in force—kilograms, kilometres, and the United States dollar, worth 50 pence English. Strangers of whatever nationality or condition may call for advice at *The Standard* office, Calle Maypu 176, to which address letters may also be sent from England. Poor emigrants looking for employment can have advertisements inserted free of charge.

II. Buenos Aires to Tigre.

(Distance 18 miles, time one hour)

This line, formerly the Northern of Buenos Ayres, has been leased to the Central Argentine for £50,000 a year. Its traffic is suburban, especially in the summer season and on holidays. Starting from the Central Station it runs along the beach, passing the first gas-house built in the River Plate (1854). There are many splendid mansions on the bluff from the Retiro to the Recoleta. At the latter station we pass the Bateman Waterworks, a part of the City Improvements begun in 1872 and now approaching completion, having already cost £6,000,000 sterling, or £11 per inhabitant.

The old convent of Recoleta belonged to the Bethlehemite friars, suppressed by Rivadavia in 1826; it stands on the bluff, and has been rebuilt as an asylum for aged poor. Before its institution, in 1856, beggars used to ride on horseback, wearing a police medal and collecting alms every Saturday. The first public cemetery stands behind the asylum. A little further we pass the Penitentiary, built on the plan of the Pentonville one, at a cost of £350,000, to hold 600 convicts.

Palermo (4 miles), formerly the residence of the Dictator Rosas, is now the City Park, covering 850 acres. The grand avenue is crowded every Sunday and Thursday afternoon with carriages, and also on summer nights. There was a Military College here, which has been removed to San Martin. The menagerie has a good collection of animals. The English cricket-ground faces the station. A mile further is the Hippodrome, where races are held on Sundays. A tract of swampy country in-

tervenes till we reach Belgrano, the chateaux of Tornquist, Napp and other merchants crowning the "barranca".

Belgrano (6 miles) has long been a favorite suburb, much frequented by English and Germans. Some of the "quintas" are superb, having cost from £10,000 upwards. There is a large swimming-bath near the station. The church and town-hall are remarkably fine. According to the report of the police-doctor Belgrano is subject to constant outbreaks of typhoid fever, from pools and undrained swamps in the vicinity, but of so mild a form that only 4 cases in 100 prove fatal. The railway runs by Nuñez, where a park was formed in 1876, and crosses the White swamps and the Arroyo Medrano, to the Rivadavia station.

Olivos (10 miles) commands a wide view of the river, and here the line is crossed by the Pobladores railway which runs over a high embankment along the coast. We now leave the swampy ground and ascend the bluff by a steep grade, 54 feet in less than a mile, to the station of Martinez, where there are many grand mansions.

San Isidro (13 miles) stands 65 feet over sea-level, or 10 feet less than Martinez, which latter is the highest point on the line. San Isidro is the prettiest of all the suburbs, and was founded by a Spaniard named Ascasuso in 1713. The most princely residences are along the bluff from here to San Fernando. On a clear day may be discerned the island of Martin Garcia and the peaks of San Juan in the republic of Uruguay. For more than one hundred years the best wheat has been grown in this department. Although so close to the river the town is healthy, but Dr. Diaz says in his report that San Isidro is every autumn a prey to typhoid fever, due to sanitary neglect. There are exten-

sive brick-factories west of the line, as we approach Victoria, from which station the Central Argentine Co. is making a branch railway to Capilla del Señor.

San Fernando (16 miles) is on the edge of the great Pacheco swamps, only 20 feet over sea-level. Population 7,000; with fine public buildings and charming "quintas". There is a free library, besides museum and town-hall: the latter has a ballroom 90 feet long. There are two hotels. All the streets, shops and houses are lit with electric light. The town was founded in 1806, when the inhabitants of Las Conchas took refuge here from an inundation. A brisk trade is carried on with the islands of the Paraná, in fruit, timber &c. The dry-dock built by Louis Huergo (1875) admits vessels of 250 feet in length.

The railway crosses several swamps before reaching the Tigre terminus (18 miles), close to which are many palatial abodes. On the north side of the Tigre river is the ancient village of Conchas, where the Spaniards built a fort in 1614, to check smuggling from Colonia.

There are two or three boat-clubs at the Tigre, and the Tigre Hotel is a fashionable resort in summer.

III. Buenos Ayres to Rosario.

(Distance 190 miles, time 7 hours)

The Buenos Ayres and Rosario Railway Co. runs its trains over the rails of the Northern line from the Central Station to a point in Palermo Park, where it branches off to the left, ascending the slope and cross-

sing the Belgrano highroad. The station at Belgrano is at the extreme western end of that village, surrounded by the pretty cottages of Messrs. Clarke, Fox, Faran, Galloway and others.

At the Coghlan junction a branch line runs off by Olivos and along the riverside, parallel with the Northern railway as far as San Fernando. This branch is known as the Pobladores line, and was made by Mr. Mc.Donnell C.E.; it is proposed to carry it on to Las Conchas, crossing the Tigre river by a swing bridge.

Catalinas (8 miles) stand 80 feet over sea-level, and has some glass factories, not at present in operation. The village has felt the crisis so severely that half the shops are closed. The railway passes between market-gardens within view of Villa Devoto, which is on a hill to the left, about a mile distant.

San Martin (12 miles) is 20 feet lower than the last station. It is a flourishing town of 4,000 souls, with handsome buildings, most of the inhabitants being Italians or Basques. There is also a good number of English residents, this being the terminus of local traffic on this line. West of the town is the Military College, surrounded by a thicket of Eucalyptus. The line now descends rapidly to the swamps of Pacheco, passing the station of Bancalari; a decline of 40 feet in 8 miles. During the construction, in 1875, the works here were washed away by a flood. There is good duck-shooting in these swamps.

Escobar (34 miles), once famed for its merino sheep, is now the abode of Italian linseed and wheat farmers. Seven miles further we cross the Luxan river by an iron bridge 755 feet long, which cost £16,000. After another series of swamps the line reaches the fine Costa estancia.

Campana (51 miles) is a port on the Paraná, almost on a level with the river. It has sprung into importance as the seat of Haslam's process for freezing mutton for exportation to England, the factory killing 1,000 sheep daily. The carcasses are first hung in the open air, then removed to consecutive chilling-rooms up to 10 degrees of frost, till they assume the hardness of stone, when each is packed in a canvas bag and stored for shipment. The factory comprises three blocks of building, namely slaughter-house, freezing-department and general offices. The company owns 1200 acres of adjacent meadows, for fattening sheep, and also a pier 600 ft. long, with double line of rails, used for shipping the frozen meat.

There is a rapid rise in the railway from Campana to Zarate, namely 70 feet in a distance of 8 miles.

Zarate (59 miles), a village of 3,700 souls, stands on a bluff fifty feet over the Paraná. It is a place of some antiquity, the ruins of a Jesuit chapel being seen on the Latorre estancia. There are sheep-farms and wheat-fields, many of the former belonging to Irish settlers, as we pass the stations of Lima and Alsina.

Baradero (93 miles), population 3,500, stands 100 ft. over sea-level and 60 ft. over the Paraná, and is one of the oldest settlements, having been founded in 1664, when homestead farms were allotted to a tribe of Quilmes Indians brought down from Tucuman. A chapel had been previously built here by Father Bolaños, in 1616.

San Pedro (108 miles), population 6,000, dates back to the year 1770: it is a thriving port of the Paraná, and has a resident Irish priest. Two wayside stations are passed, Castro and Paraiso, in a good sheepfarming district: then two others, named Ramallo and Sanchez,

the lands here being some of the best in the province. There is a decline of 30 feet from Ramallo to San Nicolas.

San Nicolas, the city of the Arroyos or creeks (150 miles from Buenos Ayres) is a flourishing place, of 19,000 inhabitants. It was founded in 1749, when Doña Ugarte de Aguilar built a small chapel to St. Nicholas. Liverpool steamers call here, and there is a factory for exporting frozen mutton. This city is the junction of two railway systems, one of which goes via Pergamino to Junin, on the Pacific line.

Constitucion (162 miles), better known as Piedras, is at the mouth of the Arroyo Medio, the boundary line between the provinces of Buenos Ayres and Santa Fé. It is the starting-point of a railway recently opened to Carlota, in the province of Cordoba, 185 miles, running almost due west, which crosses the Rosario line here, say 3 miles from the town of Constitucion. A mile further we reach Pavon, the scene of a decisive battle (Sept. 1861) in which Gen. Mitre overthrew the Argentine Confederation, the result being to annex the 13 provinces to Buenos Ayres under his rule as President.

Arroyo Seco (171 miles) is a village in the province of Santa Fé: it was destroyed by a cyclone in Nov. 1891. The line rises 20 feet from here to Alvear, after which place there is a decline of 40 feet till we reach Rosario (190 miles from Buenos Ayres), standing 67 feet over sea-level.

IV. Buenos Ayres to Bahia Blanca.

(Distance 447 miles, time 19 hours)

This is the main line of the Great Southern railway and was opened to Bahia Blanca in 1884. There are excellent sleeping and dining cars, sixty feet long. The city terminus at Plaza Constitucion is a superb structure.

There is a sharp decline after leaving the city, of 36 feet in less than a mile, as we descend towards Barracas. On the right is the Convalecencia or Lunatic Asylum, on the left the Saenz Valiente quinta, built in the 18th century by an Englishman, the first beef-salter in Buenos Ayres. It was here that Marshal Beresford passed in 1806 to seize the city. Two English cannon balls are seen in the wall of Saenz Valiente's house.

Passing through the suburb of Barracas, where the G. Southern Railway workshops are situated, the line crosses the Riachuelo by a girder bridge. The country is very low passing Lanus, from which point it begins to rise as we approach Banfield, where a number of English villas are seen.

Lomas (10 miles) is 60 feet over sea-level and was at one time much in vogue. It is a pretty village with green lanes, but Dr. Canevaro says there are so many trees that the houses are damp and typhoid fever constantly prevails. He adds that persons with pulmonary affections die soon after coming from Buenos Ayres. Paradise Grove, the residence of Mr. Meeks, was built by the late Mr. Henry Green, as well as a church and school. The Convalescent Home is 4 miles to the west.

Adrogué (12 miles) has two good hotels and many

neat country-houses. There is a statue in the Plaza to Admiral Brown. The line continues to ascend, and on each side as we pass Burzaco are extensive fields of wheat and maize cultivated by Italians.

Glew (18 miles) is the highest point on the line this side of the Salado, being 93 feet over sea-level. The late Mr. Glew had famous fruit-gardens. The line now descends to the Samborombon valley.

San Vicente (25 miles) is an old town, founded in 1734 by Juan Peroa, a frontier cattle farmer. A church was built in 1780, but the place has not made much progress, having barely 2,000 souls. There is a good inn for sportsmen, but ducks are not so plentiful as formerly. All this district was famous for sheep-farming fifty years ago, but is now mostly under grain.

Ferrari (40 miles) is a junction where a branch line comes in from the city of La Plata, 26 miles in length. A little further we come to the fine viaduct over the Samborombon, on the south side of which is Jeppener. The line passes close to the old estancia of Saxones, where the Sheridan family had very fine sheep in the early days of the Irish settlers. Harratt's estancia was also famous, in this department.

Altamirano (54 miles) was originally a wayside station on the main line to Chascomus, until in 1873 a branch was made from here to Las Flores, and this has now come to be the main line, terminating at Bahía Blanca. This line turns off sharply towards south-west, and we cross a number of swamps near Alegre, till passing the Gibbings estancia, in sight of Ranchos.

Ranchos (69 miles) was founded by Capt. Betbezé in 1779 to keep back the Indians, but has made little progress, the population not exceeding 2,000. It has

a fine church and many shops. The line now declines towards the Salado, as we pass Villanueva, near which station is Mr. Shennan's estancia, where he entertained Prince Edward and Prince George in 1881. There is plenty of shooting hereabout.

The Salado river (90 miles) is crossed by a strong iron bridge, all this country being subject to formidable floods. This river was the Indian frontier down to 1845. On the south side we pass over the estancias of Chas and Rosas, and from here to Las Flores the line steadily ascends.

Las Flores (130 miles) is a thriving town, founded so late as 1857. There are hotels, mills, shops and 4,000 inhabitants. Dr. Figueroa, however, states that the town suffers from its proximity to stagnant pools, and that typhoid fever and phthisis are common. There is a junction at Las Flores, a branch line running off to Tandil (94 miles) and passing six intermediate stations. This connects the two parallel lines of the G. Southern Co. that run to Bahia Blanca, and the journey to Tandil is made in 6 hours. Another branch of the G. Southern Railway has just been completed from Las Flores to Monte and Cañuelas, 72 miles N.

The main line proceeds from Las Flores to Pardo, and in this section of 22 miles the line ascends 66 feet, passing through corn-fields and linseed farms, interspersed with cattle estancias. As the train passes Parish and proceeds on to Shaw the ascent becomes more pronounced, and towards the S.E. we discern the hill range of Quillalauquen, a spur of the Tandil Sierras. This is the farthest point north where snow falls in winter.

Azul (198 miles) stands 456 feet over sea-level, the

line having risen 330 feet in coming from Las Flores. It is a busy place, the best town in the south. This was the central point of Col. Rauch's frontier in 1826. and a chapel was built in 1830 by Col. Burgos. The place was, however, merely an entrepot for Indian trade, the shopkeepers carrying on a barter with the Indians for (stolen) hides, until in 1862 some Danish settlers arrived and began growing wheat. Before the opening of the railway, in 1878, Azul was often besieged by the Indians, there being only one monthly mail by coach to Buenos Ayres. The journey is now made in 9 hours, daily. There are hotels, steam-mills, public buildings and 8,000 inhabitants. The adjoining peaks rise to 1190 feet over sea-level. The town derives its name (Blue) from the word Calufú, signifying in Indian language the Blue River, which they applied to the stream. Numbers of civilized or tame Indians work in the factories and farms. The train stops here 15 minutes.

Olabarria (226 miles) was settled in 1878 by an industrious colony of Mennonites who had been expelled from Russia for refusing military service. The Government of Buenos Ayres cut up 24 sq. leagues of land, and gave a free farm-lot of 120 acres to each family. There are 1,200 farms, and the grain crop averages 30,000 tons. Passing the station of Pourtalé the line begins to descend, falling 52 feet between here and Gama, at which place the train stops 25 minutes, for refreshments.

Curumalan (334 miles) is an extensive property belonging to a London company: it covers about 500,000 acres, exclusive of the lands held by a French colony. It was Indian territory until Col. Alsina made a frontier here in 1877, running 60 miles north to Guamini.

Much of the land is poor, but the double chain of hills encloses a valley 15 miles long by two in width, suitable for horse-breeding. The railway goes along the base of the hills over embankments and through "tosca" cuttings, still ascending: it crosses the Curumalan river and, making a sharp curve, doubles the Sierras and pushes on in a south course towards the sea. At Pigué there is a good hotel, and a little further is Alfalfa, the highest point on the whole line, 1,130 feet over sea-level.

The Sauce Chico (394 miles) is crossed near Tornquist by a bridge of wrought-iron girders, resting on stone abutments. This district was first settled in 1865 by 28 young Englishmen, whose rifles kept the Indians at bay. The line rapidly declines to the Napostá valley, and this fall continues to Bahia Blanca. In a stretch of 70 miles from Alfalfa southward the line descends 1,070 feet, say 15 per mile. Bahia Blanca (447 miles) has not progressed as much as was expected, and persons who speculated in building-lots have been ruined. Population 7,000. Rosas built a fort here in 1833, and a church in 1835. The first steamer from Europe discharged cargo here in 1882, at the railway pier. The town is about 6 miles from the sea. There is a light-house at Monte Hermoso, built in 1881, which is visible 15 miles by day and 10 by night: it is 168 feet over the sea. Coasting steamers ply once a week to and from Buenos Ayres. The railway runs down to the pier, where vessels of 18 feet draught can load or unload. The trade of Bahia Blanca in 1890 amounted to \$6,400,000, or £1,200,000 sterling, imports and exports equal: this was an increase of 400 per cent in five years.

V. Second route to Bahía Blanca.

Distance 456 miles, time 24 hours.

This is the same as last route as far as Altamirano (54 miles) and is known as the Tandil route. The line runs due south, passing the Gandara station, to Chascomus, which was the original terminus in 1865, when the railway was first opened.

Chascomus (72 miles), population 5,000, is situated near a chain of lakes, where good fishing and shooting may be had. The town stands low, only 40 feet over sea-level, the railway having a decline of 17 feet from the last station. The train stops half an hour for breakfast. There are many good shops and two hotels. Chascomus signifies the "country of lagoons": it was founded in 1777 by Capt. Betbezé, and a chapel was built to Our Lady in 1825. Some of the finest Scotch and English estancias are in this district, notably those of John Fair and Richard Newton. The railway proceeds through a low country: the level still declining as we proceed.

Adela (82 miles) is a wayside station near Mr. Dodds' estancia, where the Chascomus Athletic Sports are held. We pass through a well-stocked country from here to Guerrero, which stands on an estancia formerly belonging to the unfortunate Alzaga family. The Rincon de Lopez runs from here down to the mouth of the Salado, and is full of large and small game. Two small stations occur before reaching Dolores, and eastward, in the direction of the sea, is the large estancia of Martinez de Hoz.

Dolores (127 miles) is reached in 6 hours from town. It stands 15 feet lower than Chascomus, and is surrounded with swamps and thickets, but is one of the best towns in the south, having 8,000 inhabitants and many fine buildings. It was founded by Governor Puyrredon in 1818, but destroyed by Indians, and not rebuilt till 1831. The trade and population have doubled since the opening of the G. Southern railway, in 1874.

From Dolores the railway proceeds to skirt the Tor-dillo forest, and cross the swamps of Vecino, where floods are frequent. The line, however, rises as we pass Par-ravicini and Velasquez, 25 feet in a stretch of 40 miles.

Maypú junction (168 miles) is 52 feet over sea-level, and from this point is the branch line to Mar del Plata, the favorite bathing place.

Mar del Plata (250 miles) is reached after a run of 82 miles from Maypú through a flat, uninteresting country, passing the wayside stations of Dorrego, Piran, Vivoratá and Camet. The family of Ortiz Basualdo has a fine estancia on this route, and the Camet station is called after a French settler, whose house is near the cliffs overlooking the Atlantic. The highest point on the line is Vivoratá from which there is a decline of 40 feet to Mar del Plata. The family of Peralta Ramos until recently owned the lands on which the town now stands. It is a straggling place, dangerous for bathing, and possesses hardly any attraction but the brisk, invigorating atmosphere, which makes it so much resemble Brighton. There are two fashionable hotels, famous for high charges, and others where accommodation may be had at \$5 currency (say 6 shillings) a day. The season is from 1st November to 1st April. Pic-nic parties are got up to Cape Corrientes and Laguna de los Padres.

The run from Buenos Ayres is made in 12 hours, usually by night-train in sleeping-cars. Pop. 5,000.

From Maypú junction to Ayacucho is a stretch of 38 miles, passing two small stations: the line rises 192 feet. We are now getting into a wild and thinly settled country.

Ayacucho (206 miles) is 243 feet over sea-level. It was formerly called Tandileofú, and is a bustling village of 3,000 souls. From here another line branches off to the sea, terminating at Necochea, sometimes called "the City of Quequen". Only the first section of this branch, as far as Balcarce, is opened to traffic. All this was Indian country until lately. The town of Balcarce was founded in 1876, with a chapel to St. Joseph, and has now 2,000 souls.

Necochea or Quequen (340 miles from Buenos Ayres) is likely to rival Mar del Plata as a fashionable watering-place, for, although 90 miles farther from Buenos Ayres, it has the great advantage of being seated on a fine navigable river. A company was formed in 1889 to build a city here. Population 3,500.

From Ayacucho junction to Tandil is a run of 40 miles, passing the stations of Reconquista and Iraola, and now we get a good view of the Tandil range. We are in a hilly country and the line has an ascent of 343 feet on this section.

Tandil (247 miles) was founded as a frontier fort against Indians by Governor Puyrredon in 1822. Its present name is that of a Cacique, who had his wigwams on the bank of the adjacent river. The town was marked out by Gen. Rosas in 1839, and is surrounded by picturesque hill-ranges; population 6,000. About a league distant is the famous rocking-stone, weighing 270 tons, so nicely poised that it rocks in the wind

and may be made to crack a walnut, but so firm that when Rosas yoked 1,000 horses to displace it he was unable to do so. Many gaucho superstitions were attached to it, and on New Year's Day 1873 a fanatic named Tata Dios started from here with 100 gaucho followers and murdered 40 Europeans before he was overpowered and shot. Marble is found at Sierra Tinta and some other ranges, the Sierras extending in a northerly direction 60 miles to Azul. Tandil is 586 feet over sea-level.

From Tandil the line takes a south-west course to Tres Arroyos. All this was Indian country until Alsina's new frontier was made in 1877. A wayside station, called Lopez, is the highest point on the line (743 feet) and from here there is a steady decline.

Juarez (300 miles) was founded in 1875 at the head of one of the Quequen rivers. It is a thriving town of 3,000 souls, but the climate in winter is very cold.

Tres Arroyos (360 miles) is reached after traversing the Alzaga and Vasquez estancias. It stands at the junction of three streams, about 45 miles from the Atlantic seaboard, and may be said to have sprung into existence since the opening of the railway hither. It is 356 feet over sea-level. From here the line runs nearly west, and parallel with the seaboard, crossing many streams and passing sundry wayside stations till reaching Bahia Blanca, this section being 96 miles in length. The distance between Buenos Ayres and Bahia Blanca by this route is, therefore, 9 miles greater than by way of Azul: the country is so mountainous that the trains take 5 hours longer.

VI. Buenos Ayres to Trenquelaуquen.

(Distance 278 miles, time 12 hours)

This was originally known as the Western Railway, the terminus being at the extreme west end of the city, at Plaza Once. The line passes through the suburbs of Caballito and Flores, in which are some stately country-houses, of recent construction. At Floresta there is a large leather factory, after which we pass numerous market gardens and the wayside stations of Liniers, Ramos Mejia and Haedo. From the last there is a branch-line to La Plata.

Moron (14 miles) is 70 feet over sea-level and was long considered the sanatorium of Buenos Ayres, for the dryness of its air, but it has lately been declining. The beautiful villa and gardens built by the late Mr. Coffin are south of the line, with a large plantation of gum-trees. Mr. Koch's quinta is also remarkable. The next station is Ituzaingo, adjacent to which is Mr. Duhamel's fine nursery.

Merlo (19 miles) is the junction from which a branch line runs to Lobos and Saladillo. In 1880 Mr. Beaumont, from Cape Town, started here an ostrich farm, but it did not succeed.

Moreno (23 miles) is surrounded by wheat-farms, which stretch away for miles on either side of the railway until passing the village of Rodriguez, the church of which was built by Governor Saavedra and dedicated to St. Patrick in 1866, when all this department was held by Irish sheepfarmers, but sheep have now moved further west, to make room for the plough

of the Italian grain-grower. Rodriguez is 100 feet over sea-level, the railway having a rise of 50 feet from Merlo.

Luxan (42 miles) was one of the earliest settlements of Irish sheepfarmers, some of whom have still estancias in the vicinity. It is one of the oldest towns in the country, and has a famous shrine dedicated to Our Lady, which dates back to 1630. Marshal Beresford and 44 officers were detained prisoners here in 1806. The Vincentian Fathers have a large college, attached to the church. Population 4,000.

Mercedes (61 miles) stands 132 ft. over sea-level: it was an outpost on the Indian frontier until 1822, but rapidly grew into a flourishing town when numbers of sheep-farmers from Co. Westmeath settled here. Their descendants own most of the department. The town has 12,000 population, many fine buildings and St. Patrick's college, the latter directed by Father O'Grady. We are now in the best sheep-farming district, passing the Leones river and Suipacha station, and farther on is the estancia of Gorostiaga, which was an Indian "tolderia" in 1816.

Chivilcoy (100 miles) dates from 1854, in which year Mr. Sarmiento (afterwards President) marked out a number of homestead farms for Italians and Swiss, who introduced wheat-farming. Down to 1865 the friendly Indians of the Pampas, under the Cacique Coliqueo, used to come here to barter with frontier traders. It is now a town of 14,000 population: standing 176 feet over sea-level. Going on westward we pass the stations of Alberti and Larrea, and cross the Salado by a fine iron bridge, not far from the estancia of the late Mr. Keen, one of the first settlers. The Salado was the Indian frontier down to 1855.

Bragado (130 miles) was founded in 1860, but a

fort had been built here by Col. Bustos in 1846. It is now a town of 5,000 souls. One of the first settlers was the late Mr. James Kavanagh, in 1855, who employed friendly Indians to tend his cattle. Further on is the Dennehy station, called after some settlers from Co. Waterford.

Nueve de Julio (163 miles) was founded in 1858 as a frontier fort, and five years later the town was marked out by Col. Vedia, who built a chapel to St. Dominick. The railway reached this town in 1884; the population exceeds 4,000. It stands 246 feet over sea-level, or 70 feet higher than Chivilcoy.

Peguajo (230 miles) was formerly called Fort Mellizas, and is now the centre of large wheat-farms. Elevation 280 feet.

Trenquelaquen (278 miles) is the furthest settled point, and the highest on the whole line, being 315 feet over sea-level. The first settler, Mr. William McClymont, was killed by Indians in 1883. It is proposed to connect this point with Bahia Blanca, by way of Guanini and Curumalan, by a railway 105 miles long. The distance from Trenquelaquen to Bahia Blanca is 210 miles.

VII. Buenos Ayres to Saladillo.

Distance 113 miles, time 5 hours.

The route goes over the rails of the Western Railway as far as Merlo (19 miles) as in last route, from which point the G. Southern Railway has purchased the line to Saladillo, 94 miles. The line runs SW. from

Merlo, through lands famous for wheat-growing. The Conchas river turns several flour-mills, including that built by Blumstein and Laroche in 1854, and that by Mr. Taggart, an American, in 1864: the latter lost his life the same year in successfully endeavoring to save some ladies whose boat had capsized in front of his mill. The railway has a steady ascent as far as Las Heras, which is 120 feet over sea-level, a rise of 70 feet from Merlo. The country between Merlo and Lobos, a stretch of 42 miles, belonged 30 years ago to Irish sheep-farmers, being watered by the Choza, Durazno and other streams, and covered with rich pastures. The Dillons, Moores, Caseys, Lynches, &c., sold their lands for ten times their original cost, and the Italian wheat-growers have taken their place.

Lobos (61 miles) is 93 feet over sea-level, but in the vicinity of some lagoons and subject to floods. It is, however, a healthy and prosperous town of 6,500 inhabitants, and is reached in 3 hours from Buenos Ayres. The name signifies wolves or seals, neither of which can ever have existed, but perhaps Lobos was the name of some Spanish officer or early settler. The town was laid out in 1803, but made little progress till the opening of the railway in 1867. It was ravaged by typhoid fever down to 1877, in which year the Municipal Council made salutary improvements which have been crowned with success.

The section from Lobos to Saladillo, 52 miles, was opened in 1884. The land is crossed by many streams and appears a dead-level, but there is a rise of 62 feet to Saladillo, which is the highest point of the line, 156 feet over sea-level. It is thickly studded with sheep-farms. There is a bridge of 100 feet over the Garzas, after which we cross the Cascallares estancia till reach-

ing the Salado, which has a fine iron bridge of 360 feet. Having crossed this river we are in the department of Saladillo, which was Indian territory forty years ago. At the estancia of Acosta we cross a tributary of the Salado by a bridge of 240 feet, and then traverse the estates of Carril and Cazon. Numbers of Italian grain-farms occur before we reach the terminus of the line.

Saladillo (113 miles) was made a frontier post in 1855, and the town was marked out in 1863, when the church of the Assumption was built. A branch railway has been projected from here to Las Flores, on the G. Southern main line, 45 miles in a SE. course. It is also proposed to make a line SW. to Guamini, 180 miles, which would cross a fine pastoral country. The town of Saladillo has 4,000 souls, its progress dating from the opening of the railway, in 1884.

VIII. Buenos Ayres to Magdalena.

Distance 67 miles, time 4 hours.

The line starts from the Central Station, passes the Government House and is carried over a viaduct parallel with the Madero Docks as far as the Yellow House, which stands on the spot where the first bricks were made in June 1580, by Juan de Garay. The bluff is occupied by Lezama's quinta. The line crosses the highroad at Schwartz's foundry, close to which, on the W. side, may be seen the Quinta many years occupied by Admiral Brown. At Schwartz's foundry have been made many strong-rooms for banks.

Boca (2 miles) is a village mainly of Italians on the

N. bank of the Riachuelo, which is in reality the Rio de Matanzas. It is almost wholly of wood, and is a constant menace to Buenos Ayres, being not only exposed to conflagration but also to fever or cholera, as the sanitary laws are set at defiance. Mr. Huergo proposed to make this place the port of Buenos Ayres and dredged a deep-water channel to the roadstead, 6 miles in length, by which in 1883 vessels came in drawing 22 feet, the tonnage of entries that year reaching 1,200,000 tons. The first landing of the Spaniards in 1530 was at the Boca, and Garay built fifty years later a fort that existed until the great storm of 5th January 1805. The place is often inundated. The railway runs along the N. bank of the Riachuelo, past many shipyards and warehouses, to Tres Esquinas, where John Marshall, in 1864, built the first steamer in the River Plate, the *Estrella del Norte*.

Barracas (4 miles) was for more than a century the seat of the *Saladero* or beef-salting business. Over a million cows and horses were slaughtered yearly, the flesh of the former being shipped to Brazil and Cuba: the horses were killed for their hides. The blood and offal were thrown into the Riachuelo, giving the water a port-wine color, and millions of dead fish often lined the banks of the stream and even of the River Plate. It became such a nuisance that the *Saladeros* were closed in 1871. The railway crosses the river by a fine iron bridge and traverses a swampy district till reaching the Mitre station, formerly called *Puente Chico*. From here there are market-gardens as far as Bernal, where the Salesian Fathers have a country-house.

From Wilde station to Bernal, a distance of only 3 miles, there is a rapid rise of 46 feet, and from Bernal the line again declines.

Quilmes (13 miles) is 63 feet over sea-level, a charming little town of 8,000 souls. It was founded in 1677, and made a parish by Viceroy Zeballos in 1769. Here General Beresford landed in 1806 with a force of 1,652 men, with which he captured Buenos Ayres and held the city 48 days. Quilmes was the name of a tribe of Indians in Tucuman who were vanquished after hard fighting (1677) and brought down by the Spaniards to this place: the last descendant of the tribe died in 1869. The railway was opened in 1872 and on that occasion Mr. Wheelwright said: "After 46 years I come to reward Quilmes in some manner for the hospitable treatment that your grandfathers shewed me and my shipwrecked sailors when we arrived here, barefoot and hungry, from Cape Corrientes". There are many fine quintas in the vicinity of Quilmes.

Espeleta (15 miles) is the seat of the Nelson Meat-factory, supposed to be the largest in the world. It can slaughter 60,000 head of cattle and 100,000 sheep monthly. The principal building is a quadrangle 3-storeys high, with a length of 600 feet on each side, covering 8 acres English. The name of the establishment is the Highland Scot Canning Co., and it comprises 10 distinct sections, all lit by electricity and gas. The gas is made on the spot, and the electric light is produced by four powerful engines and four double dynamos. There are 5 huge boilers, besides hydraulic machinery, pumping department &c. No less than 300 different kinds of machinery are in use. The Company make their own tins and boxes. There are 400 dwellings for work-people. Such is the neatness of the whole establishment that 500 horned cattle can be killed, cut up and tinned in $2\frac{1}{2}$ hours, and at the close not a vestige is left of the operation.

From Espeleta to Berazateguy the line has an ascent of 33 feet, but then begins to decline as we approach the Conchitas valley, passing between fields of wheat. On the south side of Conchitas river we enter the estate of Mr. John Davidson, one of the early Scotch settlers, who bought it from the Dominican Friars.

Pereyra (25 miles) is a junction, a branch running off to La Plata city (10 miles long). The magnificent estate of Leonardo Pereyra is crossed by the line to Ensenada: the owner is said to have expended £200,000 since 1863 in improvements, chiefly the importation of prize cattle, horses etc., from Europe. The railway skirts Mr. Bell's estancia as it approaches Punta Lara, where there is a pier 2,800 feet long.

Ensenada (37 miles) was for two centuries the port used by the Spaniards. Here Brown won one of his hardest-fought naval battles. Some remains exist of the old Spanish forts. There is a promontory called Point Santiago on the south side, on which grow some of the best peaches. A branch railway runs from here along the new docks, inland, to the city of La Plata, capital of the Province.

There are in fact various lines radiating from La Plata. 1. To Pereyra, on the Ensenada line, 10 miles, passing by Tolosa and Ringuet. 2. To Ensenada, 6 miles, along the docks. 3. To Ferrari, on the G. Southern line, 28 miles, passing by Ringuet and Brandzen. 4. To Haedo, on the Western line, 43 miles, passing by Pereyra junction and Santa Catalina.

La Plata (35 miles) occupies a rising ground three miles from the coast. The plan of the city was marked out in December 1882, and so rapidly did building progress, that in 1884 the value of public edifices and private houses was found to be \$38,000,000 gold or

nearly eight millions sterling, the population reaching 33,000. Many of the public offices are palaces, as if it were the intention to make this place the Washington of South America. The Museum is, however, the only place of any interest. The city is lit with 400 electric lights. There is not much trade or vitality, and the city would be almost deserted were it not for a law obliging provincial employees to reside here, and for the new docks connecting it with Ensenada. These docks go by the name of the La Plata Port; they were begun by Mr. Waldorp, a Dutch engineer, in 1884, and have been ably carried out, at a cost of £3,000,000 sterling, admitting vessels of 24 feet draught. Steamers from Europe land here their passengers, who are conveyed in two hours to Buenos Ayres by rail. The import and export trade of La Plata in 1890 amounted to \$4,200,000 or £800,000: shipping entries 200,000 tons.

The Ensenada railway runs over high ground at Elizalde, which is 80 feet over sea-level. but gradually descends into a swampy region at Ardití. There are thick woods in places near the coast.

Magdalena (67 miles) is only 15 feet above the level of the Parana: it was founded by Governor Zabala in 1730, about 3 miles from the coast. Being surrounded with swamps it is often a prey to typhoid fever. Population 4,000. There are some saladeros at Atalaya, on the coast. All the country from Ensenada to Magdalena was given by the King of Spain to the Barragan family, but Major Paul Barragan, being in difficulties, in 1747 sold the estate at \$500 per league frontage on the River Plate, being equal to two pence an acre.

IX. Buenos Ayres to Mendoza.

Distance 654 miles, 36 hours.

This is known as the Pacific route, trains leaving the Central Station at 9 o'clock on three nights of each week, and running over the rails of the Northern line to Palermo Park, at which point the line turns off westward in a sharp angle. The first station is at Maldonado, improperly called Palermo, after which it gradually ascends the slope of the Chacarita, where the principal cemetery of the Capital is situated, with large plantations of Australian gum-trees. In the 17th and 18th centuries the Jesuits had their country-house or Chacarita on the top of this hill. The ascent from Palermo is 12 feet per mile, and looking southward we see Flores, while the line runs for three miles through market-gardens.

Devoto (10 miles) stands on a table-land, at an elevation of 80 feet, and is remarkable for the dryness and purity of its air. There are numerous fine residences and an unfinished church, the latter of great dimensions: also a Plaza of 8 acres, beautifully laid out. The line continues almost due west, and looking north we see the village of San Martin with its plantations of gum-trees.

Caseros (13 miles) is a wayside station on the spot where was fought, on February 3rd 1852, the most eventful of South American battles in recent times resulting in the overthrow of the tyrant Rosas, who immediately escaped to England in a British war-ship.

Hurlingham (17 miles) is a favorite rendez-vous on holidays for races, athletic sports, etc., and several

Englishmen have built cottages here. A little further is Bella Vista, the train passing close to Mattaldi's distillery, where pigs also are fattened on the refuse of maize.

Muñiz (23 miles), better known as San Miguel, may be considered as the last suburb of Buenos Aires on this route. It is remarkable for the Asylum of San José, built in 1888 by the Gallardo family: about 130 orphans are maintained, Don Leon Gallardo has a handsome mansion in the vicinity. The town was marked out in 1886, and has now 1,200 souls. Westward, after passing the town, may be seen, on the left of the line, the fine residence of Mr. Charles Lumb.

Pilar (35 miles) is a town of 2,000 inhabitants. Governor Ortiz built a fort here in 1744, and a church was built in 1791, which was pulled down in 1857 to make room for the present handsome structure. The town stands on a slope, 80 feet over sea-level, with swampy land around, and diphtheria sometimes attacks both the inhabitants and their poultry. Twenty years ago the Irish sheepfarmers were numerous, but Italian wheat-growers have taken their place. Two wayside stations occur, called Cortinez and Agote, the camps here being very fine.

Mercedes (70 miles) has been already described on Route 5, page 90. The Pacific railway runs this far parallel with the Western line, but the latter takes from Mercedes a S. W. course, while the former keeps on due west, running through one of the best sheep-farming districts, where Irish estancias are numerous, past the stations of Franklin, Rivas, Castilla, Rawson, and San Patricio. On Mr. Allens estancia there is a chapel for the Irish neighbors, with library attached.

Chacabuco (130 miles), population 2,000, is chief-town of a department which was Indian territory down to 1860. One of the first settlers was Mr. Perkins, in 1862, who has a fine estancia, called Esperanza. The town was marked out in 1865, when free farm lots were given to soldiers invalided during the the Paraguayan war. The railway approaches the Salado as it passes the station of O'Higgins, which is 240 feet over sea-level.

Junin (160 miles) is a junction, a branch-line of the Western Railway connecting this place with Pergamino: this branch-line is 60 miles long: passing through the flourishing town of Rojas. The situation of Junin is unhealthy, adjoining extensive lagoons from which the Rio Salado, which bisects the province of Buenos Ayres, takes its rise. The town stands on the site of a fort built in 1823 by Col. Rauch, which was subsequently destroyed by Indians. The place was marked out in 1853, and called Junin to commemorate Gen. Miller's victory over the Spanish arms (1824), but the department suffered from Indian forays till 1873. A line of railway is proposed from here to Trenquelauquen (130 miles long), to be afterwards prolonged to Curumalan 105 miles further, enclosing all the western camps in a half-moon.

Westward from Junin the railway skirts the north bank of the lagoons as far as Arenales, and then proceeds to Alberdi, where it crosses the Buenos Ayre limits and enters the province of Santa Fé. The camps here are mostly of coarse grass, suited only for horned cattle. Two more wayside stations, named Orellanos and Soler, are passed in a flat and thinly settled country. Orellanos is 372 feet over sea-level, a rise of 105 feet from Junin, in 70 miles.

Rufino (265 miles) is the boundary point for the provinces of Cordoba and Santa Fé, and from here another railway runs off in a NW. direction to Carlota and Villa Maria. This line is, moreover, worked by the Pacific Railway Co., and runs over 142 miles of level plains. It is a narrow-gauge line, of 40 inches. Trains take 9 hours, including a stay of 40 minutes at Carlota, which stands on the Rio Cuarto and is midway between Rufino and Villa Maria. There are various wayside stations, mostly adjacent to agricultural colonies of Italian and other settlers.

The Pacific Railway traverses 135 miles of the Province of Cordoba, from Rufino to Paunero, passing 6 wayside stations of no interest. All this was Indian country when Mr. Robert Crawford made surveys in 1872 for a railway from Buenos Ayres to Chile. Game is very abundant; hares weighing 25 lbs., deer, wild duck, plover and ibis. There are various salt lagoons frequented by flamingoes and black-necked swans. Mr. Crawford's party suffered much from want of fresh water, there being no rivers or lakes. Nevertheless good water is now found in many places by digging to a depth of 10 or 15 feet. Sand-hills are met with, sometimes 20 feet high, and the aspect of the country is cheerless. The line of railway rises 880 feet between Orellanos and Faunero, in a stretch of 170 miles.

Paunero (400 miles) stands on the N. bank of the Rio Quinto, 1,250 feet over sea-level, the country being wooded. The Quinto is here about 300 feet wide, flowing between steep banks, but the depth of water rarely exceeds two feet: it is lost 60 miles further east, in the Amarga swamp, due south of the station called Cautiva, which is passed in coming from Rufino. There is, however, a popular belief that the Rio Quinto, which

disappears at Amarga lagoon, comes again to the surface at Junin, as the Salado.

Looking NW. from Paunero the traveller discerns at a distance of 70 miles the solitary peak of El Morro rising from the pampas. And as we cross the frontier, to enter the Province of San Luis, we see the blue and hazy outline of the Sierras of that name. The railway still follows the N. bank of the river between clumps of trees till we reach Villa Mercedes, where the river bed is 1,200 yards wide and 15 feet deep although the stream itself is rarely over 100 yards wide and 2 feet deep.

Villa Mercedes (formerly called Rio Quinto) standing 1690 feet over sea-level, is an important railway centre, besides being the second city in the Province of San Luis. From it radiate railways in four directions. The Pacific eastward to Buenos Ayres, 432 miles; the Andine to Villa Maria, 160 miles; the Morro northward, 53 miles; and the Great Western to Mendoza, 222 miles. The city was founded as a fort in 1856, but was a mere Indian outpost until the Andine railway reached here in 1875. It has 8,000 inhabitants and an active trade. There is a statue to Gen. Ivanoski, a gallant Polish soldier of fortune.

The Morro railway is intended to reach the city of Rioja, 365 miles; it is only 40 inches gauge, and consists at present of two sections in actual traffic; the first, 36 miles, to San José del Morro, the second to La Loma, 17 miles. The works reach as far as San Pedro, 142 miles from Villa Mercedes. Nothing is done on the remaining 221 miles to Rioja, nor is it likely that the railway will be completed to the latter city before several years.

From Villa Mercedes the line runs no longer on the

rails of the Pacific Co., but over the Great Western route, which takes a WNW. course towards San Luis. About 8 miles after leaving the town we cross the Rio Quinto by an iron bridge, 200 feet long, and leave behind us the cultivated farms, fringed with poplars and willows, to emerge again on the pampa, the Sierras of Cordoba being seen on the right.

Fraga (454 miles) is a wayside station, 2,020 feet over sea-level. Here was fought a battle in 1867, in which 700 dead were left upon the field. From this point there is a good view of the Morro peak, due north, while the Sierras of San Luis rise immediately before us, and as we pass the station of Alto Grande (470 miles) the Andes may be seen on a clear day, although more than 200 miles off. The line passes a clump of trees called Chañar de Matanza, where a garrison of 25 soldiers was put to the sword by Indians, in 1870. We cross the Chorrillos river, 3 miles before reaching San Luis, on an iron bridge 140 feet long.

San Luis (490 miles) is 2,380 feet over sea-level and is approached through a district of remarkable fertility, abounding in orange-trees, poplars and meadows of Alfa. Twenty years ago the city was a collection of mud huts, without glass windows, but since the opening of the railway, in 1880, it has been much improved. The train stops half-an-hour. It is a place of great antiquity having been founded by Capt. Loyola (a nephew of St. Ignatius) in 1597. The population is about 8,000.

The line now takes a SW. course to Balde, a miserable hamlet in the vicinity of the great salt lake of Bebedero, a few miles south of the railway. Its banks are incrustated with salt, and the lake is 50 miles around, the depth being unknown. No bird is ever seen to fly near it, but there is plenty of good fish, especially a

kind of trout. The lake is shunned by guanacoës and ostriches, and the water kills all vegetation: the banks are lined with trunks of trees. The ground sounds hollow under the horse's hoof. From San Luis to Balde the railway has a decline of 600 feet, in 18 miles.

The Desaguadero (550 miles) is crossed by a long iron bridge, being the frontier between the provinces of San Luis and Mendoza. We have now left the desert of San Luis, and enter a country more populous, with small farms of fenced land: these are irrigated by canals from the Desaguadero and Tunuyan, the intermediate country for 40 miles having a complete system of irrigation. The former river formed a kind of barrier against Indian forays from the pampas of San Luis, down to 1875.

La Paz (565 miles) is 1,630 feet over sea-level or 750 lower than San Luis. It is a cheerful town, in the province of Mendoza, with rows of poplars on all sides: population 4,000. From here the outline of the Andes is very distinct, Tupungato standing out in bold relief 110 miles due W. and rising to a height of 22,140 feet. The surrounding country is mostly covered with brushwood of the *Retama* species, beneath which cattle find pasture. There are also irrigated meadows of Alfa, in which cattle are fattened for the Chilian market.

From La Paz the line again takes a N. W. course, along the north bank of the Tunuyan river, which comes down from the Andes, taking its rise near the Tupungato peak and irrigating the intervening country for a length of more than one hundred miles.

Santa Rosa (607 miles) stands 1,990 feet over sea-level, is a pretty village surrounded by neat farms. The roads are lined with poplars, and cultivation is ir

an advanced state. Here was fought a battle in September 1874, in which Colonel Roca defeated Arredondo's army, and opened the way to his own accession to power, becoming Minister of War in 1875, and President of the Republic in 1880.

From Santa Rosa to Mendoza the line continues to ascend, the distance being 47 miles and the ascent 403 feet. The country is beautifully cultivated, and the farm-houses have an air of comfort and affluence. Much of the land is under vineyards, which are valued at \$600 per hectare or £14 per acre. This high value is due to irrigation by means of the Zanjón or canal made by the Inca Guaymallen in pre-historic times. It would be difficult, except in the Po valley, to find a better system. The Mendoza river is crossed at Molino del Colon, where Mr. Brachmann has a fine mill.

Rodeo del Medio (642 miles) is 2,310 feet over sea-level and has an excellent hotel, kept by Mr. White, grandson of one of Beresford's soldiers. Vineyards, cornfields, meadows of Alfa and fruit gardens occur in varied succession during the 12 miles of our approach to Mendoza, a city which has charmed all travellers, but is on a very thin crust of clay. In March 1861 the geologist Bravard wrote that Mendoza would certainly be destroyed by an earthquake in less than 40 years, and ten days later he perished with 12,000 of the inhabitants.

Mendoza (654 miles) stands at an elevation of 2,393 feet, which is only 13 feet higher than San Luis, although 164 miles further west. There are several good hotels. From here the traveller may proceed due N. to San Juan, 100 miles by rail; or cross the Andes to Chile, the journey to Valparaiso taking four days.

X. Mendoza to San Juan.

Distance 98 miles, time 6 hours.

This line is nominally a part of the Great Western, but runs due N., parallel with the Andes. At first the route lies through cultivated farms, as far as Jocoli (24 miles), the railway having a decline of 460 feet on this section.

Ramblon (42 miles) is on the frontier between the the Provinces of Mendoza and San Juan, in the midst of a desolate country, for the most part a salt desert, interspersed with clumps of thorny bushes, and destitute of water. This continues until we reach Cañada Honda, close to the San Juan river.

Cañada Honda (65 miles) is 1970 feet over sea-level, the centre of a district teeming with corn and wine. Here there is a first-class hotel. It has been often proposed to make a canal from the river of San Juan to that of Mendoza, in order to irrigate the desert tract of 40 miles from here to Jocoli.

Pozitos (86 miles) is a charming village, surrounded by gardens and small farms. A battle was fought here in 1861, when Governor Aberastain and other prisoners were put to death. There is a bridge 530 feet long over the San Juan river.

San Juan (98 miles) stands 2,106 feet over sea-level, being 284 feet lower than Mendoza. It is by rail 752 miles from Buenos Aires, and the journey is accomplished, via Mendoza, in 42 hours. A considerable trade is

carried on with Chile by the Patos pass. San Juan is a handsome, well-built city of 15,000 souls, and public education is much advanced.

XI. Across the Andes.

Mendoza to Santa Rosa 183 miles, time 4 days.

Although there are a dozen well-known passes over the Andes to Chile, the only one that is commonly used is that of Uspallata, the same by which Messrs. Clark's railway is being constructed. It is traversed by couriers on foot all the year round, and these men sometimes perish in snow-drifts or are snowed up for weeks together in the "casuchas" built along the road, where not unfrequently they die of cold or hunger. The pass is considered safe for muleteers and travellers from November 15th to April 15th. The muleteers are mostly Chilians. In 1882 Mr. John Goni, of Mendoza, crossed in a mail-cart to Chile, in 5 days: he reached the summit on the third day, and found the Chilian side much more difficult than the Argentine.

Formerly the journey from Mendoza to the nearest Chilian town Santa Rosa, on mule-back, took 6 days, but now the opening of Clark's railway as far as Rio Blanco has shortened it so much that Mr. H. Green of Buenos Aires recently made the journey to Valparaiso in 4 days, viz:

	Hours		
	Travel	Rest	Total
B. Ayres to Mendoza.....	36	—	36
Halt at Mendoza.....	—	3	3
Rail to Rio Blanco.....	8	—	8
Mule to Punta Vacas.....	3	—	3
Rest at Punta Vacas.....	—	8	8
Mule to Juncal.....	12	—	12
Rest at Juncal.....	—	13	13
Mule to Soldado.....	7	—	7
Rest at Soldado.....	—	2	2
Rail to Santa Rosa.....	2	—	2
Rest at Santa Rosa.....	—	2	2
Rail to Valparaiso.....	4	—	4
TOTAL	72	28	100

Mr. Green adds: "The journey is not very fatiguing; it is made by women and children without serious inconvenience. It is monotonous during the 36 hours by rail in crossing the Pampas, but this includes two nights, and the sleeping arrangements of the Pacific Railway Co. leave very little to be desired.

"After passing to the G. Western Railway at Villa Mercedes the traveller misses the dining-room cars which are used by the Pacific Railway Co., and has to leave the train to get provisions, which is inconvenient.

"As regards the Andine portion of the journey, we found a good dinner and clean bed at Mr. McGregor's hotel at Punta Vacas. We breakfasted next day at Cuevas, and reached Juncal in time for dinner; here also were found excellent accommodation and we passed a comfortable night. On the following day we breakfasted at Salto del Soldado, and the same evening we dined at Valparaiso.

"The journey is most enjoyable; the mountain scenery grand, wild and rugged. The mules are sure-footed,

fine animals, and the road followed is generally wide: at a few places it narrows down to a yard, but there is very little risk. We met forty or fifty passengers daily. Cattle are not sent by the passes used by travellers."

The overland journey from Buenos Ayres to Valparaiso is a saving of 12 days, and of £20 for each first-class passenger, as compared with the sea-route via straits of Magellan.

As soon as the railway be completed it will comprise 6 sections, as follows:—

	Miles	Incline
Mendoza to Punta Vacas..	90	1 in 100
Punta Vacas to Cumbre...	20	1, » 38
Cumbre tunnel.....	2	— —
Tunnel to Tambillos.....	5	1 » 28
Tambillos to Juncal.....	2	1 » 5
Juncal to Santa Rosa.....	33	1 » 45
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The line is working on the Argentine side from Mendoza to a point 3 miles beyond Rio Blanco, a length of 73 miles, or 17 short of Punta Vacas; and on the Chilian side from Santa Rosa up to Salto del Soldado, a section of 20 miles. The portion not yet made is 59 miles; of which 35 are on the Argentine, 24 on the Chilian side. The official table of stations and altitudes on the Argentine side is as follows:

	Miles from Mendoza	Feet over sea-level
Compuerta....	14	3,366
Cachenta.....	24	3,955
Guido.....	40	4,740
Uspallata.....	58	5,680
Rio Blanco....	70	6,530
Punta Vacas...	90	7,130
Inca's Bridge..	99	8,695
Cumbré.....	110	10,530

Leaving Mendoza the line passes at first through cultivated farms and meadows, but soon enters on a sterile region. It is a narrow-gauge railway, only 40 inches, and the speed of the trains averages 15 miles, except in the steeper parts, where it is ten miles, an hour. Ascending the Paramillo range, an avant-garde of the Andes, it is usually very cold and windy, but there is a superb view of Mendoza: so clear is everything that you can count the houses, although more than 40 miles distant.

Uspallata (58 miles) is the old post-house, which has given name to the pass: it is in a valley watered by the Mendoza river, which is fed by numerous streams from the Paramillo range, on the east, and the "grand massif" of the Andes, which rises like a wall on the west. Free lots were offered by Government to any persons who would settle in this valley, 30 years ago, and the climate is so mild that wheat and fruits grow easily, but no settlers have come except the hotel-keeper, who lives here all the year round. The objection is the necessity to use snow-water, which produces goitre and dysentery.

The railway goes 15 miles beyond Uspallata rising one thousand feet in the interval. From this point, which is the present terminus, the mules take three hours to go to Punta Vacas hotel, which is kept by a Scotchman, who treats travellers well. Here we pass the night. It was formerly the most dangerous part of the pass, three defiles converging, but a friar who was Governor of Mendoza, in 1860, made a fine bridge, which spans the roaring torrent. It is not uncommon to see guanacos up to this point. Condors hover about us, on the look-out for accidents.

Punta Vacas (90 miles) is the beginning of the most

difficult part of the route. From here to Inca's Bridge, only 9 miles, there is an ascent of 1,560 feet, following the valley of Cuevas, where Bravo and his 6 companions were murdered by bandits in 1874. There is a chain of "casuchas" or huts for the shelter of travellers, the first of which is one mile from McGregor's hotel. These huts are uniform and at stated distances: they contain a single room 16 feet square and 16 high, without window or chimney. In the centre is a heap of ashes, where travellers cook their food: the smoke is very trying, but a whole party very often has to pass the night inside, and keep up a good fire.

Inca's Bridge (99 miles) is an arch of stratified shingle, cemented together by deposits from the hot springs, the Cuevas river falling in a cascade below. The bridge is 66 feet high, 120 wide and about 25 in thickness. It is best seen from below, with its glittering stalactites. The hot springs bubble up from a picturesque grotto: each is 3 feet diameter, the water being perfectly clear, with a slight taste of salt: the temperature never falls under 94 Fahr. Numbers of people come here every year from Chile and elsewhere, as the water has wonderful efficacy for curing rheumatism and blood diseases. It is proposed to build a hydropathic establishment, and keep it open from November to May.

The Cumbre tunnel will have its opening on the Argentine side 11 miles from Inca's Bridge and 1,840 feet higher: it will be two miles in length. Meantime the journey now made on mule-back is of course much longer. Thus from Uspallata to Juncaal (sometimes called Guardia Vieja) will be only 61 miles by railway, whereas on mule-back it is 92 miles.

Travellers often suffer from "puma" at this elevation.

the air being rarified. Capt. Wallace died of it in 1866. By a zig-zag path we ascend from the spot marked for mouth of the tunnel to the summit of the pass, a rise of 2,265 feet, the summit being 12,795 feet over sea-level, and here the wind is often so violent that it is dangerous to cross until its fury is exhausted. There is a journey of 33 miles from the tunnel-opening on the Argentine, to that on the Chilian, side. The descent on the latter side is steep, the incline being $3\frac{1}{2}$ per cent (one in 28) from the tunnel-mouth to Tambillos, a distance of 5 miles.

Tambillos (148 miles from Mendoza) is on a table-land in the Aconcagua valley: it is 10,000 feet over sea level, and the downward section from here to Juncal (Guardia Vieja) is the most difficult part of the route. Close to the Incas' Lake we pass the Portillo hut. The section is only two miles in length, the incline being 20 per cent (one in five), and at the same time there are 5 difficult curves, varying from 530 to 1,100 yards radius. The mule-journey, from Punta Vacas to Juncal is 60 miles and takes 12 hours, being the only fatiguing day's journey.

Juncal or Guardia Vieja (150 miles) is at an elevation of 7,340 feet over sea-level, and here Pepe Leon keeps a good hotel, which is often crowded. Here we pass the night. The house is open all the year round, and will soon be connected by railway with the Chilian system, via Santa Rosa. It is considered the point from which the Chilian ascent of the Andes begins, as the Argentine does from Uspallata.

Salto del Soldado (163 miles) is reached in 7 hours by mule from Juncal. Here a halt of two hours is made for breakfast, after which we enter the Chilian section of the Transandine Railway, crossing the

Aconcagua river twice, and reaching Santa Rosa in two hours. This completes the journey of 183 miles from Mendoza, which the railway when completed will reduce to 153 miles. From Santa Rosa travellers can proceed by rail to any part of Chile.

In case the traveller be compelled to make the journey over the Andes in the closed season, between May 1 and November 1, he should do so on foot, taking some experienced Chilian couriers, who think nothing of carrying provisions, etc., to the weight of 100 lbs., keeping pace with an unladen traveller. Biscuits, port-wine and coca leaves are indispensable, as also snow-pants, which are made of sheep-skins with the wool inside to protect from the frost-bite. Instead of ordinary boots, which would burn the feet, it is necessary to have shoes of raw leather. Light clothing is recommended, as well as 3 or 4 dogs to keep the traveller warm at night, and the dogs will moreover require snow-shoes.

Some travellers prefer the Portillo pass, which is much shorter than the Uspallata, but its extreme height, 13,780 feet, renders it dangerous in case of snowstorms. Contrary to all other passes, it is steeper on the Argentine than on the Chilian side, and hence is best suited for persons coming from Chile. This was the way that Darwin came over from Chile, in 3 days, towards the end of March 1834. His diary is as follows:—

“First day—Set out from the valley of Maypu and crossed the lower range of Cordillera, called Peuquenes. We camped for the night at an elevation close on 11,000 feet, vegetation scanty; no fuel but the root of a scrubby plant, and the wind piercingly cold. Heavy snowfalls sometimes occur even in March, and

then it is dangerous to be caught between the two Cordilleras, the cave mentioned by Mr. Caldeleugh offering the only shelter. In this valley rain never falls.

“Second day.—The potatoes, which were on the fire all night, were not cooked, although some hours in boiling water, since water boils here at a much lower temperature than in the lowlands. Crossing a valley, where cattle are brought to graze in summer (but now all gone), we had a fine view of Tupungato, clothed with unbroken snow. The guide tells me he once saw smoke from one of its peaks, and I thought I could distinguish the form of a large crater. Now commenced a heavy and long climb similar to that up the Pequenenes. Bold, conical hills of red granite rose on each hand, and in the valley there were several broad fields of perpetual snow. These frozen masses during the process of thawing had in some parts assumed the form of columns, so close together that our mules could hardly pass. Near the crest of the Portillo we were enveloped in a cloud of frozen spicula, which lasted all day, completely intercepting our view. The Portillo takes its name from a narrow cleft or doorway on the highest ridge, through which the road passes. From this point, on a clear day, may be seen the pampas. We descended to the upper limit of vegetation and found good quarters for the night under the shelter of fragments of rock. After dark the clouds cleared away, when the effect was magical, the great mountains bright with the full moon seeming to impend over us. It froze hard, but as there was no wind we slept comfortably.

“Third day.—The descent is short and steep, the mountains rising more abruptly on the Argentine than on the western side. A white sea of clouds was extended beneath our feet, shutting out the view of the

level pampas. About noon, finding pasture and fire-wood in the Arenales valley, we halted to stop the night, at an elevation between 7,000 and 8,000 feet."

From Arenales the route descends by the Tunuyan valley to the village of Totoral, from which there is a tolerably level highway of 40 miles to Mendoza.

XII. Buenos Ayres to San Nicolas.

Distance 192 miles, time 8 hours.

Besides the direct route over the Rosario rails already described (Route 3) there is another inland by way of Luxan, which is 42 miles longer, taking 2 hours more, viz:—

	Miles.
Buenos Ayres to Luxan.	42
Luxan to Pergamino.....	102
Pergamino to San Nicolas.	48

The first section runs over the rails of the Western of Buenos Ayres (Route 6) to Luxan, where we take a branch line which runs in a N.W. course, and which is rented at £90,000 a year to the Central Argentine Company. This line closely follows the original frontier in use by the Spaniards down to 1779. The lands are excellent, and the railway has a rise of 30 feet to Keen station, a stretch of 10 miles. The vicinity of Azcuenaga, 12 miles further, has many Irish estancias.

San Antonio de Areco (74 miles from Buenos Ayres) is an old town, dating from 1759, and has 3,500 inhabitants. It is 112 feet over sea-level. Here the line crosses the Areco river, which takes its name from the

first settler (1725). There is a rise of nearly 60 feet in proceeding to the next station, Duggan, after which there is a decline as we proceed towards the Arrecifes valley. Most of the country belongs to Irish settlers.

Arrecifes (114 miles) stands 20 feet higher than San Antonio and is likewise situated on a small river which makes its way to the Parauá. It is a thriving town of 3,800 souls, with mills and shops. Some of the first Irish settlers here, in 1860, were killed by Indians. Mr. Stegman's estancia is one of the finest in the province. The district is essentially Irish.

Pergamino (144 miles) is an important railway centre. There is a line running NNW. to Cañada Gomez (90 miles); another SW. to Junin (55 miles), while the line to San Nicolas turns off at right angles, to the north-east. It is a flourishing town of 8,000 souls, with much local trade, and stands 220 feet over sea-level. an ascent of 88 feet from Arrecifes.

From Pergamino the line runs 48 miles to the banks of the Paraná; most of the intermediate country is cut up into grain-farms, sheep having of late years given place to tillage. The highest point on this line is at Peña, 8 miles from Pergamino, namely 250 feet over sea-level, and afterwards the railway has a constant decline to San Nicolas, which is only 60 feet over sea-level or ten feet over the Paraná.

XIII. Buenos Ayres to Cordoba.

Distance 436 miles, time 18 hours.

This is the same route as the last as far as Pergamino, from which junction it proceeds NW. over the

same wide gauge, 5 ft. 6½ inches, towards Cañada Gomez.

Peyrano (172 miles from Buenos Ayres) is a wayside station where we cross the frontier into the Province of Santa Fé. On both sides of the line sheep farms and tillage alternate, and at each of the stations we pass there are colonies of Italian and other settlers. The line steadily rises as we advance.

Candelaria (214 miles) is a colony of 3,000 persons, founded in 1882 by Carlos Casado, of Rosario; with mills, schools, etc. It is sometimes called Casilda and has direct railway communication (35 miles) with Rosario, by a wide-gauge line. It stands 270 feet over sea-level, a rise of 50 feet from Peyrano.

Cañada Gomez (234 miles) is an important station on the Central Argentine main line, which is reached in 10 hours from Buenos Ayres. From here the traveller proceeds 202 miles over the Central Argentine which is described hereafter. See Route 15.

The traveller may also proceed by the Buenos Ayres and Rosario railway to the latter city direct, and there take either the Central Argentine railway or go by the new narrow-gauge line, via San Francisco, the distances by the latter way being thus:—

	Miles.	Hours.
Buenos Ayres to Rosario	190	7
Rosario to San Francisco	136	9
San Francisco to Cordoba	130	7
TOTAL	456	23

This route is therefore 20 miles longer and takes 5 hours more than by way of Cañada Gomez. But the actual time spent in travelling will be only 17 hours if the traveller go by Central Argentine to Cordoba.

XIV. Rosario to Cordoba.

Distance 246 miles, time 10 hours.

This route is by the Central Argentine Railway, which has comfortable carriages, with every convenience. Leaving Rosario the line passes through a beautiful zone of quintas and market-gardens to Fishertown (called after the late manager), where there is a number of charming country-houses held by the employees of the railway.

Avila (10 miles) is 110 feet over sea-level, being a rise of 35 feet from Rosario. It is surrounded by grain farms, and here begin the lands of the Central Argentine Company, ceded by the State to Mr. Wheelwright, in 1863.

Roldan (16 miles) was first called Bernstadt in honor of the Swiss colonists introduced by Mr. Perkins for the Company in 1870. Good water is found at a depth of 10 feet, and the wheat-crop averages 10 bushels per acre, or one ton per cuadra. Six miles further we pass the colony of San Geronimo, the railway having a constant ascent as we proceed.

Carcaraña (30 miles), on the river of same name, is the most successful of these settlements, with mills, shops and hotels. The colony covers 80 square miles, and the soil is good, but water cannot be got at less than 60 feet depth, the elevation over sea-level being 176 feet. The colonists are French and Italian. The river is crossed by a fine iron bridge, the volume of water being usually 100,000 cubic feet per minute: it is the same which is known in the Province of Cordoba

as the Río Tercero, but is here called the Carcaraña, and falls into the Paraná near San Lorenzo.

Cañada Gomez (45 miles) owes its importance to another colony, founded here in 1870. There are several steam-mills and large houses of business. Population 2,400. There is a rise of 100 feet in the railway from Carcaraña. The place was constantly raided by Indians down to 1863, and at Major St. John's estancia were seen a trench and stockade inside which the villagers used to take refuge. Messrs. Krell, Greenwood and others have fine farms here. Cañada Gomez is a junction from which run two branch lines, one south (234 miles) to Buenos Ayres, the other north (80 miles) to Sastre.

The branch-line to Sastre passes the colony of Elisa, the famous estancia of Las Rosas belonging to Capt. Keimnis, and attains its highest point (360 feet over sea-level) at Cardos, near the great wheat-farms of Messrs. Dickenson and Brooke Fea. From this point is a run of 42 miles to Sastre, where this branch meets the new narrow-gauge line from Rosario to Cordoba.

The main line proceeds from Cañada Gomez to Armstrong, a stretch of 11 miles, skirting the estancia of an old Irish resident which covered 400,000 acres. Here when the navvies were making the line they were so harassed by Indians, in 1864, that they had to keep a locomotive with steam up, and on one occasion they had a very narrow escape, the Indians trying to lasso the locomotive.

Tortugas (70 miles) is another colony, 244 feet over sea-level, the line having a decline of 145 feet from Armstrong hither. The land is good, and the settlers are Lombards, who came here in 1871. When the railway was first opened the Indians came and carried

off the station-master's wife, but the Company got a new station-master named O'Keefe, who was such a good rifle-shot that the Indians never came again. We cross the Tortugas river, which is the boundary between Santa Fé and Cordoba, and leave a region of slope and valley, interspersed with cottages and grain-farms, for the wild camps of the Cordoba plain.

Leones (98 miles) is a wayside station, 385 feet over sea-level, in a desolate country, where deer and ostriches are seen. An extraordinary occurrence happened here in 1882: a man who was asleep on the rails, two miles hence, was caught up by the cow-catcher and brought into the station unhurt. This part of the line is sometimes visited by locusts, thicker than a snowstorm: the train then comes to a stop, the wheels being solubricated by the oil from the crushed locusts that they go round without progressing.

Bellville (122 miles), better known as Frayle Muerto, is called after a Scotchman who settled here in 1866. Another Scotchman named Hume (Melrose) introduced the first steam-plough. Other British settlers sank £50,000 here, but the colony fell to pieces, Indians stealing the cattle, and locusts eating the grain. There was a friar murdered here in 1819, which gave the place its name, but the authorities imposed a fine on anyone calling the place Frayle Muerto, and substituted the name of San Geronimo. Population 3,700.

Villa Maria (156 miles) is a run of 90 minutes from Bellville. The country is monotonous until reaching the woods of Ballesteros, where there is a lonely wayside station, and a little further we pass a colony in the open. The forests re-appears as we approach Villa Maria, famous for stagnant pools and malaria. The cholera of 1868 swept off all the inhabitants, including

the station-master and his family. Bad water was said to have produced blood-poisoning. Nevertheless Villa Maria is now a thriving town, although sometimes inundated by the Rio Tercero. A bridge over this river connects Villa Nueva with Villa Maria. This is a great railway centre, from which lines radiate thus:—

	Miles.
Northward to Tucuman, via Cordoba	432
Westward to Mendoza, via San Luis	382
Southward to Buenos Aires, via Rufino	407
Eastward to Rosario	156

Villa Maria stands 670 feet over sea-level, the railway rising 240 feet in 34 miles from Bellville. It continues ascending steadily till reaching the Ferreyra heights that overlook Cordoba.

Chañares (175 miles) takes its name from thorny thickets of Chañar, and a few miles south is Yucat, with branch thither, where the Company has workshops for cutting wood for locomotives. Soon after leaving Chañares we pass Laprade's works for canalizing the Rio Tercero, and get a clear view of the sierras of Cordoba, with sharply defined summits, often capped with snow, distant 60 miles and rising to 7,600 feet over sea-level,

Laguna Larga (210 miles) takes its name from a big lagoon, in a wild country, the inhabitants of which are reputed lawless. There are thickets of algarroba (carob tree), the fruit of which fattens cattle. Elevation 1,020 feet.

Rio Segundo (222 miles) has an iron bridge 1,300 feet long, in 32 spans, on pillars 14 inches diameter, 25 feet above high water. This place was for some time terminus of the line owing to the hostility of the people between here and Cordoba, who sometimes cut

the rafters of culverts, sometimes tied trees across the rails, but the Company always ran pilot engines to prevent accidents. There is a famous brewery here which makes excellent beer and porter. Rio Segundo stands 1,133 feet over sea-level, and from here there is a branch line of 31 miles up the mountains to Alta Gracia, a delightful place 1,820 feet over sea-level, which abounds in lovely scenery and was for two centuries a country-house of the Jesuit Fathers. The traveller will find an excellent hotel, mules and every convenience. The benefit of the air to invalids is marvellous.

The main line proceeds from Rio Segundo to Ferreyra, which is the highest point on the line, 1,330 feet over sea-level; it commands a grand panorama of the Sierras. As we advance we look down on the towers and buildings of Cordoba, the line having a descent of 50 feet to the terminus. The first view of Cordoba is never to be forgotten, the city being thrown into relief by the groves and plantations on the western side, while the Sierras form a superb background. Cordoba is much older than Buenos Ayres, and was for 300 years the most learned city of the New World, until the expulsion of the Jesuits, when its glory departed for ever.

XV. Rosario to Cordoba, narrow-gauge.

Distance 267 miles, time 15 hours.

This line is 21 miles longer than the Central Argentine route, and takes 5 hours more. It starts from Rosario in a NW. course, and traverses a suc-

cession of agricultural colonies which have sprung up in the last 20 years. There is a decline in the first 20 miles, Alberdi station being 20 feet lower than Rosario, but after Palacios the line again rises.

Froilan (35 miles) is 167 feet over sea-level, and from this point there is a steady rise. We are in a region of wheatfarms, and pass the thriving settlement of San Genaro (61 miles from Rosario), which was founded in 1880: a few miles south of this is the Germania colony, founded by Mr. Nordenholz in 1870, which has steam-mills and all improvements.

Trail (100 miles) is 260 feet over sea-level, and 12 miles further we reach Sastre, the junction at which terminates a branch-line from the Central Argentine.

Frontera (136 miles) is the central point where the provinces of Santa Fé and Cordoba meet, and is sometimes called San Francisco. It is 384 feet over sea-level, and from here the railway makes an angle and runs west. There is a decline of level for 40 miles after entering the province of Cordoba.

Tio (183 miles), otherwise San Justo, is close to the Rio Segundo. Agriculture has disappeared, the country here being purely pastoral. It is a poor town, 420 feet over sea-level, and several wayside stations are passed including Transito, where we cross the Rio Segundo.

Cordoba (267 miles) has been already described. There is a rise of 990 feet in the railway since leaving Tio, a stretch of 84 miles. The terminus is on the heights overlooking Cordoba, at an elevation of 1,410 feet over sea-level.

XVI. Rosario to Tucuman.

Distance 532 miles, time 28 hours.

This is the prolongation of the Buenos Ayres and Rosario railway, on the same wide-gauge of 5 feet 6½ inches. It starts from Rosario and runs nearly due N. along the bluff of the Paraná, with a slight ascent, passing through villas and farms of pleasant appearance.

San Lorenzo (12 miles) stands on a "barranca" 40 feet over the Paraná, and is remarkable for a large Franciscan convent. Here General San Martin won a brilliant action against the Spaniards, and in the heat of combat his black servant saved his life at the cost of his own. From this point the line turns inland in a NW. course, with colonies and wheat-farms on each side, for a stretch of 50 miles.

Irigoyen (62 miles) is a junction, from which a branch-line, of the same wide gauge, runs 48 miles NNE. to the city of Santa Fé. Irigoyen stands 135 feet over sea-level, and from this point the branch-line steadily falls in level 82 feet till reaching Santa Fé. It traverses some of the finest colonies in the republic, including those of Matilda, San Agustin and Santo Tomé.

The main line runs NW. from Irigoyen to Galvez, through 10 miles of the richest agricultural districts, the level rising 45 feet in the interval.

Galvez (72 miles) is 180 feet over sea-level, and an important railway centre, from which 3 lines radiate, viz:—

NE. to Santa Fé city..	50 miles.
NW. to Morteros.....	117 „
NNW. to Tucuman...	460 „

The first runs through the colonies of Oroño, San Carlos, Gessler and Tunas, and from Gessler a branch of 15 miles is thrown off to the port of Coronda. The second lies through newer colonies, in territory that was a few years ago held by Indians, crossing the frontier of Cordoba at Iturraspe, which is close to San Francisco, the junction of the Rosario and Cordoba narrow-gauge line: from this point it pushes on N. to Morteros, an old fort built by the Spaniards on the shore of Mar Chiquita to keep the Chaco Indians in check: here now meet the frontiers of the provinces of Santa Fé, Cordoba and Santiago del Estero. Iturraspe is the highest point on this second line, 375 feet over sea-level, after which there is a steady decline, Morteros being 50 feet lower.

At Galvez the train stops half-an-hour for breakfast, and from here the main line runs N. to Pereyra, a stretch of 34 miles; soon after it crosses a line of railway from Santa Fé city to San Francisco on the frontier of Cordoba. Then come the colonies of Aurelia and Rafaela.

Rafaela (128 miles) is another great railway centre, from which 5 lines radiate, to Santa Fé city, Rosario, Cordoba, Tucuman and Suncho-Corral. Agriculture is dominant in this quarter, and there are vast wheat-fields all the way to Lehmann, where Mr. Arthur Shaw and others have large properties.

Sunchales (150 miles) is 315 feet over sea-level, a rise of 135 feet from Galvez. In 1872 Mr. Demot planted a colony around the old Spanish fort of Sunchales, for the purpose of growing tobacco, but the

colonists were all murdered six months later, except 13 families, who escaped to Grütli. All this was wild Chaco desert down to 1880, but is now the centre of a thriving group of Italian and other colonies.

The train stops 20 minutes at Sunchales, and then proceeds by various wayside stations to Monigotes, another old fort which had frequent encounters with Chaco Indians, 31 miles beyond Sunchales. This is a wild and thinly settled country. The station before reaching Monigotes is called Palacios, near which is one of Baron Hirsch's new Jewish colonies. Wood-cutting establishments have been at work for some years in the vicinity.

Ceres (230 miles) is 25 feet lower than Sunchales, on the frontier line between the Provinces of Santa Fé and Santiago del Estero. We are now in the swampy district that intervenes between the rivers Salado and Saladillo, the railway approaching the former river at the station of Argentina, and continuing a direct course N. W. to Banda. This is a stretch of 210 miles through an uninteresting country, the level of which begins to rise at Casares; from here to Banda is 130 miles and there is an ascent of 310 feet in that distance.

Banda (438 miles) is a suburb of Santiago del Estero, on the Chaco side of the Saladillo river, which here is called Dulce. Here the train stops half-an-hour to allow passengers for Santiago to change into the branch, 4 miles long, which communicates with that ancient and decayed city of the Spanish colonial epoch. Banda is 620 feet over sea level, or 560 higher than Rosario.

The line continues its course N. W. along the N. bank of the Dulce, through a zone of maize plantations and fruit-gardens, irrigated from that river. After a run of 37 miles from Banda we cross the frontier into Tucuman

province, at Gramillo, the line still ascending; for Gramillo is 315 feet higher than Banda.

Various villages are passed, surrounded by tropical vegetation, and at length we reach the charming city of Tucuman, 532 miles from Rosario, and standing 1470 feet over sea-level. The scenery on all sides is superb.

The traveller may also go from Rosario to Tucuman by way of Cordoba, taking the Central Argentine railway to the last-named city, and the narrow-gauge northern route from there to Tucuman. By this route the distance is 588 miles, and the time actually employed in travelling 30 hours; that is 56 miles and 2 hours longer than the direct route.

Another railway is in construction to Tucuman, but this is narrow-gauge (40 inches) and at present goes no farther than Suncho-Corral, 420 miles from Rosario. When completed (including the wide-gauge section from Rosario already described to Rafaela) the route will be as follows:—

Section ending at	Miles.	Elevation.
Rafacla.....	128	330 feet.
San Cristobal.....	67	250 »
Suncho-Corral.....	225	— »
Tucuman.....	160	1,470 »
TOTAL.....	580	

This line will run from Rafaela due N. 67 miles to the well-known estancia of San Cristobal, founded a few years ago by Messrs. Murrieta in the depths of the Gran Chaco at a point where the Salado and Calchaqui rivers meet, abreast of the Alexandra colony founded by Thompson Bonar & Co., but 70 miles further inland.

San Cristobal (195 miles from Rosario) is in a low-lying country near some lagoons which are at times flooded by the Salado. Some of the best colonies in

Santa Fé are situate between Rafaela and San Cristobal. The soil is fertile and timber abounds. The Santa Fé Land Co. has a very large property at San Cristobal, and the estancia house is surrounded with workshops and all newest implements.

From San Cristobal the line goes off NW. till it crosses the Salado at Fort Tostado and enters the province of Santiago del Estero at Fort Inca. From this last place it runs along the N. bank of the Salado to Suncho-Corral, the present terminus. This is a hamlet 30 miles due E. of the city of Santiago del Estero.

The uncompleted section of 160 miles from here to Tucuman offers some engineering difficulties, especially in crossing the different arms of the Juramento, by which name the Salado is known above Suncho. From this point the line will run NW. till crossing the frontier into the province of Tucuman 25 miles before reaching that city, via Quinteros.

XVII. Rosario to Mendoza.

Distance 538 miles, time 29 hours.

This route follows the Central Argentine as far as Villa Maria, at which junction the traveller takes the Andine railway to Villa Mercedes, and then the Argentine Great Western, the sections shewing thus:—

Section ending at	Miles	Elevation
Villa Maria.	156	670 feet.
Villa Mercedes. . . .	160	1,690 »
Mendoza	222	2,393 »
TOTAL.	538	

The first section has been already described in Route 14.

The Andine railway starts from Villa Maria in a SW. course: it is the same wide gauge as the Central Argentine, and crosses the Rio Tercero by a fine iron bridge, giving us a passing glimpse of Villa Nueva, which town is so subject to inundations that many houses were washed away in January 1892. Previously it suffered at intervals from Indians, who sacked it for the last time in 1870. On such occasions the women assembled in the church, the men got on the roof with rifles, and the Indians plundered the town leisurely, besides often carrying off a number of women.

Sarsfield (180 miles from Rosario) is called after the statesman who ruled matters at Buenos Ayres from 1840 till 1870, under various forms of government. Thickets and lagoons succeed one another, and this country offers much shooting, but the people are reputed lawless.

Cabrera (203 miles) is 990 feet over sea-level, shewing a rise of 320 feet in the intervening 47 miles from Villa Maria. It is a wild, diversified country, with woods of Algarroba. On the N. is the great estate of Peñas, founded by Barker and Kaulen in 1864 for Angora goats, and purchased by Messrs. Wylie and McKenzie in 1883, covering 400 sq. miles. Adjoining is the fine estancia of Messrs. Barnett and Winterbotham. On the S. side was the vast Fielden estate, 300 sq. miles, recently sold in lots. Plains stretch out east and south, in which deer and ostriches are found. The wind has such power on these plains that it is necessary to make fast the trains at night. It happened once to a station-master that on looking for his train in the morning it was no longer in sight. During the construction the engineers often ran ballast-trains under sail.

Rio Cuarto (238 miles) on the river of the same name is the only town on this Andine railway between the terminal points. It stands 1,440 feet over sea level, is well-built and contains 5,000 inhabitants. It was repeatedly sacked by Indians until the command of the frontier was given to the gallant Gen. Ivanoski, in 1872. It is the second town in the province of Cordoba, with pleasant outskirts.

Sampacho (267 miles) is in a picturesque, rolling country, and is the highest point on the line, 1,695 feet over sea-level. Borings for coal were made here, without success, in 1874. There is a French colony, which had to encounter great hardships at first, but is now doing well.

Chajan (286 miles) is a wayside station in a place known as the Etchegaray grant, ceded by the Government of Cordoba in 1863, covering 6,500,000 acres for an English colony: but the enterprise fell through.

Villa Mercedes (316 miles) is the end of the second part of this route. Here we take the G. Western railway to Mendoza, already described in Route 9.

XVIII. Cordoba to Tucuman.

Distance 341 miles, time 20 hours.

This is a narrow-gauge line, 40 inches, the first made in the country and opened to traffic in 1876. Leaving Cordoba the line ascends the Rio Primero table-land and as we cross the Tablada we have a fine view of the Sierras, the city of Cordoba being below us in a hollow. After a run of 20 miles we pass General Paz

a hamlet where goats abound and the women sell hot chocolate, standing 1,750 feet over sea-level, a rise of 460 feet since leaving Cordoba. The line continues to ascend, in a course parallel with the Sierras, due N.

Jesus-Maria (32 miles) has an elevation of 1,780 feet and is the most interesting place on the route. Here the Jesuit establishment in the 18th century gave employment to 3,000 persons. The massive church and other buildings remain, and in the vicinity is the Italian colony of Caroya. After crossing the stream of Jesus-Maria no more running water is met on this route for a stretch of 180 miles.

Sarmiento (48 miles) is only remarkable as a centre for goat-farming, the inhabitants selling the skins advantageously to French buyers. We have now got into the region of the Sierras, arid and picturesque.

Avellaneda (62 miles) stands 2,330 feet over sea-level, and 6 miles further (at Kil. 110) we reach the highest point, where the water-sheds divide, at an elevation of 2,770 feet. From here the line descends towards the desert of Salinas.

Dean Funes (76 miles) is a junction from which a branch runs off SW. to Cruz del Eje, the same narrow gauge of 40 inches. This branch traverses the mountainous country of Ischilin, rich in minerals, for a length of 40 miles, passing midway the village of Santo Domingo, and meeting at Cruz del Eje another narrow gauge line from Cordoba to Rioja. The vicinity of Dean Funes abounds in pigs and firewood: the people are poor, but noted for longevity, the census of 1869 shewing 7 persons over 100 years of age.

Quilino (93 miles) is only 1,310 feet over sea-level, shewing a fall of 990 feet from Dean Funes or 58 feet per mile. Like the last station it is famed for longe-

vity, and the people live by pigs and wood-cutting. It is a very wild, desolate spot, without water or vegetation.

San José (109 miles) shews a further fall of 660 feet and marks the commencement of Salinas, the Sahara of the Argentine Republic. The railway traverses it for a length of 58 miles as far as Recreo, with an intermediate station at Totoralejos. It is a howling wilderness, where neither bird, beast, reptile nor insect can find means of support. The plain is a vast surface with salty aspect, which shines so brilliantly in the sun as to fatigue the sight. No water is to be had for the whole distance, and the train has to carry 3,000 tons or 700,000 gallons monthly. It was an act of madness to make a railway here, instead of following Wheelwright's route, by which this desert would have been avoided, although, of course, his route would have made the line 60 miles longer. Nearly midway between San José and Totoralejos is the lowest point of the line, 555 feet over sea-level, which shews a fall of 755 feet from Quilino or 25 feet per mile. A few miles further than Totoralejos we leave the province of Cordoba and the line follows the frontier between Santiago del Estero and Catamarca, the former being on our right, the latter on our left.

Recreo (167 miles) is a junction, from which a branch narrow-gauge runs W. to Chumbicha and then north to the city of Catamarca, a length of 151 miles. Passengers formerly stopped for the night at Recreo where there is a good hotel: the train now stops 45 minutes for dinner. From this station we leave the desert behind us, the landscape improving at every mile. Recreo is 720 feet over sea-level, the line now ascending towards Tucuman.

Frias (212 miles) is another junction, a branch line running off NE. to the city of Santiago del Estero, 102 miles. An Abyssinian well, 165 feet deep, supplies the station with abundance of water. Large works have been constructed, mostly for woodcutting, dense forests extending eastward. At Frias there is a bridge 400 feet long, over the Albigasta, a river flowing from the Catamarca side.

San Pedro (260 miles) is in regard of traffic the 4th station on the line. It is the point of meeting for the frontiers of Catamarca, Tucuman and Santiago del Estero, under the shadow of Sierra Aconquija; the country from Frias hither is thickly wooded. At an intermediate station, Lavalle, the line reaches an elevation of 1910 feet, but there is a fall of 660 feet from there to San Pedro in a run of 16 miles, say 41 feet per mile. This decline continues till we reach the valley of Graneros.

Lamadrid (281 miles) is on the N. bank of the Graneros, which river is spanned by a bridge of 330 feet. It is the first station met in the province of Tucuman. We have now entered a land flowing with milk and honey; as Alberdi says: "From whatever side the stranger enters this province he is aware of it before anyone tells him. The sky, the atmosphere, the land, the plants, all are new and different from what he has seen and passed through". Lamadrid is a junction, from which runs the North-West Argentine railway, 88 miles to Tucuman, thus forming a loop-line.

Monteagudo (290 miles) formerly called Telfener after the Italian gentleman who made the line, is a flourishing town on the N. bank of the Medina, which is crossed by a bridge 530 feet in length. There are steam-mills, shops and a good hotel. It stands 970 feet

over sea-level, and from here the railway has a continuous rise to Tucuman. We are now in the midst of the sugar country, and cross numerous rivers. There are 6 bridges before we reach the next station; those of Crastona and Rio Seco are respectively 400 and 330 feet long.

Simoca (308 miles) is a picturesque town, of considerable trade. Some of the best sugar-factories lie on the route from here to Monteros, 10 miles distant, which is a station on the loop-line above-mentioned. Horses and carriages may be hired hire, and the traveller may halt at Methven's sugar mill.

Bella Vista (325 miles) is reached after passing two large rivers, the Valderrama and Colorado, both flowing down from the sides of the majestic Aconquija, and crossed by bridges respectively 960 and 400 feet long. The town stands 885 feet over sea-level, and well deserves its name, being the centre of a landscape of great beauty and fertility, groves of cedar and walnut alternating with sugar-plantations.

Lules (331 miles), on a river of the same name, is another lovely spot surrounded by orange-groves, from which 300 tons of oranges are sent yearly to Cordoba. The sugar-mills here have the best French machinery, and employ thousands of hands. A few miles further we pass San Felipe, with Posse's great sugar-mill, and this is one of the suburbs of Tucuman.

Tucuman terminus (341 miles) stands on the spot where Quiroga put to death 33 of the leading citizens in 1839. There are 3 good hotels. The city stands 1,440 feet over sea-level, or 150 feet higher than Cordoba.

XIX. Cordoba to Rioja.

Distance 275 miles, time 22 hours.

The route comprises 3 sections, of which the first two are done by a narrow-gauge railway, the third on mule, viz:—

Section ending at	Miles	Elevation, feet
Cruz del Eje.....	95	480
Padquia.....	140	430
Rioja.....	40	1,780
TOTAL..	275	

The Cordoba North Western railway runs through a number of hilly suburbs, with a steady ascent to Calera, which is 1,800 feet over sea-level, the distance being 13 miles. This place is charmingly situated, and is a favorite resort in the summer months, with a good hotel.

San Roque (27 miles) is reached after crossing the Rio Primero, and stands in a delightful valley, with numerous country-houses. Three miles further we pass Santa Maria, from which point there is a steep ascent to Cosquin, the line rising 200 feet in 5 miles, with fine scenery around.

Cosquin (35 miles), at an elevation of 2,380 feet, was an old Indian village, but has become in recent years a fashionable sanatorium, the dry mountain air having a most beneficial effect on consumptive patients. There are two good hotels, and the surrounding hills offer beautiful drives. It stands 1,000 feet higher than the suburban heights of Cordoba, and has 900 inhabitants. Two wayside stations are passed, Casa Grande and Huerta Grande, the line still ascending.

San Jeronimo (58 miles) is the highest point of the line, 3,810 feet over sea-level, the ascent from Cosquin averaging 60 feet per mile. From here we begin to descend to the picturesque valley of Punilla, passing the villages of Dolores and Monte, where orchards and small farms abound.

Cruz del Eje (95 miles) is 2,200 feet lower than San Jeronimo, shewing a decline of 60 feet per mile. It has 900 inhabitants and is a mining centre: it is also the junction, from which a branch railway runs off to Dean Funes, 40 miles, and there meets the line from Cordoba to Tucuman.

From Cruz del Eje the line goes due east over the Soto swamps to the hamlet of Serrezuela, at the foot of the third and most western range of the Sierras of Cordoba. This range has a length of 90 miles, its highest peak, Yerba Buena, rising to an elevation of 5,450 feet.

San Francisco (155 miles) is a hamlet that we meet after entering the province of Rioja. We are now in the Llanos, a wild and desolate tract, not flat as the name implies, but hilly and formerly much over-run by banditti. This is the lowest point on the line only 840 feet over sea-level.

Padquia (235 miles) where the railway now terminates will be a junction, a branch running 40 miles N to the city of Rioja, while the main line will go NW to Famatina, otherwise called Chilecito, a distance of 80 miles. Both these lines will be arduous, the intervening country being mountainous. Thus from Padquia to Rioja the railway will have to ascend 1,350 feet in 40 miles, while the line to Famatina will have to reach an elevation of 3,540 feet, that is a rise of 3,110 feet in 80 miles. The first line will traverse a wilderness

the second will pass the wine-growing district of Nonogasta and some small villages. At Padquia the traveller will find coaches or mules, and an hotel.

XX. Cordoba to Catamarca.

Distance 318 miles, time 20 hours.

The route comprises 3 sections, all by narrow-gauge railway, viz:—

Section ending at	Miles.	Elevation, feet.
Recreo.....	167	720
Chumbicha.....	110	1,370
Catamarca.....	41	1,680
TOTAL...	318	

The first section runs over the Great Northern railway from Cordoba, as described in Route 18. There is a good hotel at Recreo.

From Recreo the railway runs in a SW. course 34 miles to Guardia, near the foot of Sierra Ancaste, through dense forest all the way, passing the old post-house of Suncho and the estancia of San Miguel. It doubles the range of mountains at Horqueta, near the Sanchez estancia, which is the southern point of the Sierra, and then, making a sharp turn, goes NW. This place is 40 miles from Recreo. It is the only sharp curve on the line.

Telaritos (217 miles from Cordoba) adjoins the old post-house of Balde de Punta, and from here the line follows the western base of Ancaste, passing the hamlet of San Martin, and the farms of Santo Domingo, Pozolindo and Loma Blanca,

San Ignacio (257 miles) is 1,010 feet over sea-level, and from here to Chumbicha the line continues to rise, as it passes the farms of Buena Vista, San Nicolas and Latitas. On the whole route from Recreo hither there is only one bridge, 33 feet long.

Chumbicha (277 miles), at the foot of Sierra Ambato, stands 610 feet higher than Recreo. It is a village of some importance, an oasis where many good wells exist, water being very scarce in the country from here to Recreo or to Rioja. It was the chief halting place for the various old coach-roads, which crossed here. Dense forests of algarroba surround it, and brilliant humming-birds are numerous. A railway, 55 miles in length, is projected to Rioja, 40-inch gauge, at an estimated cost of £210,000 sterling.

From Chumbicha to Capayan the railway continues, at a dead-level, to follow the eastern base of the Ambato or, as it is often called, the Nevado, from the fact that its peaks are at times snowcapped.

Capayan (290 miles) is a pretty village, head of one of the departments of Catamarca. The line traverses a "salina" where the Jume or soda-plant abounds until reaching Villa Prima, another prosperous village, after passing which we again enter a forest which skirts the Ambato.

Miraflores (306 miles) stands 1710 feet over sea-level, on a slope which commands a fine panorama. Three rivers are crossed successively, the Miraflores, Coneta and Ongoli, all which flow eastward from the Sierra Ambato and are lost in dense woods. After passing the Ongoli we reach the heights which overlook the city of Catamarca.

Catamarca (318 miles) offers a lovely picture, the cathedral towers being conspicuous. Right and left are

bold chains of mountains. The city stands on an incline of one in 75. All the route from Chumbicha to this city has plenty of wood and water. The inhabitants of Catamarca are courteous.

XXI. Cordoba to Santiago del Estero.

Distance 313 miles, time 20 hours.

This route follows the G. Northern railway from Cordoba as far as Frias (212 miles) as in Route 18.

The branch from Frias runs NE. through dense forests, almost uninhabited and destitute of water. Abyssinian wells have been tried, but without success. There is a stretch of 43 miles to Laprida, the line declining 570 feet in the last 25 miles.

Loreto (276 miles from Cordoba) is a fertile district, only 460 feet over sea-level, and often inundated by the Rio Dulce, to which it is indebted for wonderful wheat crops. It was a place of importance 200 years ago, being on the old Sunchales route from Buenos Ayres to Perú, and has 1,500 inhabitants.

Santiago del Estero (313 miles) is only 615 feet over sea-level, shewing a fall of 460 feet from Frias. It is approached through suburbs of teeming fertility, and is a very old city dating from 1553, but in a semi-ruinous condition. It is also a station on the Rosario and Tucuman line. The men are indolent, the women industrious,

XXII. Tucuman to Lamadrid.

Distance 88 miles, time 6 hours.

This is called the Argentine North-Western Railway, is of 40-inch gauge, and passes through the most populous and productive districts of Tucuman, having no fewer than 24 stations.

Lules (11 miles) is a delightful place, once the seat of a great Jesuit farm: it is 1,360 feet over sea-level and has numerous sugar-plantations.

Monteros (31 miles) is another centre of the sugar-industry, the district being watered by many streams from the Sierra Aconquija. It stands 210 feet lower than Lules, and is one of the best towns in the province, having several saw-mills, flour-mills and sugar-mills, with 4,000 inhabitants and a fine church.

Concepcion (45 miles) is a beautiful village of 1200 inhabitants, surrounded by plantations of sugar, tobacco and rice. Methven's sugar-factory is worth seeing. The railway ascends, Concepcion being 50 feet higher than Lules. It reaches at Aguilares (8 miles further) an elevation of 1,220 feet over sea-level, and then steadily declines to the terminus at Lamadrid.

Rio Chico (55 miles) is one of the most picturesque spots in the world. The scenery from Concepcion hither is very fine; forests, streams and waterfalls. The town of Rio Chico stands on the right bank of the river, with 800 inhabitants.

Graneros (76 miles) is a flourishing town of 1,500 souls, and does a large trade in sugar, wheat and hides. Ferreyra's sugar-mill is the best in the district.

Lamadrid (88 miles) is the junction where this line meets the G. Northern Railway. It is 950 feet over sea-level, on the Graneros river, and rapidly increasing in importance: see Route 18.

XXIII. Tucuman to Jujuy.

Distance 220 miles, time 15 hours.

This is the prolongation of the G. Northern railway, and is of the same narrow-gauge. It is, with exception of the Transandine, the most mountainous line in the republic, having an ascent of 2600 feet.

Leaving Tucuman the railway passes through orchards and farms, and begins to ascend wooded slopes under the shadow of lofty Sierras. There is a rise of 550 feet in 9 miles, terminating at the first station, Tafi, which is 1,990 feet over sea-level and produces the best cheese in the republic.

Tapia (20 miles) is a charming village in the midst of woods and streams, elevation 2,260 feet. Many of the streams, however, run dry in summer. Trancas is surrounded by small farms, in a populous district, after which the country is dotted with clumps of timber, and ostriches are seen.

Tala (57 miles) at an elevation of 2,670 feet, is on the S. bank of the Tala, a deep and rapid river which is the frontier between the provinces of Tucuman and Salta. It is a well-built village of 500 souls, with shops and a good hotel. Crossing the Tala river we leave behind us a populous, agricultural country, to enter the pastoral, thinly-settled territory of Salta. On

the right is a verdant chain of hills, on the left the blue peaks of the Sierras, before us a plain of olive-green color. At times we pass estancias with herds of large-boned cattle.

Arenal (75 miles) is a woody district, the trees being so thorny that horsemen wear leather aprons, called "guarda-montes". Wild honey is abundant, and wasps often conceal their store several feet under ground. This station is 3,020 feet over sea-level, and from here the line descends 440 feet to the Rosario valley.

Rosario de la Frontera (88 miles) is the best town on the route, being famous for its thermal springs, of the same temperature as Carlsbad. It has 1,000 inhabitants, good shops and hotels. The springs are 4 in number, six miles east of the town: three are sulphurous, 170 Fahr., the fourth is silicious and cold. The surrounding, mountain scenery is very fine. From here to Las Piedras, a stretch of 39 miles, the railway crosses a number of rivers which run dry in summer.

Metan (111 miles) is 2,820 feet over sea-level, a fine town of 1,600 inhabitants: it was formerly called San José, and stands at the foot of Cerros Colorados. A little further we enter an agricultural district, wearing a prosperous aspect. Forests of Cebil intervene before we come to the Piedras river: this wood is highly valuable for its bark, which contains 20 per cent of tannic acid. The natives recklessly destroy the trees, instead of judiciously stripping the bark.

Las Piedras (127 miles) is remarkable for the Palacios cotton-mill, put up by Mr. Whittaker in 1866, worked by steam and water-power. The district suffers from ague. The women are scrupulously neat and industrious, the men boorish. Deer and goats abound.

Chilcas (142 miles) was for some years the terminus of this railway, owing to the falling-in of the Saladillo tunnel. It is 2,280 feet over sea-level, being a decline of 540 feet in 31 miles from Metan: it is one of the lowest points on the line, which begins here to ascend towards Jujuy.

Güemes (180 miles) is the junction from which another narrow-gauge railway runs off SW. to the city of Salta. This branch line is 28 miles in length, passing the villages of Camposanto and Mojotoro, and rising 1,500 feet, say 54 feet per mile. Salta is capital of the province of that name, and stands 3,860 feet over sea-level; it is more than 300 years old, and has 20,000 population.

Perico (202 miles) is the first place we meet in the province of Jujuy. There are sugar-factories, and the woods abound in Cebil-bark, mentioned above. We pass also numerous estancias with rich pastures, stocked with cows, sheep and goats. Then come thickets of lovely lapacho and gorgeous ceibo.

Jujuy (220 miles) stands 4,030 feet over sea-level, being the highest town in the republic. It is exactly 300 years old, and has 5,000 inhabitants, many good shops and two hotels. It is 972 miles by rail from Buenos Ayres, and the actual time taken in travelling is 55 hours.

XXIV. Jujuy to Oran.

Distance 180 miles, time 6 days.

This route is done on mules, and takes us almost to the extreme northern limit of the Republic, on the frontier of Bolivia. It abounds in fine scenery all the way.

First day.—Route goes E. as we leave Jujuy, skirting a chain of hills, till the road debouches on a plain covered with prickly shrubs. Before us is a dense forest, in which deer abound. We travel for some time under thick shade, as far as Pongos, where the road becomes a mere bridle-path through timber of low growth, the only trees of any height being palo-borracho, with swollen trunks. Cattle roam through these woods, where habitations are few, unless near running streams. Stop for the night at Palos Blancos, centre of a sugar district, which produces 100 tons sugar and 300 barrels aguardiente yearly. Wood, water and pasture abound. Day's journey 36 miles.

Second day.—Through dense woods of prickly mimosa; here and there stately cedars and lapachos, from which hang hundreds of bird's-nests, bottle-shape, 3 feet long. The chañar has a fruit egg-shaped, resembling dates in flavour and colour, so astringent that it draws the muscles of the mouth so tight that one cannot speak. All fruits in these provinces are astringent, but good alike for men or beasts. The zysiphus or mistol is like a bullet, the pata like a plum, the latter with flavour of almond: the bark of the mistol produces excellent soap, that of the pata a deep, coffee-coloured dye. We cross Rio Grande de San Pedro, with a broad, deep and stony bed, utterly impassable after rains, and then enter San Pedro village, which produces a greater quantity of sugar than Palos Blancos. The Araoz mill has French machinery and Mataco Indians for workmen. Sandy road, lined with clumps of tarco, palo-borracho and thorny bushes. Cross Rio Negro and reach village of same name, seat of sugar industry, surrounded by rich pastures. Mosquitoes troublesome. Day's journey 27 miles.

Third day—Road and scenery same as yesterday; very few birds unless an odd pigeon or carancho. At noon we reach Reduccion, another sugar village, and then through groves of orange and palm, till we re-enter dense woods. The cicada has a whistle so like that of a locomotive as to deceive a railway-guard, and yet it is a tiny creature. We cross the Calilegua, a tributary of the San Francisco, often impassable after rain, and on the N. bank the face of the country changes. No longer sandy soil, but rich loam covered with grass, jungle and forest. Lowland swampy and full of ague. By dusk we reach Ledesma, town belonging to Messrs. Ovejero, sugar-planters, whose mill employs 100 Christians and 500 Indians. Houses with thatched roofs, no windows, surrounded by gardens of orange and banana. Day's journey 27 miles.

Fourth day—A short way from Ledesma we enter a forest which continues for 3 miles to the banks of the San Lorenzo, a steep river with stony bed and little water, crossing which we are in another sugar district, where all the labour is done by Mataco Indians. There is also a large coffee plantation, San Lorenzo, producing a superior kind of coffee similar to the famous Yungas berry of Bolivia. The woods have beautiful ferns and undergrowth, the soil being moist. About 12 miles from Ledesma, we cross the Sora, one of the 18 affluents of the San Francisco, and then plunge into a dense tropical forest, where there is profound silence, in keeping with the sublime grandeur of the scene. Rising like pillars to a height of 200 feet around us are gigantic quebracho, algarroba, timbó, lapacho, tarco, molle, ceibo, and cedar, without branch or bough, until the top, when they stretch out to form the roof, under which we are sheltered from a tropical sun. As we

proceed, the lianas hang like ropes from tree to tree; the hum of insect life is heard, then the screech of parrots and toucans, which gives place to the tapping of the "carpenter" as the woodpecker is here called. The red-crested guan makes a noise like a saw. Wild bees are very numerous as we approach Campo Colorado, and so are garapatas, a kind of blood-sucking wood-tick, peculiarly troublesome in summer. There are foresters' huts on the bank of the Colorado, water and pasture being plentiful. This is a good place to dine, and the guans make excellent soup. From here it is a ride of 5 hours to Las Piedras, a thriving sugar hamlet, the property of a Salteño gentleman; it stands on the N. bank of the river Las Piedras, an affluent of the San Francisco; the former is a broad, shallow stream, serving as boundary between Salta and Jujuy, the village of Las Piedras being in the territory of Oran, which belongs to Salta. In rainy seasons the Piedras is a foaming torrent one mile wide. The proprietor of the sugar-factory is very hospitable. Day's journey 36 miles.

Fifth day.—Route continues through dense woods, where deer abound. Tigers are also known to be numerous, but go about only at night. Every now and then we get glimpses of the San Francisco, eastward, which has a broad, sandy bed. At sunset reach the Colorado, a very dangerous stream after rains. There is a ferry here, but the man in charge dislikes travellers, and sometimes refuses the use of his raft. The stream is remarkable for shifting quicksands and hidden rocks. Tapirs are often seen on its banks. Camp for the night in woods on N. bank. Day's journey 37 miles.

Sixth day.—Forest till we arrive at the Santa Maria,

a tributary of the Rio Bermejo, which is not so difficult to cross as the preceding streams. Then we are shortly enveloped in the densest woods imaginable: forest trees, groves of orange, undergrowth, lianas, and flowers revelling in tropical luxuriance. After some miles we emerge upon open ground, which is bounded on the right by low, wooded hills, and on the left by the Zenta range, the central peak of which rises to a height of 15,000 feet. Before us are extensive orange-groves, beyond which Oran is seen on the edge of the horizon. The route is lined by little farms and gardens, for Oran is one vast orange-grove, exporting 7 million oranges yearly to Bolivia. Day's journey 18 miles.

XXV. Santa-Fé to Cordoba.

Distance 210 miles, time 14 hours.

This route is by narrow-gauge railway, and comprises two sections, viz:—

Section ending at	Miles.	Elevation, feet.
San Francisco	80	385
Cordoba	130	1,410

The first section runs through a series of the finest agricultural colonies, including Esperanza, Humboldt and Pilar.

Esperanza (20 miles) was founded in 1856, and has 6,000 inhabitants, and from here another narrow-gauge line runs S. to Galvez and Rosario.

Humboldt (30 miles) founded in 1868, population 2,000, is on the bank of the Salado; most of the settlers are Germans. A branch line runs 60 miles N. to

Soledad, passing through the Colonies of Grütli, Progreso and Providencia.

Pilar (40 miles) is 200 feet over sea-level, a rise of 140 feet from Santa-Fé. From here another narrow-gauge line runs NW. towards Tucuman, the works at present terminating at Suncho-Corral (see Route 16).

From Pilar the line runs due W. to San Francisco, from which point the traveller takes the new narrow-gauge line which connects Rosario and Cordob. San Francisco stands 180 feet higher than Pilar.

The journey from San Francisco to Cordoba is described in Route 16.

XXVI. Santa-Fé to Reconquista.

Distance 199 miles, time 14 hours.

This is another narrow-gauge line, running NNE. through the Gran Chaco. It traverses a low, wooded country, the elevation nowhere reaching 200 feet over sea-level or 80 feet over the Paraná. There are 24 stations on the line, for the most part agricultural colonies of recent date.

Cabal (38 miles) was founded in 1869 by a gentleman of that name, along with the adjacent colony of Emilia, chiefly for the cultivation of tobacco and cutting of timber, the colonists being mostly Italians.

San Justo (62 miles), also founded by Mr. Cabal in the same year, began as a wood-cutting establishment, with a steam saw-mill. It is on a branch of the Saladillo.

Escalada (78 miles) is a new colony 40 miles west of the old Jesuit settlement of San Javier, close to which the California colony was founded in 1866.

Fives-Lille (110 miles) is called after the French Company that constructed this and some other narrow-gauge lines. It is abreast of the Alexandra colony and the port of Esquina, on the Paraná, which latter is 40 miles east, the intermediate country being swampy.

Calchaqui (127 miles) is the name of an old Indian tribe of Tucuman, and also of a considerable river, ten miles westward, which falls into the Salado at San Cristobal.

Caraguatay (162 miles) is midway between Lake Loro and the Paraná, 20 miles from each, and takes its name from the fibre of the aloes, which serves for making ropes.

Reconquista (199 miles), abreast of the port of Goya, is on the S. bank of El Rey, and was founded by Col. Obligado as a military outpost in 1872. The first colonists were woodcutters, Italians and French, but now the settlement has steam-mills and all improvements, with a large area under tillage and 20,000 head of cattle. This is the present terminus of the line, but it is proposed to carry it along the west bank of the Paraná passing the colonies of Ocampo and Florencia to Resistencia, a colony in front of the city of Corrientes.

XXVII. Santa Fé to Gaboto.

Distance 71 miles, time 5 hours.

This is a narrow-gauge railway running south along the bank of the Paraná, the intention being to make it a direct line to Rosario. It passes through Santo Tomé and Sauce, the first place met of any importance

being the port of Coronda (29 miles). This is a town of 2,000 souls, with good hotels, public buildings and steam-mills.

Gaboto (71 miles), the present terminus of the line, takes its name from the discoverer of the River Paraná, Sebastian Cabot, who built a fort here in 1527, on his way up to Paraguay: it was the first Spanish fort erected in the River Plate. The place is still called Cabot's Corner, the Carcaraña here falling into the Paraná.

XXVIII. Constitucion to Carlota.

Distance 187 miles, time 12 hours.

This is a wide-gauge railway, called the Santa Fé and Cordoba Great Southern. It starts from a little port on the Paraná, formerly known as Las Piedras, at the mouth of the Arroyo Medio, where the frontiers of Buenos Ayres and Santa Fé meet.

Santa Theresa (32 miles), elevation 210 feet, shews a rise of 130 feet since leaving Constitucion. It is a junction, a branch of the Central Argentine railway from Rosario to Peyrano crossing here: the distance to Rosario is 38 miles, to Peyrano 7 miles. The whole line from Constitucion to Melincué is under agriculture.

Melincué (73 miles) is sometimes called San Urbano. It stands 300 feet over sea-level, on the edge of a salt lake, the water of which is supposed to be medicinal. The place suffered much from Indians down to 1870: two of the watch towers used in those days are standing. The wells are unpleasantly brackish. There is a good hotel, kept by a Basque. There is a junction

here, Casado's railway running N. to Candelaria and Rosario.

Venado Tuerto (104 miles) is the centre of many English cattle-farms. Mr. Turner has a large store. The village is near the old fort of Loreto. The lands are better suited for cattle than sheep.

Maggiolo (122 miles) is the point at which we cross the frontier of Cordoba, the line now running parallel with the Pacific railway, which is 40 miles south. It is 390 feet over sea-level.

Ledesma (146 miles) is in the midst of the great plain that extends southward from the Rio Cuarto; it is equi-distant from Frayle Muerto on the north and Rufino on the Pacific line. Some wayside stations are passed in the vicinity of Lake Olmos.

Carlota (187 miles) is on the S. bank of the Rio Cuarto, and is the junction where crosses the Rufino and Villa Maria railway (see Route 9). Carlota stands 470 feet over sea-level, or 390 over the terminus at Constitucion, the line rising steadily all the way.

XXIX. Paraná to Concepcion.

Distance 181 miles, time 10 hours.

This is the main trunk railway of Entre Rios, with a medium gauge, 4 feet 10 inches. It crosses the province from west to east, throwing out 4 branches at different places. The line comprises 4 sections, viz:—

Section ending at	Miles.	Elevation, feet.
Nogoyá.....	79	150
Tala.....	44	110
Basabilbaso.....	16	180
Concepcion.....	42	65
TOTAL.....	181	

The line starts from Paraná, capital of Entre Rios, runs in a SE. course to the end of the first section, and then throws off a branch line of 32 miles to Victoria, in a south-westerly direction.

Nogoyá (79 miles) is a well-built town, of 4,000 souls, with church, schools and good shops. From here the line takes a NE. course to Solá, and then goes due East.

Tala (123 miles) is on the west bank of the Gualeguay river, and is a junction, from which a branch runs due S. to Gualeguay and Port Ruiz. This branch is 74 miles long, and traverses some of the finest estancias. Gualeguay is a flourishing town of 15,000 souls, with a brisk trade and many fine buildings.

Basabilbaso (139 miles) is an important junction, from which two branches are thrown off, one N. to Villaguay, the other SE. to Gualeguaychú. That to Villaguay is 39 miles, the town in question being a place of 3,000 souls, founded in 1865, and formerly called Santa Rosa. The branch to Gualeguaychú is 62 miles, and has a decline of 150 feet, passing through a department that is frequently inundated, the town of Gualeguaychú being only 35 feet over sea-level.

From Basabilbaso to Concepcion the line goes E., crossing the estancia of the late General Urquiza, whose palace is passed midway on this section, north of the line. Formerly deer and ostriches abounded, but now the wheat-farmers are advancing on all sides,

Concepcion (181 miles) is the best town in the province, with 12,000 inhabitants. The church and college are fine structures. The place was founded in 1778, but made little progress till General Urquiza made it his seat of government in 1853, and greatly improved it.

XXX. Concordia to Caseros.

Distance 99 miles, time 6 hours.

This is the same gauge as the other railways of Entre Rios, and is called the East Argentine Railway. There is one train daily each way. The carriages are luxurious, being fitted up like saloons on board a vessel, and protected with Indian sunshades; the line, moreover, being ballasted with gravel, is free from the plague of dust, which nearly suffocates the traveller on other lines.

Leaving behind us the pleasant town of Concordia, which is one of the best in Entre Rios, our course lies due N., almost parallel with the Uruguay. The first section, 17 miles to Gualeguaycito, crosses some good camps, from which at intervals we have glimpses of the broad Uruguay, and of Salto, on its opposite bank. Groves of palm succeed, and here may be seen deer and ostriches, which are very fond of the palm fruit. Lofty ceibo woods and thickets of thorny trees alternate, till we reach the arroyo Gualeguaycito, having crossed which the train stops at the station of that name.

The second section, likewise 17 miles, terminates at Federacion, the country undulating, but devoid of palms.

This is a thriving little port of 2,000 inhabitants, with a splendid view of the Upper Uruguay, but its progress is slow if we bear in mind that the East Argentine railway has been already 17 years running to this place. Close to the town, on the N. side, is the castor-oil farm of Mr. Budge, locomotive superintendent, who has 160 acres under this plant. In front of Federación, on the E. bank of the Uruguay, is the village of Constitucion, in the Republic of Uruguay, below the mouth of the Arapey.

The third section passes the Estancia Philippi, belonging to Messrs. Philips, and crosses the river Mandisobi by a bridge of 4 spans. On the N. bank is situated the prosperous, Libertad colony, consisting of 500 Tyrolean families, each of which received a free farm-lot of 100 acres. The section terminates at Chajary, 49 miles from Concordia, the station being encompassed with heaps of ñandubay posts; these are cut in the islands of the Uruguay and sent down to Buenos Ayres, where they are used in fencing estancias.

Mocoretá (60 miles) is the end of the fourth section, and here the train halts 25 minutes for breakfast; a well-spread table is provided in the station restaurant, charge 80 cents. The Mocoretá river is the boundary between Entre Rios and Corrientes, and the woods along its banks some distance inland are often frequented by "matreros" or fugitives from justice, the plague of frontier districts. Ant-hills may be seen here, 3 feet in height. There are sundry lagoons full of ducks. Messrs. Pla Lañol & Co. have a large saladero, the principal industry of the place.

From Mocoretá to Naranjito is a stretch of 16 miles, over a wooded country, in which there are numerous herds of cattle. Many of the inhabitants are wood-

cutters, and at Naranjito we again see great piles of handubay posts. We cross several streams before reaching Monte Caseros, the original terminus of the line, 96 miles from Concordia. Here the Uruguay is fordable at some seasons, Santa Rosa being on the opposite bank, and this place was known as Paso de Higos until the present town was built; it is called Monte Caseros in commemoration of the battle (1852) which overthrew the Dictator Rosas. It has a good hotel and 2,000 inhabitants.

Ceibo (99 miles), the actual terminus of the line, is reached by a short section of 3 miles, which commands lovely views of the Upper Uruguay and the town of Santa Rosa. It stands at the mouth of a stream, also called Ceibo from the abundance of this wood on its banks, and is the centre of an increasing fluvial trade, most of which is carried on by means of the East Argentine Company's steamer *Mensajero*, as high as San Borja and Santo Tomé, in Misiones. The Company has a steam-crane for loading and unloading at Ceibo.

XXXI. Caseros to Corrientes.

Distance 235 miles, time 4 days.

This is called the North-East Argentine Railway, but is not yet completed. It comprises 3 sections, of which the first and third are in actual traffic, the second in course of construction. The gauge is same as in Entre Rios. The journey from Caseros to Corrientes at present takes 4 days, but will be done in

16 hours as soon as the central section be finished. The sections shew thus:—

Section ending at	Miles.	Elevation, feet.
Mercedes ,	88	370
Saladas ,	86	270
Corrientes ,	61	250
TOTAL	235	

Caseros, the starting-place is on the W. bank of the Uruguay, in front of the point where the frontiers of the Uruguay Republic and Brazil meet. It is 220 feet over sea-level, and from here two railways are in construction, one NE. to Posadas, the other the North-East Argentine line of which we treat. This line crosses a thinly-peopled country in a NW. direction to Curuzú-Cuatiá, after which it runs due N. to Mercedes.

Curuzú-Cuatiá (40 miles) signifies in Guaraní a painted cross, in allusion to some souvenir of the Jesuits. It has 2,000 inhabitants, and stands 290 feet over sea-level.

Mercedes (88 miles) is a much better town, having 5,000 population and a considerable trade. It stands in the centre of the province of Corrientes, 370 feet over sea-level. Tiger-hunting may be had here. The railway at present goes no further, but travellers can get horses or a carriage to proceed to Saladas, 86 miles, a journey of two days.

The intervening country from Mercedes to Saladas is pastoral and thinly settled, the inhabitants suffer greatly from banditti. Travelling is attended with danger for that reason, and the roads are often flooded and the rivers impassable. It is necessary on this route to cross the Batel, Corrientes and Santa Lucia. all rapid rivers in wet seasons.

Saladas (174 miles) is a handsome town of 4,000 population, embowered in orange-groves. Here begins the third section of the railway. The train passes San Lorenzo on the way to Empedrado, crossing several streams.

Empedrado (198 miles) is a port on the Paraná, memorable for the naval battle of 1865, between the Brazilians and Paraguayans. It has 2,000 population.

Corrientes (235 miles), the capital of the province, is a port of some importance, with 20,000 inhabitants. The steamers from Buenos Ayres to Paraguay call here. The city has many fine buildings and is surrounded with orange-groves. It is over 300 years old, and is 832 miles by water from Buenos Ayres.

XXXII. Buenos Ayres to Sandy Point.

Distance 1820 miles, time 10 days.

Government steamers go at intervals to Patagones, Chubut, Santa Cruz, Gallegos and the Straits of Magellan.

On leaving the Boca the steamer holds a SE. course as far as Cape St. Anthony, doubling which she goes SW. towards Cape Corrientes, where a lighthouse has recently been erected. The course is then WSW. to Bahia Blanca, and on the 4th day the steamer usually passes the Bay of San Blas, the only safe and commodious port, according to Admiral Kennedy R.N., between Rio Janeyro and the Straits of Magellan. Deer Island stretches across the mouth of the bay for 10 miles, forming a natural breakwater. The Argentine

Government has a coastguard station at San Blas, on the estancia of Mr. E. T. Mulhall. The largest ocean steamers can enter, Capt. Rivadavia having buoyed a channel of 24 feet depth.

Rio Negro (780 miles from Buenos Ayres) has a dangerous bar, which impedes the trade of Carmen de Patagones. The river is 300 yards wide at the mouth, and is navigable by steamer 430 miles to Fort Roca, at foot of the Andes (see Route 33). After passing the Rio Negro the course lies SW., crossing the mouth of the great bay of San Matias, on the shore of which are the ruins of Fort San Antonio, built by the Spaniards in 1779, and abandoned for want of water. The only fresh water in this quarter is in hollows near the foot of the Valchita hills. We next pass Point Valdez, where another Spanish settlement existed, until put to the sword by the Indians, in the 18th century. Fresh water and pasture are found here.

Chubut (1,000 miles) is a Welsh colony, connected by railway with Port Madryn at New Bay. It was founded in 1865 on the Chubut river, 5 miles from the mouth, and at first comprised 180 settlers under the direction of Mr. Lewis Jones. They suffered great hardships for 12 years, but have since prospered, numbering at present 1,500 souls. In 1884 their properties summed up a value of £120,000 sterling or £100 per head. Wheat is the chief product, and much of the Chubut valley is irrigated, the rainfall rarely exceeding 6 inches yearly. Their vital statistics shew. birth-rate 44, death-rate 25, per thousand. Besides the village of Rawson (so called after the Argentine premier who aided in founding the colony) there is another called Gayman, two miles higher up the valley, which is 48 miles long and 6 wide. About 70 miles from the

mouth is the confluence where the Sengel falls into the Chubut. The latter rises in the Andes and has a course of 250 miles to the sea. The Sengel draws its waters from Lake Musters, 180 miles south. The said lake is 40 by 20 miles; its Indian name was Colhué; it is fed by 3 rivers from the Andes.

Point Ninfas is a promontory on the north side of the mouth of the Chubut, below New Bay, and belongs to the Welsh colonists, having good water and pastures.

Malaspina (1,140 miles) is the northernmost landing-place in the great bay of St. George. There is no fresh water nearer than St. George's river, 80 miles S. Point Murphy, at the mouth of that river, would be suitable for a colony: from here to Lake Musters it is 60 miles due west. St. George's bay is 140 miles across, to Cape Blanco, the southern point.

Port Desire (1,350 miles), at the mouth of a river of the same name is also suited for a colony. It was discovered by Cavendish, the buccaneer, who called it after the name of his ship. The Duke of York having sent out Sir John Narbrough in 1669 to seize Patagonia, that officer built a fort and described the country for 25 miles around as similar to Newmarket Heath. Capt. Bulkeley touched here in 1741 and found a fresh-water well with the inscription "Capt. Stratton, 16 guns, 1687". Commodore Byron was here in 1764 and killed a prodigious number of seals, 8 feet long, feeding his men on hares and guanacoës: he measured some Patagonians 9 feet high. The Desire river rises in the Andes and has a course of 300 miles, but the direct distance is only 240. The ruins of Fort Biedma are remaining.

Port San Julian (1,450 miles) is SW. from Port Desire, and was likewise much frequented by British navigators. Here Drake shot Capt. Doughty after dining with him and drinking his health, in 1578: he found Indians $7\frac{1}{2}$ feet high, who went on foot. The first mention of horses is by Bulkely in the 18th century. Anson's fleet touched here for water and found none, which increased the mortality on board. Darwin was here 8 days in 1834, and could find no water. Capt. Moyano called here in 1880. on his overland route from Chubut to Santa Cruz, which took 59 days.

Santa Cruz (1,520 miles) has come into much notice since 1886; numbers of sheepfarmers from the Falkland Islands and the Rio Negro having settled down near the mouth of the river and along the coast to Gallegos. Ten years ago this coast was a wilderness, with no sign of life but guanacoës. To-day there are farms, mostly of Englishmen, for the whole length of 240 miles from Santa Cruz to Sandy Point, and a letter-carrier goes monthly, making the journey each way in 10 days. Santa Cruz is an excellent port, much spoken of by Fitzroy and Darwin.

Gallegos (1,640 miles) is a place well adapted for colonies or tillage. There is excellent pasturage northwards 40 miles, as far as Coy Inlet. The country southwards is of a diversified character, the distance to Possession Bay in the Straits of Magellan being 50 miles, and to the Chilian colony of Sandy Point, 120 miles. Undulating hills and grassy plains stretch inland 100 miles, after which dense forests are met with westward. Mounds of lava occur at some places, in such fantastic shapes, as to appear columns of a city in ruins. The plain is 860 feet over sea-level: at intervals are extinct volcanoes which rise 800 or

1,000 feet. In the journal of Moreno's explorations we find the following remarks:—

“Between Gallegos and the banks of San Gregorio, where these peaks are found, they have risen more irregularly than in other parts of Patagonia, while the ice has left more decided marks. The road winds capriciously, now through low valleys watered by pools and rivulets, then through sterile tracts, and anon over elevations covered with grass, and here and there an erratic rock. At the confines of the table-land the face of the country changes. To the right the blue and white line of the snow-clad mountains stands out in relief from the dark and tempestuous western sky. To the left the summit of San Gregorio: then the narrows of the Straits, like silver ribbons, and further off, of a faint rose colour, enveloped in fog and lurid fires, characteristic of the savage inhabitants, lie the Fuegian plains. In front, on the Straits, at the high peninsula Brunswick, the landscape is even more verdant and undulating than the Pampas of Buenos Ayres, with here and there mineral veins and small woods of the ‘Calafate’ (*Berberis*) which produces a delicious fruit; there are pools of fresh and salt water; in fact the whole has the aspect of an English park. The road winds southward close to a low range of glacial hills on the west, and is crossed by the Dinamarqua, a rapid stream bounding on through aquatic plants, watering a large tract of fertile land covered with ‘humus,’ and finally falling into the Straits. There are also numerous rivulets. The grass is so high about here that the traveller often falls into old wells, especially near the road. Amongst them is one called Queen Victoria’s well.

“Cape Negro is a beautiful tract, on which there is

a Chilian estancia. For 10 miles the coast is covered with erratic rocks and trunks of trees, the green woods skirting it and making the scene delightful to the traveller's eye. Far South the summits of Mounts Sarmiento and Darwin are seen. Sandy Point is 15 miles from Cape Negro, across the stream Tres Puentes, on whose banks there is a saw-mill; there is a fertile plain between the Tres Puentes and the Rio de Oro (Golden River), in whose sand grains of the precious metal are found."

Cape Virgin (1,700 miles) is the northern point of the entrance to Magellan's Straits, which are 20 miles across to Cape Holy Ghost, the latter being in Tierra del Fuego. From Cape Virgin to Stanley (Falkland Islands) is 380 miles due east; to Sandy Point 120 miles south-west. Gold-digging took place in 1887, no fewer than 450 merchants, brokers and others in Buenos Ayres taking out patents or licences for claims: the fever was of short duration, one Frenchman having got about £6,000 worth of gold in two months, and other persons much smaller quantities. In 1888 the Cape Virgin gold-fields were abandoned and forgotten. All the country from Gallegos to Sandy Point has long been known to have gold. Capt. Smyly used to bring up gold to Buenos Ayres in the years 1861-68 at intervals. The gold is mostly got in washings, and is evidently brought down by streams from the Andes, where rich deposits will probably one day be found.

Sandy Point (1,820 miles) is situated on the east coast of Brunswick Peninsula, which is covered with vegetation. It was established 60 years ago as a penal colony of Chile, to which country it still belongs. Twice the convicts mutinied, in 1853 and 1873, and massacred men, women and children during several

days, not leaving a single survivor. It is under snow more than half the year. Its only importance is as a port of call for steamers between Europe and the West Coast. There is a Swiss colony at Agua Fresca, south of Sandy Point, besides others at Deer River. Coal is found underlying the thick woods which occur from Sandy Point to Otway Water, and steamers often use it to mix with better. At Sandy Point the traveller can take steamer to Chile, Europe or the Falkland Islands. The Argentine Government in 1884 erected a lighthouse at a point of Staten Island 280 miles SE. of Cape Virgin and 100 NE. of Cape Horn, in 54°44' S. Lat. and 63°44' W. of Greenwich: the light is visible 14 miles.

XXXIII. Tierra del Fuego.

This island may be reached, by way of Sandy Point, in 10 or 15 days from Buenos Ayres. Although the name is properly applicable to the whole archipelago, which comprises some hundreds of islands, it is generally understood as signifying the main island, which the Spaniards called Tierra del Fuego because the natives made great fires. It has an area of 18,580 sq. miles, or 12,000,000 acres, being little more than half the size of Ireland and not quite the double of Sicily. There are two important settlements belonging to Europeans, that of Mr. Julius Popper at Sebastian Bay on the E. coast, and that of Rev. Thomas Brydges at Down East on the south. Both of these are on the Argentine side of the island; there are also numerous cattle-farms belonging to Chilians on the western or

Chilian side. There are Argentine marine officials at Ushuya, which is the seat of Government, and vessels constantly ply hence to Sandy Point.

The first Argentine settlement was made at Ushuya in 1886. The first official report is that of Governor Cornero, in July 1890, who wrote as follows:—

“I landed at San Sebastian where there is a fine bay, and started overland to Cape Holy Ghost, crossing many picturesque valleys, and I soon gathered the conviction that Tierra del Fuego is very well suited for cattle-farming and sheep-farming. In certain parts the soil is fertile and invites the plough.

“I subsequently travelled southward, crossing the Rio Carmen Sylva and reaching the banks of the Rio Grande, which is the largest river. I found the “camps” splendid, fertile, grassy and with superabundance of fresh water, not to say anything of the picturesque scenery.

“The Rio Grande flows into the Atlantic, and divides the territory into two sections; on one side grass-covered undulating plains, on the other a wooded belt of country.

“The winter here is temperate, and the climate healthy. The only part of the territory of little value is the mountainous stretch extending to Beagle Channel.”

Mr. Popper has a concession from the Argentine Government of 320 sq. miles or 200,000 acres, having settled at Sebastian Bay in 1889 for the purpose of gold-digging. He describes the island as follows:—

“It has an insular climate, and abounds in forests and prairies. The North East part contains vast grassy plains with occasional low lands. Guanacos and Indians of magnificent stature thrive on these plains. It is Patagonia on a small scale, destitute of trees. The

central part has a different aspect. It looks like a vast park, magnificent woodland, interspersed with lovely plains and watered by many rivers. Lower down, towards the South and West, are mountains rising from the ocean. Further out large rocks, the proud remnants of what were at one time peaks. On one of these rocks I saw once 400 sea-lions. In many creeks and bays, or clinging to the granite sides of the Cordillera, there are immense glaciers, while at the foot of the mountains are smiling wooded valleys, and immense caves occupied by millions of penguins, cormorants, seals, and otters. Here it rains almost every day, there it hardly ever rains. In the south and richly wooded section it is difficult to find ten square yards of plain; in the the north not a tree or a bush disturbs the imposing monotony of the immense plains."

Gold was found by Mr. Popper and others in 1886 at Sebastian Bay, since which time the settlers have murdered the natives without compunction. Mr. Popper says:— "In 1886 an explorer landed at Sebastian Bay, and immediately began by seizing women and children, whom he conveyed bleeding and in chains to Buenos Ayres. In 1888 a steamer stopped in the Straits and took on board some men, women and children chained, an entire Ona family, for exhibition in a zoological garden. In 1891 a French party murdered defenceless old men and outraged Indian women. The Ona Indian is noble and magnanimous, he neither smokes nor drinks, nor violates the laws of nature. He is infinitely better than many civilized fellow creatures.

"Ethnographically, Tierra del Fuego may be divided into two regions: the Fuegian Archipelago, occupied by the Alacalufes and Yakanas, living on fish and in

canoes: and Tierra del Fuego properly so called, Ona Sin (country of men), as the natives call it, occupied by the Onás, a race of superb men, strong, well built, recalling the Tehuelche type, and with a countenance of energetic cast, like that of the North American Indian. These men have strong intellects and express the most elevated sentiments of humanity. They pardon their enemies, although they have no idea of religion but a few vague superstitions. They are very clean, have strong family affection, and go into mourning for their dead relatives. The Ona is accused of being a thief: he is not so; he considers the animals of the plain as common property, and hunts to feed his wife and children."

An imposing chain of sierras runs from the Chilian frontier to Beagle Channel, some peaks rising to 2,300 feet. These "sierras" are covered with forests of immense beech trees, 130 feet high, the trunks being often more than 3 feet in diameter.

Mr. Popper goes on to say:—

"Considerably over half a ton of gold has been extracted from the auriferous Fuegian beach. About a quarter of a ton was sent to Hamburg. The rest was robbed by the bandits who came over from Chile.

"The coldest month is July, the hottest January. The frosts begin in June, and close in August. Snow falls rarely, and the camps are green all the year round. The south-west wind is the most constant, easters and south-easters being extremely rare. The climate is splendid. Sebastian Bay can have no rival as a sanatorium for consumptive people.

"The fauna of Tierra del Fuego does not contain much variety: a guanaco, a fox, a dog, a mole, a bat and a rat make up its fauna. On the other hand,

there is the very richest variety of birds and marine animals. Whales, sea-lions and seals abound. There is any quantity and every quality of sea-weed, in which a lucrative business could be done. The flora of Tierra del Fuego is varied and holds out great attractions for the botanist. Agriculture has so far been confined to the growth of vegetables for local consumption. I doubt whether wheat or any grain would give good results. The Fuegian magnolia—*Dremys Winteri*—is an excellent tree full of tannic acid.”

The best authority on Fuegian matters is Rev. Mr. Brydges, who has resided on the island since 1865, and often given shelter to ship-wrecked crews. He says, “The chief island should be called Ona-land, after the Ona tribe. Its parts differ greatly in climate and vegetation. The west, centre and south are exceedingly rainy, and as very little is seen of the sun, the whole land is in a state of saturation. Frost, owing to the clouded sky, is seldom known; snow in winter falls frequently, but owing to the constant thaw does not accumulate in the low lands. There is, perhaps, nowhere to be found a more tempestuous and wetter climate than that of the west and south-west coast of Tierra del Fuego. But in the eastern parts, over the Patagonian-like pampa of Ona-land, the climate is comparatively dry and sunny; the soil is dry and warm, and even lizards are found there, a sure proof of a dry soil and a sunny climate. Western, southern and central Tierra del Fuego are very mountainous and densely wooded, save in parts open to the ocean breezes, and very little level land is to be found, and these are little flats, very saturated, and producing nothing fit to sustain either sheep or cattle.

“On the other hand, the eastern part, is an open land

in which excellent pasture prevails. On its borders west and south the mountainous region is met with, where the climate and productions begin to assimilate to those of the west. Many pleasant parts for settlements are to be found, especially on both sides of the Beagle Channel, extending as far west as Ponsonby Sound. The rest of the country, save for mining and wood-cutting, is useless. The extensive forests contain five varieties of trees and a number of bushes. There are three species of beech trees, one of which is an evergreen, the Winter's Bark, and a sort of cypress. Beeches are often to be met with 7 feet in diameter and 80 feet in height.

"In the northern parts the camps are exactly like those of Patagonia, having also salt districts with their distinctive vegetation.

"The Ona race that occupy the east are certainly a branch of the Tehuelche tribe, as their language proves. They are a tall, powerful, active people, living by the chase. They use bows and arrows for guanacos and birds, lances for seals and porpoises; they live also on shellfish and fish, and use the same vegetable foods as Yahgans. Their language, described by Captain Cook as the sounds a man makes in clearing his throat, is certainly very harsh and its pronunciation difficult to acquire. The Ona are very few and rapidly, lessening in numbers, owing to the havoc they make among the flocks, horses and cattle of the settlers; and the gold miners also have killed numbers of them. Unless the Government intervenes on their behalf they are doomed to a very speedy extinction. The Ona have no canoes and are strictly a hunting tribe. They have not acquired the habit of riding horses.

"The ostrich is not found south of the Magellau

Strait, neither is the deer of Patagonia, nor the skunk. The land is being surveyed by Government, from San Sebastian to Cape Peñas, at which latter point is the fine river, Rio Grande, which offers good harborage for small vessels. In this part the grass camps are of the best quality. A great belt of mountain forest land borders this Ona prairie-land on the south, and on the west it reaches across to the waters of Magellan Strait.

"The bird life of this prairie district is abundant in geese, ducks, widgeon, swans, flamingos, teruterus and other land birds. The mountains form a deep belt of high ranges, abounding in extensive glaciers and snow fields, while their lower slopes are covered with dense woods. The bottom lands are waste water-flats. Guanacos frequent the high lands near the limits of the snow level in summer to rear their young, but towards winter are driven by the increasing snow and frost to seek food and shelter in the lower lands, and it is at this season they fall a prey to the lances of the Canoe Indians of the south. These are called Yahgans and differ greatly among themselves in every physical point, as to stature, complexion, etc. The Yahgan language is soft and fluent, having a great wealth of sounds in which vowels predominate. It is an inflected language and agglutinative, resulting in long words, but short words are plentiful enough. The language abounds in prefixes and affixes.

"The Alaculoof tribe in the west and central parts is kindred to the Chonos found south of Chiloe. Their language abounds in the sound represented in Welsh by "ll" which is so difficult to utter by most people. The Alaculoof are more vigorous than the Yahgans, but not equal to the Ona. Like the Yahgans they use canoes and their weapons are the same.

"The east and south-east of Tierra del Fuego is auriferous, but gold mining is only found to pay on the shores. Large quantities have been obtained during the last 5 years from Sloggett Bay, Lennox Island, New Island, the east and south of Navarin Island, Picton and New Island, and the shores east and north of Sloggett Bay. Also from Sebastian Bay down to Thetis Bay on the east coast. But the future of the island depends more on its pasture than its gold, and its woods also are very important on account of their immense extent. It would appear that copper exists in the central parts, and slate may very likely prove a valuable source of industry. Fish also are plentiful, such as smelt, large mullets, rock cod, gaigis, syonna, and other kinds more commonly used by the natives.

"The miners, now about 300, are chiefly Austrians from the Adriatic, an industrious set of men. Their life is full of hardship, since the winter demands good clothing and ample food to enable men to bear it, and not a few of the miners have lost their health and been sadly crippled with rheumatism. Many have met with great success, and after a few months returned with some thousand pounds in their pockets. The gold is only sought for on the shores exposed to the wash of the sea, which carries off the larger part of the clay, and continually sifting and washing the debris of the cliffs, the gold is found on the bed-rock or clay. This must be reached, howsoever deeply covered by shingle clay and sand, before the workers meet with the gold. The difficulties the miners meet are chiefly from the frequency of bad weather, which renders their work trying and travelling difficult. To reach the gold districts the miner must take passage by one of the many lines of steamers for Sandy Point

in the Magellan Strait, where he can find casual opportunities by cutters, schooners and Argentine steamers by which he can reach the gold works. These are likely to prove of interest for years to come, as the beaches containing gold are many and extensive."

Capt. Kennedy R.N. writing in 1888, says:—

"The distance from W. Falkland to Staten Island is 200 miles. The Argentines have a light-house at St. John's harbor, which is exposed to heavy seas from the north. The light consists of 7 Colza lamps, and is visible 14 miles. The garrison consists of 25 men, Swedes, Germans and Scotch, who have a fine life-boat and everything in capital order. Bunks are in readiness for the reception of shipwrecked mariners, who receive every kindness. Two more lights are wanted, one at Middle Cape for Le Maire Straits, the other at San Diego on Tierra del Fuego. Staten Island has peaks 3,000 feet high, the lower slopes covered with beech, the upper snow-clad. Most of the island is boggy, and grows abundance of delicious raspberries. Wrens, finches and humming-birds are found in great numbers; there are also seals, penguins and kelp-geese, but American whalers have nearly exterminated the seals.

"Passing through Le Maire Straits we anchored off the S. coast of Tierra del Fuego, in Spaniard Harbor, where Allan Gardner and his crew perished, in 1851. Plenty of wood and water, with ferns, flowers and wild celery. We entered Beagle Channel at Picton Island; the shores are wooded, like in Devonshire. At Banner Cove we found an excellent harbor, but better still is that called Down East, where Mr. Brydges has his farm. It is on the W. side of the harbor, in 55 S. Lat., and grows cabbage, turnips, potatoes, lettuce, fruits, flowers,

etc.: the live-stock comprises cows, sheep, pigs etc. as on a farm in England. There are numerous Indian families around, living by fishing and the chase. Our vessel, H.M.S. Ruby, was surrounded with bark canoes containing women and children, who had a scrofulous appearance, arising from constantly eating mussels. They had fires in their canoes, on sods of damp peat.

“Steering up Beagle Channel we anchored at Ushuya, the head quarters of the Anglican mission. It is on a lovely bay, backed by snow-clad mountains, Mt. Darwin being conspicuous. The mission occupies a promontory on the S. side. On the opposite side is the Argentine station, where Governor Paz resides with 40 men, the capital of the Argentine portion of Tierra del Fuego. The frontier bisects the island from Cape Holy Ghost to a point on Beagle Channel some miles W. of Ushuya. There are 100 Fuegians living near the mission, which has a school of 40 orphans, and has done much good in saving crews and civilizing the natives. But either the mission or the Argentine station must be removed; the Governor impresses the Indians for military service, and the soldiers carry off the women. The only way is to move the mission to Picton island, which is not in Argentine jurisdiction. Such has been the slaughter of Indians in late years, and their deaths from measles, that at present there are hardly 2,000 in the whole Fuegian archipelago: settlers kill them without remorse. Guanacoës are indigenous, but there are no ostriches: ducks abound. The Church of England mission is under Bishop Sterling of the Falklands. The Roman Catholics have one at Dawson Island, under a bishop. The Anglican mission was founded by Mr. Brydges in 1867. Goats and cattle were introduced and farm-lots of 4 acres given to each Indian family. Small

pox and other diseases have since carried off large numbers of the natives, and the mission is declining. The Yahgan tribe, which once numbered 3,000 souls in Tierra del Fuego, has now hardly 300.

Not much is known of the Chilian side, on which there are numerous cattle-farms. The oldest settler is Don Cosme Spiro, who has been there since 1873.

XXXIV. The Falkland Islands.

There are two ways for reaching these islands:— First, by schooner from Montevideo, which leaves once a month; second, by one of the Pacific steamers from Montevideo to Sandy Point, and thence by the colonial service.

These islands, which lie 330 miles E.N.E. from Magellan's Straits, were discovered by Admiral Davis on August 12, 1592. They are 100 in number, many of which have no other occupants than penguins, which are so plentiful that the Governor of the Falklands is called the King of the Penguins. In 1594, the buccaneer, Sir John Hawkins, touched here on his way to sack Coquimbo, and called them the Maiden Islands. Strong visited them in 1689, giving them the name of his friend, Lord Falkland; but a French ship-captain from St. Malo, in 1710, changed the name to Iles Malouines. Subsequently, in 1764, Admiral Bougainville made a settlement and hoisted the French flag. Some dispute arising about the title, he sold his rights to the King of Spain for £30,000, whereupon the Spaniards attempted to make a colony here. The British Government sent an ultimatum to the Court of Madrid, demanding the immediate surrender of the islands, to

which Spain promptly acceded, handing them over to Admiral Byron, and firing a salute to the British flag, in recognition of ownership.

Fort Egmont, on the bay of that name, was built by Admiral Byron in 1765, and called after the First Lord of the Admiralty. The sailors drank King George's health in bowls of punch, and the place was garrisoned during 9 years, in which time all kinds of cattle were introduced, multiplying exceedingly in a state of freedom. The islands were evacuated in 1774; but were visited from time to time by English and American whalers, remaining uninhabited till 1828, when the Buenos Ayres Government rented them or gave the use of them to Mr. Luis Vernet, who introduced more cattle and remained in undisturbed possession during 3 years. In 1831 Mr. Vernet, for some reason, perhaps custom-duties, seized two American whalers, the *Harriet* and *Superior*, which so irritated the U.S. Government that the corvette *Lexington* reduced the settlement to ashes in December of that year.

Great Britain definitively occupied the islands in 1833, and laid out a settlement at Stanley, as a port of refuge for whalers or for vessels damaged off Cape Horn. This is now the Governor's residence, the town having a population of 700 souls, including many ship-carpenters. A claim on behalf of the Argentine Republic was made by Dr. Moreno, Argentine Minister at London, in 1841, to which Sir Woodbine Parish sent a reply, by order of the British Government, that the islands belonged to the colonial empire of England. The climate is healthy, similar to that of the Orkneys, but so windy that when Admiral Ramsey was there, in 1864, he had a sailor to keep his hat from being blown off his head. Moreover, the people of

Stanley complain that vegetables are often blown out of the ground. There are no trees, nor coal, but peat is so plentiful that Stanley is surrounded by bog, and as roads would be difficult, the colonists mostly use whaleboats for means of traffic and communication.

The islands were used only as a penal colony till 1852, when Mr. Samuel Lafone, of Montevideo, and some others, formed the Falkland Company, whose chief settlement is still at Darwin Harbour, on the isthmus which connects Lafonia with the rest of East Falkland, and distant 70 miles from Stanley. Their sheep-farm extends along the shore of Choiseul Sound by Mount Pleasant and Port Fitzroy to within 15 miles of Stanley, and numbers 100,000 sheep of Cheviot breed crossed with Argentine Merinoes. The Company has also about 20,000 horned cattle, of which the tame "rodeos" do not number one-fourth, the rest being wild. Among the other farms on East Falkland sheep constitute the principal and almost exclusive industry, cattle being found only on those of Packe, Bonner, and Pittaluga.

West Falkland was first colonized in 1867, and proved so favourable for sheep and cattle that it was all taken up in two years by settlers, being now as thickly stocked as the older island. It may be said there is no more land available on either of the islands. The dividing channel, the Carlisle Straits, varies from 6 to 10 miles across. The northern districts in both islands are mountainous. Mount Adam is 2315 feet over sea-level, and Mount Viale about 2,000, the latter being called after an Italian passenger of the ill-fated steamer *America* (December 1871), who gave his life-belt to save Madame Marco del Pont, and perished. The coasts are much indented, and contain numerous ex-

cellent harbours, the best of which are Port Egmont in the eastern, and Berkeley Sound in the western island; both are spacious, deep enough for the largest war vessels, and have good anchoring ground.

The best soil for agriculture is along the base of the mountains, where there is black vegetable mould 8 inches deep. Wheat and flax have been produced, but vegetables thrive better, especially potatoes and cabbages. Game is plentiful, and wild geese or ducks are easily tamed. There are many foxes, with thick heads and a coarse fur. Black whales are sometimes caught, as also seals, but penguins are more profitable; they stand until the sailors knock them on the head, 10 of them sufficing to produce a gallon of oil. The average slaughter is 1,300,000, and the product 130,000 gallons. The best fish is a kind between salmon and mullet, abundant in spring. Trees do not grow, but vegetation is very rapid. Snow disappears in a few hours, except on the mountains, and ice is rarely seen an inch thick. Fogs are frequent in spring and autumn, but they clear off at noon. The range of thermometer is between 26° and 50° Fahr. in winter, and from 50° to 75° in summer. The area of the islands is as follows:—

	Square miles.	Acres.
East Falkland.....	3,000	1,920,000
West »	2,300	1,470,000
South Georgia.....	1,570	1,005,000
Small islands.....	1,200	770,000
TOTAL...	8,070	5,165,000

South Georgia is uninhabited, probably because of its great distance, being 800 miles E.S.E. of Stanley. It may some day prove as suited for sheep-farming as West-Falkland has done. The British Government would doubtless let it to a respectable tenant, and

certainly a farm of one million acres at a nominal rent ought to offer inducements to enterprising young men. A capital of £10,000 would suffice for sheep, houses, provisions, etc., and a schooner. for a settlement of 20 or 30 families.

The government of the Falkland Islands is vested in a Governor (Mr. Thomas Kerr), aided by an Executive Council and a Legislative Council, appointed by the Crown. He has an official residence, salary £1,000, and a guard of marines. There are also treasurer, police magistrate, surgeon, collector of customs, post-master, surveyor; chaplain, harbour-master, and commander of marines. The total population in 1890 amounted to 1,159 males and 731 females, in all 1,890 souls, against 811 in 1871, an increase of 133 per cent. in 19 years.

Wool is the chief product, and few climates seem better suited for sheep, the grass having such fattening properties that a wether seldom weighs less than 70 lbs. dressed for market, often rising to 100 lbs. For some time scab was prevalent, but it has been so completely stamped out that many flocks average 8 lbs. per fleece, as compared with 6 lbs. in Australia and 4 lbs. in Buenos Ayres. The wool is coarse, and sells at 10 to 11 pence per pound, being much used at Bradford for combing. The clip averages two million lbs. wool, valued at £80,000 sterling. The increase of trade has been as follows:—

Year.	Value.		Per inhabitant.	
	Imports.	Exports.	Imports.	Exports.
1866	£21,000	£22,000	£30	£31
1870	21,000	20,000	26	25
1876	27,000	37,000	23	31
1881	30,000	92,000	19	58
1891	66,000	107,000	35	56

The balance of trade is unsatisfactory and unhealthy, but if population increases the imports are likely to improve. Public expenditure £8,000; revenue £9,000.

An English traveller wrote in 1891 as follows:—

“Port Stanley agreeably impresses the traveller. There are 1,900 people on the islands; and 676,000 sheep, and the exports last year amounted to £102,400 for wool alone.”

English money is used. There are two schools, attended by 204 children. Latest statistics give 8,200 cows, 600,000 sheep, 2,100 horses; pastoral area 2,325,000 acres. The first cargo of frozen mutton, 30,000 carcasses, was exported to England in 1886; none in 1890. There are 1302 Protestants and 251 Roman Catholics, who have their respective chapels, an Irish priest from Buenos Ayres visiting Stanley.

XXXV. Santa Cruz River.

The Santa Cruz settlement (1520 miles from Buenos Ayres) is reached by steamer in 8 days. Numerous English and other sheepfarmers have settled in the vicinity since 1886. The traveller can hire horses to ascend the river, visit the 4 lakes described by Moreno, and descend by the Rio Chico, otherwise called Shehuen. The distance from the Argentine settlement of Fort Pavon to Lake Argentino, is 160 miles due W., which can be accomplished in three or four days; then the lake district extends 100 miles N. as far as Fitzroy volcano, and the return journey by the Shehuen valley from Lake San Martin to Fort Pavon is 190 miles, making in all 450 miles. No steamers have yet been put on the river, although the Santa Cruz is navigable

for vessels of 10 feet draught up to Lake Argentino. Game and fish are so abundant that there is not much risk of coming short of food, and the Indians are usually friendly; the traveller had better procure horses and guide from the Cacique of the Shehuen valley. An india-rubber boat can be carried on a spare horse for excursions on the lakes; but it is not advisable, until steamers be introduced, that the traveller should do more than visit Lake Argentino and Mount Frias, and return by the Santa Cruz to Fort Pavon, an expedition of 10 days with good horses.

Entering the Santa Cruz river at $50^{\circ}10'$ S. lat. we have Shingle Point on the N. and Mount Entrance on the S., the highest object being Mount Léon, 25 miles southward, close to the coast. Our course is N.W. till we reach, 5 miles from the sea, the island of Leones, where Mr. Rouqueaud established a soap factory, extract of fish oil, in 1874, which was destroyed by the Chilians. The island is 100 feet above the river-level, steps being cut in the cliff. On the mainland, S. bank, is a remarkable cave, which is entered by a passage 25 feet long, opening into a circular hall, 15 feet high and 40 feet diameter. At Beagle bluff, 5 miles above Leones Island, we come to the confluence where the Santa Cruz receives, from the N., the waters of Shehuen or Rio Chico, which here expands to much greater width than the Santa Cruz.

Fort Pavon, on the S. bank of the Santa Cruz, is about 10 miles above the confluence or 20 from the sea, and here there is an Argentine naval station, with a stockaded "enceinte" and artillery. The Shehuen Indians trade here with skins, and many of them remember Captain Musters, who travelled with them 30 years ago.

Rincon de Machos (6 miles above Pavon) is a famous place on the S. bank for guanacoës, which are seen in hundreds. The river is here 300 yards wide, and on the opposite bank rises Guanaco Hill, 300 feet high: the table-lands on both sides are bleak and barren, but the river has a majestic appearance where unbroken by islands. There is an excellent species of trout, weighing 2 lbs. or more, caught especially at Amenkelk, 15 miles from Pavon, at the mouth of a grassy opening on the S. bank, and here also the incense-tree grows thickly.

Chickerook (20 miles from Pavon), on the S. bank, is the Indian pass mentioned by Fitzroy, but not fordable, the depth of water exceeding 20 feet; the river is 200 yards across with a current of 5 miles an hour, but the Indians chose this for a pass as the banks are not very steep; they cross by swimming their horses and towing a raft made of tent-poles and hides. Foxes are here very plentiful, and pumas a little higher up, these animals lying in wait in the bushes for their prey, chiefly guanacoës.

Swamp Bend (10 miles above Chickerook), is on the S. bank, abreast of Swim Bluff, and here Moreno found stone knives, in 1878. We now enter a region of basalt, where the river has cut its way through a basalt layer 120 feet thick, the bluffs rising to a height of 750 feet. There are rapids at the place marked by Fitzroy as Basaltic Glen. Pumas, ostriches, and a grey species of wild cat frequent here.

Mount Stepout (70 miles from Pavon) is on the N. bank, at a great bend, the river here being 400 yards wide, and the mid-stream having 24 feet depth. Green meadows form an oasis at the foot of Cerros de Febrero. About 30 miles higher the river has another

great bend at Condor Cliff, N. bank, opposite to which is an Indian camping-ground called Yaten.

Tres Cerros (100 miles from Pavon) are 3 hills on the N. bank, the highest of which is 1,150 feet over sea-level. From here we get the first view of the Andes, whose blue peaks are always capped with snow. The most prominent is Fitzroy's Castle Hill, 4,600 feet, which is 85 miles W.N.W. On the N. bank are green pastures, but on the S. the bluff closes in upon us.

Fitzroy's Rapids (130 miles from Pavon) marks the spot to which that explorer and Mr. Darwin arrived in 1833. They had 4 boats, the towing of which was so tedious that it took them 16 days to reach this spot, although they made the descent in 5 days. Shortness of provisions forced them to turn back when within 30 miles of the lakes. The river is here 250 yards wide, and fringed with Calafate bushes, which give a wholesome fruit and are full of red-breasted birds in the fruit season.

Lake Argentino (160 miles above Pavon) was discovered in 1873 by Captain Lawrence and Lieutenant Feilberg, of the Argentine Navy, who supposed it to be Lake Biedma. It has an area of about 300 square miles, its greatest length from E. to W. being over 30 miles. Point Feilberg, where the Santa Cruz issues from the lake, is 30 miles E.S.E. of Castle Hill, and 55 miles N.E. of Mount Stokes. The shores are desolate and treeless, except the southern from Point Walichu to Mount Avellaneda, which has dense woods. The depth of this lake is unknown, Moreno failing to find bottom at soundings of 120 feet. Its level is 412 feet above the sea, and the temperature of the water in summer 50 degrees Fahr. When the ice-islands melt they make a noise like thunder, which the Indians

ascribe to evil spirits, the souls of deceased physicians or necromancers. At Point Walichu Moreno found a cavern, with inscriptions, and inside was a mummy in ostrich skins.

Car-Aiken (170 miles from Pavon) is an Indian camping-ground, at the mouth of the Leona river, where it falls into Lake Argentino on the N.E. point. Following up this river 30 miles, between basalt cliffs, its width averaging 200 yards, we come upon the largest of the 4 lakes, which is doubtless that visited by Biedma in the last century, and still bearing his name, being marked on all maps.

Lake Biedma (200 miles from Pavon) is a magnificent sheet of water extending to the foot of the Andes. Its greatest length from S.E. to N.W. is 50 miles, and its area is certainly over 400 square miles. On a clear day 40 peaks of the Andes may be counted, and snow falls on them at times, even in summer. Moreno found petrified trunks of trees a few miles E. of Lake Biedma.

Lake San Martin (260 miles from Pavon) is at the foot of Fitzroy volcano, which emits masses of smoke, and sometimes at night lights up the scene in an imposing manner. The Indians call it Chalten. This lake is hardly 100 square miles, but leads into another behind Mount Lavalle, and this latter is double the size of Lake San Martin. Samples of coal found here by Moreno are said to be of better quality than that of Sandy Point.

The Shehuen valley is in some places covered with pasturage, for which reason it is a favourite abode of the Indians who trade at Pavon. The Rio Chico, or Shehuen, runs almost parallel with the Santa Cruz. about 70 miles N. of the latter. It has never been navigated, but is evidently shallow, Moreno finding only

4 feet of water at Cayick, 70 miles above Beagle Bluff. He mentions a hot spring at Carpen, 10 miles E. of Cayick, only 6 inches deep and 8 inches diameter, the water having 10 per cent. carbonate of soda and a temperature of 90° Fahr. Another spring near this had 58 per cent. carbonate of soda.

The territory comprised between the Santa Cruz and the Shehuen is about 150 by 70 miles of a perfectly arid waste, successive ranges of table-lands rising gradually westward to 3,000 feet. The ordinary route is from Guanaco Hill, in front of Pavon, to the pass of Cayick, above mentioned, which is about 80 miles. The traveller should not leave Pavon unless the Comandante recommends one of the caciques as trustworthy, and even then he must be aware that the expedition is not free from danger.

The territory of Santa Cruz has an area of 80,000 sq. miles, comprising all the southern part of the Republic, from the Bay of St. George, 42 S. Lat. to the Straits of Magellan, and comprising 4 departments, each of which extends from the Atlantic to the Andes, namely Deseado, San Julian, Santa Cruz and Gallegos.

Deseado is a howling wilderness, except along the slopes of the Córdillera. It has no settlement or inhabitants. San Julian is little better, the only settlers being Messrs. Munroe, Hope and McKay, who have 8,000 sheep.

Santa Cruz has a village of 50 inhabitants near the mouth of the river, and a number of farms, belonging to Garcia. Manzano, McLean, Greenwood, Clement. Ledesma, Dufour etc. who possess 3,200 cows, 18,500 sheep and 950 horses. Wild geese and ducks abound.

Gallegos is the smallest of the 4 departments, but the most valuable, and is watered by the Gallegos and

Coy rivers. The village which gives name to the department has 70 souls, and another at Cape Virgin 30 souls. Gold has been found here repeatedly for many years back. There are 24 large sheep-farms, mostly belonging to immigrants from the Falkland Islands; Messrs. Wood, Everett, Greench, Montes, Felton, Halliday, Jardine, Clark, Guillaume, Patterson, McCrack, Woonan, Basknet, Hamilton, Paris, Rich, Raymond, Urline, Jameson, Road, Reed etc. have a chain of farms along the coast.

The live-stock of the whole territory sums up thus:—

	Sheep.	Cows.	Horses.
Gallegos.	116,000	5,900	2,600
Santa Cruz.	18,500	3,200	1,000
San Julian.	8,000	—	100
TOTAL.	142,500	9,100	3,700

The total population consists of 500 whites (mostly Europeans) and 300 Indians.

In 1890 coal was discovered of a good quality, similar to that of Neuquen. The upper banks of the Gallegos river are covered with oak forests. The Government is surveying 4,000 sq. miles of land south of Coy Inlet. All this Gallegos department is being rapidly taken up, and more than a million bricks have been burnt, for building.

XXXVI. The Chubut Colony.

For some time this colony was connected with Buenos Ayres by the steamer Chasely, which commenced running monthly in January 1889, making the trip either way in four days. At present the voyage is usually one of 8 days.

The first band of settlers, counting 132 souls, all Welsh, under the command of Mr. Lewis Jones, arrived per brig *Mimosa*, July 28th 1865, and landed at New Bay on the spot now called Port Madryn, 40 miles distant from any fresh water. A second batch arrived shortly after, bringing up the number to 152. They suffered extreme hardships for some years, and would have perished but for the friendly Tehuelche Indians, who brought them food. In 1867 they were on the point of abandoning the colony, when the Argentine premier, Dr. Rawson, sent them supplies to the value of £2,000 stg. Subsequently fresh numbers arrived from Wales. The population at various dates has been as follows:—

1870	96
1883	1,286
1888	2,184

In 1872 the colonists had only 30 houses, 200 cows and 100 horses. The census of 1888 shewed as follows:—

	No.	Value \$	£ sterling.
Houses.....	460	324,000	= 43,000
Ploughs and harrows...	525	135,000	18,000
Wagons.....	221	58,000	7,500
Miles of fence.....	250	80,000	10,500
Cows.....	9,620	100,000	13,000
Sheep.....	17,200	35,000	4,500
Horses.....	3,010	95,000	12,000
Pigs and poultry.....	—	22,000	2,800
Crops, hides, etc.....	—	443,000	57,500
Railway (47 miles)....	—	1,200,000	160,000
TOTAL.....		2,492,000	= 328,800

The improved fortunes of the colony date from 1877, but the crops were uncertain until the construction of canals for irrigation: these were completed in February 1889, thus:—

	Miles.	Cost \$
Upper valley.	45	89,000
Lower »	60	182,000
Branches	130	
TOTAL.	235	271,000

This outlay of nearly £40,000 sterling was entirely defrayed by the colonists.

Chubut territory has an area of 80,000 sq. miles but the valley of that name is only 48 miles long by 5 in width, extending from the mouth of Chubut river in a southerly direction to 78 W. Lat., where it is closed in by groups of high rocks. The ordinary current of the river is two miles an hour. The climate is dry and healthy, the temperature variable, and the soil when irrigated so fertile that wheat often yields 40 bushels to the acre. There are two "barrages" or dams, one at the head of the valley, the other at Gayman, to preserve a constant water-supply. Rainfall in some years does not exceed 6 inches. The Chubut river is very full at the season when the Andine snows melt.

The colonists have 3 flour-mills, 8 threshing-machines, 70 reaping-machines, 6 pianos, 3 harps, a brass band and more than 100 violins. Mr. Lewis Jones's weekly newspaper, the *Eistedfels* is published in Welsh. The colony comprises 400 farms of 250 acres each, say 100,000 acres or 150 square miles. The wheat crop varies from 5,000 to 8,000 tons, and represents 80 per cent of the total value of products. In 1888 the surplus wheat which was exported to Liverpool reached 1,600 tons, but the cost of freight was 20 shillings a ton from the colony to Port Madryn by rail, and only 16 shillings from Port Madryn to Liverpool.

The railway was opened in April 1888; it is 40-inch gauge and 47 miles long, having cost £160,000, of

which sum one-half was for material. The trip is made in two hours: there are grades of 1 in 95. Captain Kennedy R. N. visited the colony in 1888 and said:—

“We anchored in New Bay, one of the finest in the world, and found one of the Pacific steamers at the wooden mole, loading 2,800 tons of cargo, for Liverpool. Port Madryn is in the SW. corner, and here there are Argentine officials, houses and hulks for receiving cargo, but no fresh water, unless what is brought by rail, from Trelew, 45 miles. There is no station before reaching Trelew, the terminus, where we found workshops, houses for men, and stone quarries in full work. We visited Rawson, the capital, which has many new buildings and shews great progress. The colony, however, has no more available lands, all these been taken up by Argentine officials and their friends.”

Mr. Cugin was there in February 1890 and wrote thus:—

“Not far from Trelew we visited Plas-ed-Duch or the Delicias, which is the residence of Mr. Lewis Jones, father of the colony: it is a fine house of 16 rooms on a bend of the Chubut. Then we rode to Rawson, and were entertained by Governor Conesa at the Government House, with a grand ball. Next day to Gayman, a village 15 miles higher up the valley: going 5 miles further we reached Mostyn, the residence of William Williams.”

The anniversary of the first landing, 28th July, is always kept as holiday. On that day in 1890 Mr. Thomas took a photographic group of 50 persons, the survivors of those who had landed from the *Mimosa*: they were standing on the ruins of the fort built by

them in 1865. Music is much cultivated, and Miss Lloyd Jones is called 'the Patagonian nightingale'.

There are 9 chapels and 3 schools, and 85 per cent. of the population can read and write. The latest vital statistics shewed per 1,000 of population yearly thus:— Births 44, deaths 25, increase 19, marriages 7. The value of property was equal to \$1,150 or £150 sterling per inhabitant. The annual imports are \$220,000, say £30,000 sterling or £14 per head. There is a tribe of friendly Indians, Tehuelches, at Paso de los Indios, who trade with the colony.

In 1888 Mr. Ashael Bell spent five months in exploration of the head-waters of the Chubut, as well as the banks of the Teca, Chelila, Corcovado and other Andine streams. He reported having found a river flowing westward, through the Andes, to Chile, but his way was impeded by dense forests of Araucaria, with trunks 18 feet in circumference: he subsisted for a time on black currants.

In the same year Mr. Thomas, who had previously made four Andine explorations, set out with 50 colonists, taking cattle and supplies, to found a new settlement in the far west. After a journey of 71 days he reached a beautiful valley near the banks of the Corcovado, between snow-clad Sierras, 43°30' S. Lat. and 72° W. Long. The month was November; straw-berries and currants were in bloom, and there were forests of birch, pine, fir, ash, cedar and cypress. The colonists at once proceeded to cut down trees and built huts, calling the settlement "16th of October". The country abounds in wild cattle, deer, ostriches, pumas and guanacoës. Mr. Thomas was only 18 days making the return journey in a four-wheeled waggon to Rawson. He considered that by following the Corcovado river

the colonists could reach Chile in two days. The river is so called because it has 600 bends in 6 miles. The colonists have thrived, the camp being excellent for cattle-rearing. In the vicinity Mr. William Mulhall has also a sheep-farm, and he discovered gold close by, in January 1892. The new colony is exactly 350 miles, as the crow flies, west of the town of Rawson, in the Chubut colony.

In August 1891 the Argentine Government marked out the ground for another Welsh settlement in the Valley of Martyrs, on the upper waters of Chubut, 125 miles due W. from Rawson, giving 100 free farm-lots of 250 acres each to the first hundred settlers, besides 1,000 acres in town-lots. A colonist named Richards claims to have found gold in the vicinity in March 1892.

XXXVII. The Rio Negro.

This lovely river, which must one day become one of the great arteries of the Republic, opening up a vast area of productive country that enjoys a cool and delightful climate, is navigable from its mouth to Villarino's Rapids, 415 miles. The portion above those rapids was explored in a boat by Cox, who came across from Chile in 1862. Government steamers ascend at intervals from Patagones to Fort Roca, at the foot of the Andes, which stands a few miles below Villarino's Rapids. The Rio Negro is, however, at present of little or no value, owing to a dangerous bar, which causes frequent delays and dangers to shipping. If a railway or ship-canal could be made from Carmen de Patagones to the Bay of San Blas the faci-

lity thus given to trade would be immense, San Blas offering easy access and safe anchorage at all winds to vessels drawing up to 30 feet.

The mouth of the Rio Negro is in 41·2 S. Lat., distant 180 miles SSW. from Bahia Blanca as the crow flies.

The first view of the Rio Negro is thus described by an English traveller:—

“We came very suddenly to the end, for on emerging from the thicket, through which we had ridden in single file, the magnificent Rio Negro lay before us. And never river seemed fairer to look upon; broader than the Thames at Westminster, and extending away on either hand till it melted into the dim horizon, its shores clothed in all the glory of orchards and groves and fields of Indian corn. Far out in the middle of the blue current floated flocks of black-necked swans; while beneath us, scarcely a stone's-throw off, stood the thatched house of our conductor, the smoke curling up from the chimney giving promise of a speedy repast. A grove of old cherry-trees, in which the house was embowered, added to the charm of the picture; and as we rode down to the gate we could see the early-ripening fruit glowing like live coals amidst the deep green foliage.”

Carmen de Patagones (21 miles from the mouth) stands on the N. bank, the Negro being here 500 yards wide with a deep and rapid current. The town has 3,000 inhabitants, and many good shops, that of Mr. Traub being a rendezvous for strangers. There is a poor hotel. The best guides are Cochengo, Ureño and Sosa. Dr. Humble, the English physician, resides on the S. side of the river, that suburb going by the name of Biedma. There are numerous

islands, fringed with willows. The country intervening to the seaboard is covered with a thick bed of gravel, the only vegetation being chañar bushes with formidable thorns. Water is scarce and brackish. The perpendicular cliffs on the S. side show several strata of sandstone, including a layer of conglomerate pumice pebbles, which, Darwin says, must have come from the Andes.

The islands of Crespo, Winter, Leon, and Calvo are passed in succession as we ascend the river. All are well-cultivated, growing excellent wheat and the famous Chocoli vine. The bluffs on the N. bank are 150 feet high, and in many places caves are used for habitations, hollowed out of the sandstone. The valley spreads out to a width of 5 miles, the soil being admirably suited for agriculture; but the high ground extending inland from the "cuchilla" is in some places sandy, in others covered with "piedra chica" pebbles, and in others with a variety of brushwood, not exceeding 10 feet in height, such as piquillin, chañar, mataperro, uña de gato, and incienso; this last gives an odorous resin. The islands of Madera, Perejil, and Guardiola are passed before we reach Salinas, on the N. bank, the action of the Atlantic tide being plainly perceptible, rising and falling 10 inches, this point being 30 miles from the sea. Most of the country of the N. bank belonged to Messrs. Aguirre & Murga, and is now thickly settled: the tillage and pasture farms cover numerous leagues.

San Gabriel (33 miles) on the S. bank was formerly known as Guardia Vieja. It is a settlement of friendly Indians, under the Cacique Linares, who commands 100 spears and receives the rank and pay of Colonel. His people are very industrious, and profess Christianity,

the priest of Carmen baptizing their children. They raise much wheat, and have also sheep and cattle. The islands of Vasquez and Paz are abreast of the Potrero de Paez, a beautiful natural meadow on the N. bank, formed by a bend of the river, where geese, ducks, and deer are numerous.

China Muerta (57 miles) is the property of Sr. Don Bartolo Bertonelli, on the N. bank, at a great bend where much of the river is lost in the Abra lagoon. Surveys have been made by Government to canalize the lagoon, which is 15 feet deep, and draw off a portion of the Rio Negro in an E. direction, to irrigate the country as far as San Blas, where the canal would debouch into the ocean: estimated cost, \$100,000. There is a double range of "cuchillas" all the way, leaving a valley 2 miles wide, with an area of 100,000 acres suitable for wheat-growing. We pass some islands with algarroba trees, and "taperas" or ruins on the N. bank, where the Pana and Alfaro estancias once stood. The country is swampy until we reach the Barrajas "tapera", opposite to which the "cuchilla" on the S. bank comes close to the river. Passing the island of Media Luna, with its swamps and willows and plenty of hares, we see the "cuchilla" of San Nicolas, mentioned by Descazlis (1833), which almost overhangs the S. bank and then recedes, making room for a "chañar" forest as far as Aguas Muertas.

San Andres (64 miles), on the N. bank, was the estancia of Messrs. Frazer & Co., who had a fine azotea house and a boat for crossing the river, which is here 500 yards wide. The estate covers 2 square leagues or 13,000 acres, being mostly under sheep, and yielding formerly about 3,000 bushels of wheat. Mr. Frazer, who had been an officer in the British army, settled

here in 1868, and returned to England a few years later.

Pringles (77 miles) is a pretty village on the N. bank, with 200 inhabitants. Mr Deacon keeps a good hotel, and Mr. Perez a large camp store. The church was built by contributions from Mr. Mulhall, Mr. Kincaid and other land-owners, the Salesian Fathers having a school attached. Indian women weave ponchos at their doors. Among the best houses are those of Don José Rodriguez and Señor Faguaya. A ferry plies across the river to Lambaré, the beautiful estancia of Mr. E. T. Mulhall: the ferry is kept by Dr. Echeverria, an educated man of decayed fortune. Within the last few years all the camps in the environs of the hills behind Pringles have been settled on by sheep-farmers who pay no rent to the Government and are all becoming affluent. More than 200,000 sheep are now on these camps where 5 years ago every thing was desolation. Pringles is the proper site for an agricultural colony, as the soil in the valley is the most fertile in the world. Mr. De Castro's steamers pass up the river three times a month and call at Pringles, but wool, hides, etc., go to Patagones by bullock carts. There is a telegraph station in the village. Fine fish are often caught in the river. Tourists visiting Pringles will always find a welcome at the estancia Lambaré, in front, the residence of Mr. Maurice Buckland, and at Mr. Kincaid's estancia, which is but a league from the town, on the same side of the river. Adjoining Lambaré is the estancia Sauce Blanco, a very beautiful property, formerly belonging to the Cacique Ingles, the illegitimate son of Fitzroy, and whose sister until lately lived on the land: it is now the property of General Winter and faces Balcleuther.

Balcleuther (78 miles), on the N. bank, is the fine estate of Messrs. Kincaid, who settled here in 1866, being the first foreigners who ventured to colonize the Rio Negro. They have a regular English farm-house, with sheds and all appliances, Howard's machinery, and corrals for sheep and cattle.

Isla Hermosa (138 miles) is a beautiful island, 3 miles long, abreast of an old Spanish residence on the N. bank, called Sauces Viejos. This adjoins the superb savannah of Potrero Francisco at a double bend of the river, which forms the boundary on three sides, the Potrero being 8 miles long by 3 miles wide, covered with rich pasture. This is one of the best parts of the Negro, for on the opposite or S. bank is Coles, so called from the abundance of cabbage found there, the thickets being, moreover, filled with a red-breasted bird which sings very sweetly. The "barranca" or bluff of the N. bank again closes in upon us as we approach the Potrero Arias, passing which the valley spreads out into lagoons and swamps on the N. side, until we come to Potrero Carbajal. Our course, which has been mostly N.W., now becomes W. for several miles, as we have on either side of the river the camps of Our Lady of Itatí, so called by Descalzis because one of his Paraguayan sailors, being wearied at the oar, promised an offering to the church of his native place if a breeze should spring up, which really occurred as the man rose from his knees. Our Lady's valley terminates 20 miles higher, where the Valchita hills touch the S. bank, fringed with chañar forest, and the river resumes its N.W. course.

Cabeza del Buey (236 miles) is a prominent bluff overlooking a lake on the N. bank, where the Indians had a settlement called Pallares, with wheat-farms,

sheep, and cattle, until Rosas put them to the sword in 1833. It was a Glencoe massacre, the soldiers rushing into the lake to kill the poor fugitives, and in this way three of the soldiers were drowned; some of the women and children were spared, to suffer servitude. The "barranca" recedes from the N. bank, and gives place to the Portrero Sauce, 12 miles by 6, after which our route is due N. for some time.

Negro Muerto (258) is a delightful island 2 miles long; after which we come to the rapids of Cabayú Cuatiá, the only bad pass between Patagones and Choel-choel, but having an ordinary minimum depth of 10 feet of water. The N. "cuchilla" at this point overhangs the river, and on the S. side is a plain, covered in spring with bright yellow flowers. The river spreads out again to its usual width, very much resembling the river Paraguay, and about 10 miles above the rapids we meet a large island, which on some maps is marked Choel-choel, but which Descalzis calls Equivocada. It runs 15 miles almost due N., and is evidently quite distinct from the former island.

Choel-choel (293 miles) is a very beautiful and extensive island, the Government surveyors in 1873 reporting it to be 60 miles long, with an average width of 7 miles—say, 270,000 acres in area. The soil was found exceedingly rich, and deer abound in the woods. In some places there are hills, about 40 feet above the stream. The island here occupies the whole valley, the "cuchillas" closing in both on the N. and S. banks. It is bisected by a deep channel, and hence the NW. part is sometimes considered an island and called Isla de Pacheco. It was, however, all one island when discovered by Villarino in 1783. At present Choel-choel is valued as a military post, the central point of the

Rio Negro frontier; but it must sooner or later become the seat of an agricultural colony of two or three thousand families. The distance overland to Patagones is 200 miles, but the river-bends make it much greater. There are still some remains of the fort built by Villarino, who was 58 days in coming hither from Patagones with 4 canoes and 62 men.

Above Choel-choel the Indians call the river the Limay-Lefú. The current is no greater than heretofore, seldom exceeding 3 miles an hour. The S. bank is flat, while the "cuchillas" on the N. form a number of Potreros, or natural meadows, until we reach Chimforó, where there is a garrison, about 60 miles from the Comandancia at Choel-choel. The fort is, of course, on the N. bank, and connected by steamer with the other frontier posts. The scenery and characteristics are the same from Chimforó to Fort Roca, another stretch of 60 miles, and this is one of the chief strategic points of the new frontier.

Fort Roca (413 miles) is near the foot of the Andes, 20 miles below the junction of the Neuquen and Limay, which together form the Rio Negro. It is 300 miles due S. from Fort San Rafael on the Mendoza frontier, and 200 miles N.E. of Lake Nahuel-Huapi. Steamers can ascend from Patagones to Fort Roca in 4 days, or descend in 2 days.

The navigation of Rio Negro may be said to terminate at the above-mentioned confluence of Limay and Neuquen, 140 miles above the island of Choel-choel. We now enter the Limay at the point known as Villarino's rapids, for his boat was capsized here, the navigation being so difficult as to be at present almost impracticable, the current running 10 miles an hour. Precipitous walls of rock rise on both sides, and the

country is a wilderness, with a range of hills on the E. or Patagonian side. It was here that Cox's boat was lost in 1862, when that intrepid explorer was made prisoner by the Indians, who detained him a year in captivity.

Manzanas (490 miles), or the Apple country, begins about 50 miles above Villarino's rapids. Not only the valley of the mainland, but also the islands, are full of apple-trees, brought here by Father Mascardi and other Jesuits, whom the Indians put to death. The Indians appear to have no word but the Spanish one for apples, a proof of the fruit having been introduced; they make cider in large quantities. Villarino mentions that the apples cured his men of scurvy, within sight of the volcano of Villa Rica, which rises 100 miles W. of this position. In his time it was not extinct, as it now is, for Father Falkner mentions the ashes sometimes falling in Buenos Ayres, and even at Colonia.

Lake Nahuel-Huapi (640 miles) is one of the most charming lakes in the world; it is 60 miles long and 20 wide at the foot of the majestic Tronador, which rises to a height of 15,100 feet. This extinct volcano derives its name from the bellowings heard at times from its interior. The lake is surrounded by the most superb scenery, and stands 1,770 feet over sea-level. It was on the borders of this lake that the fabulous city of Los Cesares was supposed to exist, to discover which no less than three expeditions were sent by successive viceroys, from Buenos Ayres. The fable was first heard towards the close of the 16th century, about 100 years before the arrival of the Jesuits, the ruins of whose chapel are still seen on an island in the lake. In the year 1690 Father Mascardi of Valdivia, who had gained the friendship of some of the Puelches and

Poyas, established a mission on the E. shore of the lake, where he was murdered by the Poyas 10 or 12 years later. This did not deter Father Felipe Lagunas from reviving the mission in 1704, but for greater security he built his chapel on an island, where he was joined some time later by Father Guillermo. Their labours were so successful that four tribes, including the Puelches and Puenches, embraced Christianity. Father Lagunas died in crossing the Antuco pass into Chile, after which Father Guillermo built a mission on the mainland, from which he made a road over the Bariloche pass to Valdivia. This alarmed the Poyas Indians, who came by night and burned the mission, carrying off the youths of the school; but allowing Father Guillermo to escape for his life, by the road which he had made. A few years later he returned, and was put to death, after which Father Elguea came as his successor, whereupon the Indians beat him to death, and reduced to ashes the chapel on the island. In 1766 Father Guel, another Jesuit, visited the ruins of the chapel and returned to Chile; and in 1792 the Franciscan, Father Menendez, found near the ruins a number of fruits and vegetables of European origin, introduced by the Jesuits. In 1856 Dr. Fonck and Mr. Hers, accompanied by a native named Olabaria, who had been with Father Menendez when a boy, explored the lake from end to end, discovering the canoe used by Menendez 64 years before. Finally, William Cox was here in 1864, and describes in glowing language the unrivalled magnificence of the scenery; a lake 60 miles long, bordered by dense forests, overshadowed by snow-clad peaks, 15,000 feet high. From an acclivity he obtained a view of the pampas, and saw the Rio Negro winding its course eastward towards

the ocean, till lost to view in the broad expanse. He descended its stream 200 miles, till he met with the disaster at Villarino's rapids which nearly cost him his life.

It appears from Villarino's diary that he descended from the confluence of the Limay and Neuquen to Patagones in 20 days, whereas the ascent had taken 135 days. The current below the confluence is from 2 to 3 miles an hour, and the river is easily navigated to Fort Roca by vessels of 6 feet draught. As the Villarino rapids are the sole obstacle between Carmen and Nahuel-Huapi, engineering science will have little difficulty in making the Negro a valuable and easy highway to its source. There are two flood seasons, in November, when the snows melt, and in autumn during the rainy season.

XXXVIII. Bay of San Blas.

The Bay of San Blas, which is formed by a bend in the coast line and the large island called Deer Island, is about 12 miles long and 5 miles wide, and in the opinion of Admiral Kennedy, who visited the bay in his flagship *The Ruby*, is one of the finest on the whole south-east coast of America. It affords secure anchorage for the largest vessels within pistol shot of the shore. It was surveyed by Fitzroy in 1833 and by Colonel Martin Rivadavia, of the Argentine Navy, in 1882—84: the Argentine chart is the latest, and only reliable one, except the position of the buoys on Constitucion channel: these buoys were washed away years ago. It is situated in 40°30' S. Lat. and 62°30'

W. Long., between the mouths of the rivers Negro and Colorado. The estancia San Blas faces the bay of that name: it occupies a peninsula marked on the chart as Javali or Wild Boar peninsula, with an area of 30 sq. miles, and also the Rincon Eloisa, outside the peninsula, in all 40 sq. miles of fine pasture land with abundance of fresh water and fuel. The property is managed by Mr. Ernest Buckland, and is well stocked with mestizo Rambouillet sheep and Lincolns. Shearing is done by machinery, and the establishment is one of the best equipped on the coast.

Barrancosa is a sheepfarm near San Blas, on the road from Salina de la Piedra, covering 40 sq. miles: there are fine "cañadas" and much high ground: the owner, Mr. Jensen, is a Dane, who settled on these lands some years ago, when the Indians were still in dangerous proximity. His flocks last year gave 65 per cent. increase, which shews the quality of these camps. All the sheep-farmers in this Mesopotamia, between the Negro and Colorado, have thrived, and in view of their great success hundreds of fresh settlers are leaving Bahia Blanca, Tuyu, and Azul, to start south of the Colorado,

Walker's Island is in reality a peninsula, which adjoins San Blas, and belongs to Don Juan Pablo Cordoba and Don Pedro Guerrero: the area is 40 sq. miles, well stocked with sheep and cattle.

Punta Rubia is a fine estancia, the property of Messrs. Ernest and Maurice Buckland, situated on Barrancas Point, between Punta Rasa and the tower at the entrance of San Blas harbor. It is well stocked with sheep and cattle; the manager is a German, Mr. Schmied. Adjoining is the estancia of Captain Hansen, a Dane. At the end of Punta Rubia estancia is the famous

Salina Inglesa, a salt-lake belonging to the Rio Negro Salt Company: this salt-bed covers 7,000 acres, and the salt is of the finest and purest quality.

Isla de Gama is the principal island on the coast and is state property, leased to an Italian, Signor Peirano. It forms the north side and chief protection of San Blas Bay. There are on the island 1,000 cows (the product of 60 cows in 1886) and 6,000 sheep. The land is good: both sheep and cattle thrive. On an island on the north, Mr. Sassenberg has, under Government lease, several sheep-farms. On all these islands water is plentiful, which is not always the case on the mainland.

La Salada.—This estancia formerly belonged to Don Emilio Hansen, Acting Minister of Finance; is situated on a bluff fronting San Blas bay, between the estancia of the latter name and the Tres Bonetes. Area 30 sq. miles. This estancia is rented to a Basque who has 14,000 fine mestizo sheep.

Tres Bonetes.—With the exception of Mr. Luro's estancia, this is the largest property south of Bahia Blanca, embracing 265 sq. miles of soft pastures, particularly adapted for sheep breeding. This property owned by Mr. E. T. Mulhall, also the proprietor of San Blas, used to be the favorite head-quarters of ostrich-hunters in the days of Indian sway, and up to the present there are still wild horses on the place: its great advantage is the supply of water and the richness of the grasses. The lands adjoining are principally fiscal property of the Government of Buenos Ayres: these camps are all let by Government to Basque and Italian sheep-farmers. Such are the results of sheep-breeding in these parts that before many years the wool produced south of the Colorado will form a

large propoportion of what the Province of Buenos Ayres produces.

The "Salinas" or salt-lakes which are now worked by the River Negro Salt Co., a Glasgow Argentine Co., are situated midway between Patagones and San Blas. This industry promises well, as the salt finds a ready market in Buenos Ayres, which consumes about 1,000 tons per month. The Salt Company is now about to construct a railway to the Bay of San Blas, which when finished will give a great impetus to the business. The supply of salt seems inexhaustible. Last February a reporter from the *Standard* office visited the establishment and measured 20,000 tons in pile ready for shipment, but all the bullocks and carts in the district are insufficient to carry it to Patagones. Once the Company has its railway constructed, the business will increase exceedingly, and as vessels of 30 feet draught can enter the harbor of San Blas, the export of salt will become a great trade. Messrs. Kincaid, MacKill, Diaz, Arenas, Molina, Costa, Nuñez. Stewart and Turner (Glasgow) are the most prominent members of this Company.

XXXIX. The River Paraná.

Buenos Ayres to Corrientes, 832 miles.

Although the city of Buenos Ayres does not present a striking picture when seen from the River Plate, the suburbs have a delightful aspect. The eye rests complacently on Palermo Park, the country-houses of Belgrano, the picturesque bluff of San Isidro, and the islands of San Fernando, as the steamer bends her course

in the direction of Martin Garcia, the Gibraltar of the River Plate. This little rocky island (40 miles from Buenos Ayres) belonged to the Republic of Uruguay, from which it is separated by the Infernillo channel, 2 miles wide, but was annexed by Admiral Brown to Argentine territory, to prevent its falling into the power of Brazil. It commands the entrance to the Uruguay and also to the deep-water channel of the Paraná, called the Guazú: a naval school has been established here, and the batteries are worked by electricity. The island is 2 miles long, 130 feet over the water, and 25 miles from the Argentine shore.

We are now in the delta of the Paraná, which is here 20 miles wide and extends 30 miles up the river, containing hundreds of islands, which would be the most delightful abode in the world but for mosquitoes. Nature is prodigal of her gifts in this fertile region, where Italian market-gardeners flourish. They build their houses on poles or embankments, as the river rises several feet in flood seasons. Numberless channels form a perfect labyrinth, which none but a skilful pilot could find his way through, there being two principal currents, the Guazú, already mentioned, and the Palmas, which offers the shortest route to Zarate and other ports, and is still used by vessels of light draught. Some of the islands are swampy, most of them only a few feet above river-level, and yet ague is unknown: in fact, there is no form of sickness, and the inhabitants mostly die of old age. It is nevertheless true that at intervals the islanders are shocked by seeing tigers or snakes suddenly make their appearance, having been brought down on "camelotes" or floating islands after inundations. In spring the delta is peculiarly beautiful, the bright scarlet flowers of the ceibo-tree

contrasting with the dark green of the surroundings. Rows of poplar and groves of peach-trees are the most common features, and botanists tell us that at the time of the Spanish conquest these islands were treeless mudbanks, covered with long grass. It is supposed the peaches were introduced by the Jesuits, but the poplars are more modern.

Campana is 110 miles by water, though only 50 by land, from Buenos Ayres. The house of Dr. Costa, lord of the soil, is well situated, on the bluff, but the place has lost its picturesque appearance since the introduction of Haslam's factory for freezing sheep, for exportation to England.

Zarate (115 miles) is called after one of the most energetic of the Spanish viceroys, Ortiz de Zarate (1564-1575), and has 4,000 inhabitants: its trade is in grain, vegetables and firewood, the land being good for agriculture. The islands from here to Baradero are low and uninhabited, but useful for pasturage and firewood. The town of Baradero owes its importance to an Italian colony in the vicinity, established in 1856.

San Pedro (182 miles) looks well from the river and possesses a good port, the Paraná forming a lagoon with an anchorage area of 312 acres, the minimum depth 18 feet at low water. Vessels drawing 20 feet can ascend from the Atlantic to this port. A little higher up is the famous pass of Obligado, where Rosas put a boom across the river, which was cut after some difficulty by the Anglo-French squadron. General Mancilla, who commanded the Argentine forces, had his batteries on the Llavallol estancia at Las Hermanas. As we proceed the river widens.

San Nicolas (240 miles) is one of the best towns on the Paraná, with a population of 19,000 souls, several

public buildings and printing-offices, and a considerable trade. Agriculture was introduced here several years ago, and the place received much impulse from Armstrong's flour-mill (1860), the Italians cultivating large "chacras" of wheat. The river is here 1594 yards wide, greatest depth 72 feet, current 255 feet per minute (3 miles an hour), the Paraná being here an undivided stream. A few miles higher we pass the mouth of the Arroyo del Medio, the frontier limit between Santa Fé and Buenos Ayres, close to which is the village of Las Piedras, otherwise Constitucion, which was at one time proposed as the Capital of the Argentine Republic.

Rosario, the great emporium of the trade of the provinces, is exactly 300 miles by water, and only 190 by land from Buenos Ayres. Having a population of 80,000 souls, it is by far the best town on the Paraná, and stands 80 feet over water. Vessels drawing 15 feet can always ascend thus far. The river rises in flood seasons as much as 12 feet, and maintains that level for 3 months at a time. The town is modern and well-built, covering about 800 acres, and has good hotels and coffee-houses, the foreign element being even more conspicuous than at Buenos Ayres. One of the oldest residents is Mr. Perkins, whom strangers may consult to advantage in whatever regards Santa Fé or the inland provinces. The town has all the comforts of advanced civilization—gas, water-supply, tramways, newspapers, telephones, banks, and an efficient fire-brigade.

San Lorenzo (320 miles), on the W. bank, is remarkable for its large Franciscan convent of the 18th century. This was the scene of one of the earliest and most daring struggles in the War of Independence,

the Argentine cavalry under General San Martin attacking the Spanish war-vessels and capturing them.

Diamante (370 miles), on the E. bank, is the beginning of the mainland on the Entre Rios side, and stands on the bluff of Punta Gorda, 200 feet high, all the lowlands and islands below this point being included in the delta of the Paraná. These lowlands were at one time infested with pirates, whom General Urquiza had much labor in extirpating, his method being to shoot them down like wild beasts, without the formality of a trial. In the period of the civil war Urquiza used to swim his army with 20,000 horses across the Paraná at this point. The opposite or Santa Fé bank now becomes low and swampy, with a succession of islands; the Entre Rios bluff shows three geological strata, the upper or pampean being incrustated with fossils of giant mammalia. The Paraná widens to 3,000 yards, the islands displaying a luxuriant vegetation, and on the E. bank we see numerous lime-kilns, while the approach to the town of Paraná is made doubly picturesque by the red bluff of sandstone rising high above the river.

Paraná (410 miles) is marked on old maps as Baxada which simply meant a landing-place. It stands on the E. bank, at an elevation of 120 feet, and on a clear day can be seen the turrets of Santa Fé city on the opposite bank, 7 miles distant, but so many wooded islands intervene that the view is indistinct. At the foot of the cliff is the custom-house, from which a tramway 2 miles long conveys passengers to the city. Although at present hardly numbering 10,000 souls, Paraná was for an interval a place of importance; it was the capital of the Argentine Republic from 1852 till 1861. Paraná is accessible at all times to sea-going

vessels of 12 feet draught. A small steamer plies daily across the river to Santa Fé.

Villa Urquiza (430 miles) was well chosen by General Urquiza as the site for an agricultural colony, in the midst of a fertile district overlooking the Paraná. Some miles higher is a charming locality called Cerrito; the house was built by an English gentleman, whose fate was tragical, and his successor, a Frenchman, died soon afterwards from the bite of a snake. Tigers are sometimes met with in the islands hereabout.

Hernandarias (490 miles) takes its name from the well-known viceroy, Fernando Arias, the only native of Paraguay who ever rose to such distinction; he was three times viceroy, and introduced the Jesuits, to protect his countrymen from the cruelties of the Spaniards. This is a wild part of the river, with shoals and whirlpools. The land on the Entre Rios side is excellent, and a Swiss gentleman named Martin Schafter, has sold a number of 80-acre lots to colonists. There is an alternation of forest and prairie, which gives the country at times the look of an English deer-park. Wood-cutting is carried on in the islands as we approach La Paz, and it is to be feared from the reckless mode of felling timber, that in 10 or 20 years the noble woods of pine and algarroba will have disappeared. Most of the wood-cutters are Italians, who fell trees merely to make charcoal.

La Paz (530 miles) is another place where a colony ought to prosper, but the land mostly belongs to estancieros, who care for nothing but horned cattle. The town has not progressed much, owing to its proximity to the frontier of Corrientes, these frontier departments not enjoying as much security for life and property as the rest. About 75 miles above La Paz we pass the

mouth of an "arroyo," called Espinillo, marked on old maps as Guayquiraró, or the Fat Boy's Dwelling, which stream separates Entre Rios from Corrientes. Some of the islands between this point and La Paz were used as burial-grounds for the Brazilian army during the Paraguayan war (1868—70), when confluent small-pox made such havoc in that army.

Esquina (590 miles) derives its name from the bend which the River Corrientes makes before falling into the Paraná, and is visible about 2 miles inland, extending along the slope of a hill, the houses being remarkable for wide corridors and verandahs. The coast is low and swampy after leaving La Paz, and covered with jungle, where tigers may be found. A hut on poles by the riverside is the custom-house of Esquina, where passengers have to wait for a boat from the town, 3 miles up the river Corrientes. Some time ago a passenger was landed here after dark, and had to pass an anxious night on the roof of the hut, as a tiger was prowling about, expecting him. Nearly abreast of this place is the Alexandra colony in the Gran Chaco, which has a small steamer that comes here at times.

Goya (676 miles) is 22 miles above a difficult part of the Paraná, called the Yaguareté pass, famous for shifting sandbanks, and unpleasant for navigation by night. The town is in some respects the best in the province of Corrientes, and takes its name from an old lady named Gregoria or Goya, in the 18th century, who married a Portuguese ship-captain, and supplied all vessels going up or down with beef, for she was owner of all the land along this part of the Paraná. There are many French and Italians at Goya, and the exports are considerable, especially hides, cheese and

oranges. About 6 six miles higher is the charming Rincon de Soto, where the Santa Lucia falls into the Paraná, and on the opposite (Chaco) side is the mouth of the Arroyo del Rey, near which are the remains of the Jesuit mission of San Geronimo. As we approach Cuevas the river, which below Goya was 3,000 yards wide, suddenly grows very narrow, till it comes to a pass only 100 yards across. Here lived, on the E. bank, in 1825, a Portuguese farmer named Cuevas, with one son and two daughters, who made such a gallant defence against an inroad of Chaco Indians that the place keeps their name: the Indians have never since ventured to cross the river. The Paraguayans had a battery here in 1865, and sank a Brazilian war-steamer.

Bella Vista (738 miles) is an enchanting place, surrounded with tropical foliage, reposing on a hill which commands a wide prospect of the Paraná. The orange-groves planted by Mr. Henry Hall cover the southern approach to the town, the inhabitants of which have rather a *Salvator Rosa* expression of countenance. The place owes its origin to a settlement of convicts, established here by General Ferré in 1826, but a number of Italians and others having intermarried with the people the respect for life and property is as great now as in any other part of the province. Whether owing to climate or ethnological conditions, Bella Vista has a *dolce far niente* air. Passing Empedrado, which stands high on the E. bank, we come soon afterwards to Riachuelo, where a great naval battle was fought on June 11, 1865: it lasted from daybreak till sunset, and ended in the complete defeat of the brave Paraguayans. The Brazilians lost 3 war-steamers, the Paraguayans 4, and more than 2,000 men perished in the

combat. Between Riachuelo and Corrientes is the quinta of Domingo Latorre, with 5,000 orange-trees.

Corrientes (832 miles) has been styled the city of orange-groves, but there is not much of the town visible from the river, over which it stands 60 feet, the Paraná stretching out to a width of 3 miles, and a dark belt of foliage marking the W. or Chaco bank. It was anciently called St. John of the Siete Corrientes, or seven currents, which can be distinctly counted, being formed by as many projecting points of cliff above the town. There are 18,000 inhabitants, who speak little Spanish, the ordinary language being Guaraní. Corrientes is accessible to sea-going vessels of 9 feet draught. Timber for shipbuilding is plentiful.

XXXX. The Upper Paraná.

Corrientes to Yguazú, 420 miles.

At Corrientes the Paraná is 3 miles wide, the E. bank crowned with palms and orange-groves, while a dark fringe of forest timber marks the low coast of the Chaco. Canoes with Guaycurú Indians are constantly crossing, bringing grass and firewood to the Corrientes market. For 15 miles we coast along the Correntine shore, dotted with estancia houses, till we come to Tres Bocas, the confluence of the Paraguay and Paraná. Here the latter river makes an elbow, turning sharp E., at right angles with its previous course, and this point, where there is a steam-ferry for passengers and cattle, is known as Paso La Patria, the scene of hard fighting when the Allies invaded Paraguay, in 1866. The brave Paraguayans disputed every

inch of ground, and sold their lives dearly, the Allies losing more than 20,000 men in the woods on the N. bank.

Lomas (20 miles), on the S. bank, is a very pretty neighbourhood, the seat of a French agricultural colony, where the soil will produce whatever is demanded. An Italian named Casaccia has grown cotton successfully, and his farm is one of the best. A few miles higher is the village of Itati, famous for an ancient chapel to Our Lady; this is much older than the Jesuit missions, having been founded either by St. Francis Solano in 1588, or by Father Bolaños, the author of the first books in Guarani, in 1610. The Paraná preserves its sea like aspect, being still from 2 to 3 miles wide.

Santa Isabel (95 miles), on the S. bank, is a poor village, in the vicinity of the Laguna Maloya, which is rather a swamp than a lake. The banks of the river are uninteresting, swampy and covered with timber. Some 40 miles above Santa Isabel the river makes a bend northward, after passing which we reach the little port of San Geronimo.

Ituzaingó (160 miles), better known by the old Jesuit name Caraguatay, is just below the Apipé rapids, which at present form a barrier, unless in flood seasons, against the navigation of the Upper Paraná. They form the sole obstacle on this noble river, and it is estimated that an outlay of \$100,000 would suffice to blast a wide and secure channel through the reefs, which are by no means formidable. At this point the river is nearly 7 miles wide, including the two islands. Apipé and Yaciretá, between which is a narrow channel, unnavigable. On the Correntino shore may be seen the remains of two huge trenches dug by the Jesuits

to drain Lake Iberá. They appear to have made no effort to blast the Apipé reefs, perhaps because the Indians found little difficulty in getting their canoes and rafts laden with yerba down through the rapids. The lower reef is about 600 yards across, and about 150 yards higher is the second, which is somewhat wider, but not so dangerous.

Tranquera de Loreto (180 miles) is a pass constructed by the Paraguayans, with palissade and fosse, giving them a facility for the invasion of Corrientes on cattle-raiding expeditions, or for cutting off all communication. A few miles higher is Tranquera San Miguel, where the Jesuits had dug some more trenches from Lake Iberá to the Paraná, which served not only to drain the lake but also to protect the missions from invasion on the side of the Spanish settlements. We pass many wooded islands, infested with tigers, and see also great numbers of duck, geese, swans, gulls, and kingfishers. The Paraguayan banks are low and marshy. On the Correntino side we pass Santa Tecla and other old estancias of the Jesuits, these camps offering good pasture.

Itapua (225 miles) is sometimes called Posadas, sometimes San José. It is a place of much trade and 5,000 inhabitants, situate on the S. or Correntino bank, with a small suburb on the Paraguayan side, which latter is the real old Itapua, a name signifying stone-point. The tyrant Francia in 1817 pulled down the Jesuit colleges and churches, or whatever remained of them, in the missions of Candelaria, Loreto, etc., and with the stones built a fortification 5 feet high and 1,200 yards long, to protect his garrison in the overland trade between Paraguay and San Borja: this fortified camp is still to be seen. The first brick house was

built here in 1876, and at present Itapua has shops with plate-glass windows, hotels, hospital, public library, etc. A steam-ferry with barges plies across the river (fare 60 cents) to the Paraguayan suburb, now called Encarnacion, the stream being 2 miles wide. The inhabitants are a mixture of Italians, Paraguayans, Spanish and French, with a few Argentines and two English, all of whom speak Guarani. The traveller who may desire to cross Misiones and visit some of the ruins *en route* can hire an ox-cart from Itapua to Concepcion, on the Uruguay, the distance being little over 60 miles, journey 3 days: country wooded and undulating, *viá* San Carlos and Apostoles.

From Itapua to the Yguazú the steamer usually takes 5 days; the distance is 180 miles. The river gradually narrows in the stretch of 12 miles up to Candelaria, from 3,500 to only 600 yards, and then makes an elbow precisely similar to that which it made at Tres Bocas, resuming its N. course at right angles with the preceding. It also resumes its ample width, and the scenery becomes enchanting as we approach the ruins of Santa Ana. Hills covered with orange-groves, steep cliffs overhanging the river, gigantic palms, bamboos 50 feet high, form a picture never to be forgotten. There is a colony of 60 Brazilian families here. Alligators of the cayman species abound on the banks, deer and pumas in the woods. A perpendicular cliff of 100 feet is covered with wasps'-nests, which look like dried gourds. We pass the ruins of San Ignacio and Trinidad, the former well preserved.

Corpus (275 miles) is the commencement of the Yerbales or maté fields. Here was established in 1875 the Del Vasco colony of 100 Frenchmen, but the colonists were unable to fell timber or even cultivate the land,

and would have perished of hunger but for friendly assistance: the colony collapsed. The place is favourable for sugar-growing, but subject to ague. The house of Fuentes Ortiz, of Buenos Ayres, has a sugar plantation and mill above Corpus. The river is still 600 yards wide between banks high and wooded. Two tributaries, the Paranay-Guazú from the Brazilian, and the Pirayú from the Paraguayan, side fall into the Paraná almost simultaneously. Then we see the wooded island of Caraguatay, rising abruptly from the water to a height of 200 feet, which has a cave so much infested with rattle-snakes that the natives are afraid to explore it.

San Lorenzo (380 miles) is a Paraguayan station, the residence of the Inspector of Yerbales, surrounded by the most unrivalled and romantic scenery. It consists of a few huts, but carries on an active trade in yerba-maté. The inspector's body-guard have 2 boats, and wear blue jackets and red caps. In front of San Lorenzo, at the mouth of the Pirayú-Guazú, or great fish river, is the residence of an Italian merchant named Adam, who has lived here 20 years: he has a fine farm of maize and sugar, besides dealing in yerba-maté. In his garden is a cascade, 40 feet high in the midst of palms, ferns, and bananas, which are full of parrots, toucans, and brilliant butterflies. He is both trapper and woodman, and has some excellent dogs for hunting.

The Paraná narrows at Pareja island, a little above the cottage of Signor Adam, and there is such depth of water that every attempt to take soundings has failed. Peaceable Indians are met with, generally fishing, along the Paraguayan shore in the vicinity of Nacunday, a little river with a cascade 30 feet high near its mouth. A few miles higher we reach Pirapuitá,

W. bank, a group of huts in a forest opening, from which, 3 miles inland, is the Indian village of Guayarrós, marked on old maps Villa Azara, because Azara lived there some months studying the fauna and flora (1788). On the Argentine side are a few ranchos called Port Meabe, and a little further on the W. side is Iruguazú. In passing these hamlets the steamer drops the mails in a sealed bottle.

The mouth of the Iguazú (405 miles) is 200 yards wide, with 72 feet depth of water, that river falling into the Paraná between high forest banks, crowned with tacuaras, or bamboos, and tacuarembos, the latter name signifying arrow-shafts. The falls are 15 to 20 miles higher, and can be indistinctly heard as we pass.

Goycocheas (425 miles), at the mouth of the Acaray, on the Paraguayan side, is the highest point of the Upper Paraná that enjoys steam navigation. It takes its name from three brothers, who employ 600 men in the Yerbales inland, and whose steamer, the *Teresa*, makes frequent trips from here down to Corpus, besides the *Carima*, which trades from here to Itapua. The latter takes 5 days to steam up the river, but makes the run down to Itapua in 48 hours. Messrs. Goycochea are most hospitable to travellers.

From Goycocheas to the great falls of Guayrá is 160 miles, and the intermediate country is for the most part unknown. All the territory on the E. bank belongs to Brazil, and is said to be infested by the Bugres, a tribe of supposed cannibals, who are probably in reality some of the Coroado families, deadly enemies to whites. The falls have been visited three times within the last 100 years. Captain Azara in 1788 described them thus:—

“Above the falls the Paraná is 4,600 yards wide,

when suddenly it becomes contracted to a narrow channel of 60 yards, containing almost as much water as all the rivers of Europe collectively, and rushing downward with indescribable fury: the fall is not vertical, but a plane with an incline of 50 degrees, equal to a perpendicular fall of 56 feet. The noise is heard 20 miles off, and the spray rises in columns visible several miles away: the very earth seems to vibrate at the shock."

The falls take their name from the Cacique Guayrá, who ruled this part of Paraguay in the time of the Jesuits' arrival. In 1630, when Father Montoya rescued the survivors of the first missions from the Paulista slave-hunters by descending the Paraná, he lost 300 canoes in trying to get down the falls. According to Mr. Revy (who did not, however, visit Guayrá) the volume of water cannot be less than a million tons per minute, with a current of 40 miles an hour. The second time that the falls have been visited in recent years, was in 1863, by Colonel Patiño, who reported to President Lopez as follows:—"The noise even at 30 miles off is like thunder. At 3 miles it is difficult to hear a person near you speak. Some settlements were abandoned because the inhabitants became deaf. The whole region is in the hands of the wildest class of Indians."

Captain Nestor of the Brazilian army led an expedition from the military colony of Jatahy in December 1877, and obtained food on the way from the savage Coroados, by means of barter. After 30 days he reached the falls, which he describes thus:—"The majestic Paraná above the falls has a width of 5,500 yards; it narrows gradually, penetrates between two mountains and falls 100 feet. The ground trembles as

if a volcano were inside, and the noise is heard like thunder miles away."

Much inferior to Guayrá, but still of striking grandeur, are the falls of Yguazú, visited in recent years by Mr. White of Buenos Ayres (1880), Mr. Gustav Niederlein (1882), and Captain Hunter Davison of the Argentine navy (1883).

Mr. White says:—"For some miles from the mouth of the Yguazú the banks are timber-clad, rising often to 100 feet. The falls begin about 12 miles up, but the river, for 3 miles before we reach the falls, is a mass of black, frowning boulders and whirlpools. Deer may be seen in the woods, and the savage Tupi Indians are said to infest the N. bank. The falls are 174 feet, or by another measurement 180 feet, whereas Niagara is but 144 feet. Inland from the falls are extensive pine forests."

Mr. Niederlein says:—"About half a league above the falls the Yguazú is 3 miles wide, and at the Victoria cataract it falls by three channels, a height of 160 feet or more, into a rocky bed. The three channels of the cataract I have named—Dom Pedro, Kaiser Wilhelm, and General Roca. The Dom Pedro 'chute' is nearly perpendicular, 120 feet wide, and 160 in height, on the Brazilian side of the river: this is the most imposing. The Kaiser Wilhelm is the smallest, but very beautiful, as it dashes over a rocky islet. The General Roca, on the Argentine side, comes thundering down upon a large plateau. Then there is a series of lesser falls as the Yguazú descends in its course. The Bosetti cascade is half a mile lower than the great falls, and then follow 14 others in a course of 5 miles, till we come to the lovely Bismarck cataract, where the silvery waters, between the dark-green woods,

tumble 130 feet. From here it is 11 miles to the mouth of the Yguazú."

Captain Hunter Davison says:—"The great fall is 20 miles from the mouth of the Yguazú; the river a little higher is 2 miles wide, and there are numerous islands which break the fall. The central jet is 200 feet high. Game abounds, especially wood-turkey, 5 lbs. in weight, bandurria, partridge, tapirs, wild hogs, carpinchos, squirrels and deer. Fish are likewise plentiful; the manguruzú, weight 50 lbs., is like catfish, but has no teeth, the meat being like that of the most delicate crab. The current runs nearly 5 miles an hour. About 120 miles above the great fall are the grand rapids, 10 miles in length, the river banks being often low, swampy, and thickly wooded."

Mr. Niederlein makes the Victoria cataract 240 miles from Itapua, but it seems little over 200 miles: his guides doubtless counted Paraguayan leagues, which are little over $2\frac{1}{2}$ miles.

XXXI. The River Uruguay.

Buenos Ayres to Salto, 306 miles.

The scenery of the Uruguay is much finer than that of the Paraná. Passing Martin Garcia we get a view of the Cerro San Juan (488 feet), at the foot of which is a fine German estancia, and soon afterwards we reach Carmelo, or Las Vacas, in front of the mouth of the Paraná Guazú. It is a pretty little town, with coasting steamer plying to Colonia. The scenery improves as we advance, the E. bank being high, and on the W. the islands forming the delta of the Paraná.

Higueritas, or New Palmyra (70 miles), is the port of a prosperous, sheep-farming district, and stands 3 miles above the Punta Gorda, where the Uruguay debouches into the River Plate. This Punta, which is 94 feet high and covered with wood, is not to be confounded with another of the same name in the Paraná. The outflow of the Uruguay averages 11 million cubic feet per minute, or nearly as much as the Ganges—say, one-fourth of the volume of the Paraná. The current at Higueritas is twice as rapid as that of the Paraná at Rosario, the Uruguay being here a mile wide with a deep-water channel of 86 feet.

Soriano (110 miles), at the mouth of the Rio Negro, is a decayed village, founded by Fray Guzman in 1624, the first Spanish settlement in Uruguay, but of which only the old church and a few houses remain. There is a branch steamer from Mercedes, which meets us here with passengers, and a little higher up we meet likewise the Guleguaychú steamer, also in conjunction with the Uruguay line. The shores on the side of Entre Rios are still low, and not visible, so many islands intervening.

Fray Bentos (130 miles) is famous for Liebig's factory of *Extractum Carnis*, established by the late Mr. Giebert in 1864, at an outlay of £200,000 sterling. The machinery was made in Glasgow, and cost £45,000. The place employs 600 persons in constant work, and often kills 1,000 cattle daily: 1 lb. of extract is equal to 30 lbs. of beef, and will make soup for 120 men. The factory, offices, and paddocks cover 6,500 acres, and the net profit sometimes exceeds £80,000 per annum. The village takes its name from a venerable friar, Bentos, in the 18th century, but the official name is *Villa Independencia*.

Between Fray Bentos and Paysandú the delta of the Uruguay extends along the shores of Entre Ríos for almost 60 miles, but the E. bank is high, running about 100 feet over river-level. The saladero of Roman was established by Baron Mauá for preserving beef on the Morgan system, 20 years ago, but is now worked on the same plan as the other ordinary slaughter-houses for salting beef for Cuba. Before the discovery of Haslam's freezing process none of the methods for preserving meat were wholly successful. One of the best was that of Mr. Oviden of Paysandú, but he could not obtain a market in Europe. Some of the finest estancias in the Republic of Uruguay lie along the E. bank of the river or at short distance inland. The estancia house of Buena Vista crowns a picturesque bluff, after which we pass the Retiro, of Messrs. Peile, extending to the Arroyo Negro.

Concepcion (202 miles), on the W. bank, is in some maps marked Uruguay. It is the best town in the province of Entre Ríos, with nearly 6,000 inhabitants and some good schools. The Spaniards used to call it Arroyo de la China, the neighbouring lands belonging to the ancestors of the late General Urquiza. The Great Trunk Railway of Entre Ríos, which crosses the province from Paraná, terminates here. The town is at some distance from the landing-place, which is defective.

Paysandú (220 miles) is said to be the best town in the Republic of Uruguay, after Montevideo. It is a place of much activity, a tramway connecting the port with the town, which stands on a hill. It has suffered repeatedly in the civil wars, and was the scene of a shocking massacre on New Year's Day, 1864, when the gallant General Leandro Gomez, Colonel Piris, and others were butchered in cold blood. Nevertheless, the

surrounding districts are so rich in pastures and cattle that the town has completely recovered, and wears an air of prosperity. The famous Colonel Mundell, a brave old Scotchman, was Governor here for some years. Paysandú is the most convenient place for the traveller to make his head-quarters, to see some of the finest English estancias, such as those of Hughes, Drysdale, Peile, Bichadero, etc., and Don Manuel Horta, the Spanish Vice-Consul, will advise him about horses and guides.

From Paysandú to Salto the scenery varies exceedingly and is in many places beautiful. It is, however, difficult of navigation, nor should sea-going vessels, unless when there is a freshet, venture higher than Paysandú. The Hervidero pass takes its name from eddies and a whirlpool abreast of the old Lafone estancia, the house of which is in ruins, on the E. bank. Higher up is the Mesa de Artigas, a bold headland overhanging the river. Here General Artigas encamped his army in the War of Independence, and it was his practice to sew up in hides any Spaniards that he took prisoners, and roll them down the steep sides of the table-land. At the Arroyo Malo are two valuable English estates, that of Mr. W. Wilson, known as Delicias, and that of the Wyatt Smith family, where Mr. W. Smith was killed during the wars. Another dangerous pass now occurs, called the Corralitos, from the rocks almost forming a circle. Sailing vessels cannot pass, and steamers never attempt it by night, for there is but one narrow, winding channel, the reef extending on both sides. In freshets the rocks are covered. The pass was formerly even worse, until Messrs. Hardy & Co., the steamboat owners of Salto, at their own expense blasted some of the reef.

Concordia (302 miles), on the W. bank, is a couple of miles higher up than Corralitos, but the port is below that reef, except for steamers, which land their passengers close to the "casilla" of the new town. This place has not thriven as was fondly anticipated when the East Argentine Railway was constructed: if the money had been expended in establishing agricultural colonies it would have been more beneficial to the country. Concordia has over 10,000 inhabitants, and will improve if immigration be attracted hither, but it is reputed one of the least law-abiding departments in Entre Rios, being infested by banditti from Corrientes. The view of Salto from Concordia is most picturesque.

Salto (306 miles), on the E. bank, is seated on 5 hills, which run down to the water's edge, the large white houses composing the town giving it an appearance of importance. It disputes with Paysandú the rank of second city in the Republic of Uruguay, and has a great frontier traffic, some of which is said to be contraband. The population is 10,000, one-half being Italians. The town takes its name from the "salto" or falls of the Uruguay, some 2 miles higher up, which are a complete barrier to navigation, except in flood season, when steamers drawing 3 feet go up the rapids and ascend the Upper Uruguay as far as the Brazilian town of Uruguayana (150 miles). The railway made by Messrs. Clark Punchard terminates at Santa Rosa, on the Brazilian frontier, where it joins the Rio Grande railway system.

XXXII. The Upper Uruguay.

Concordia to Santo Tomé, 270 miles.

Passengers can make the round trip from Buenos Ayres to Santo Tomé and back in 8 days, but they may prefer to remain a week at Santo Tomé to visit the ruins of some of the surrounding Jesuit Missions. The East Argentine Railway at Concordia issues return tickets at Santo Tomé, good for 15 days, and allowing the traveller to break the journey at any point. The Company's steamer starts from Ceibo, the terminus (near Caseros) of the railway, and the fares include food, the "cuisine and accommodation being excellent.

If the traveller wish to see the falls above Concordia and many fine reaches of the river parallel with the East Argentine Railway, he must engage a skilful boatman either at Concordia or Salto, a man well recommended, and take with him some provisions and a waterproof sheet. The Salto Chico, 3 miles above Salto, is not a waterfall, but merely rapids caused by a ledge of rocks which runs across the river, some of which at times lift their black heads above water. It is not, however, uncommon for boatmen to find their way through these rapids, and ascend the river 12 miles higher to the Salto Grande, which may be considered a complete barrier unless in times of "crecientes," such as occur in September and October, when steamboats pass up and down without much risk.

At the Salto Grande the river is 1,100 yards wide. Along the left or E. bank are 3 islands, and just above the third a cordon of rocks starts from the E. side,

running nearly 900 yards across, and forcing a great portion of the stream to run close under the Entre Rios shore, which is composed of limestone cliffs covered with the bright scarlet flowers of ceibo. The principal fall is between the island already mentioned and the E. bank of terra firma, but never exceeds 7 feet in height, although the noise is heard 12 miles off, and sometimes in Salto and Concordia (15 miles). The deep-water channel on the river's right bank, that is the W. or Entre Rios side, has no falls at any time of year, but rapids, in which rocks are visible at low water; the boatmen say that by blasting some of these rocks a safe channel for small vessels coming down stream would exist at all seasons. It is certain that in 1680, at the demand of the King of Spain, the Jesuits sent down a flotilla carrying 1,200 warriors from Yapeyú to aid in the assault of Colonia. Sometimes, at high water, with a southerly wind sailing vessels pass upwards, by keeping close to the W. bank, but even in flood season the current here is very strong. About a mile below the fall the little river Gualeguaycito, on the W. side, pays its tribute of water to the Uruguay.

Immediately above the fall the river Itapeby, on the E. bank, debouches into the Uruguay, and about 3 miles higher we come to the Herrero rapids, where the rocks are so close that in seasons of low water it is possible to cross the river here by stepping from one to another. A similar ledge exists at the island of Ceibal, a short way higher, except that there is always room for a schooner between the island and the E. bank. We are now abreast of the Uruguayan town of Constitucion, the only station of any importance on the North-Western Uruguay Railway, between Salto

and Santa Rosa. Boats from Misiones usually discharge their cargoes here, which are conveyed downwards by rail to Salto.

Federacion, on the Entre Rios shore, owes its trade in like manner to the vessels from Upper Uruguay, which discharge their cargoes of yerba and lumber, to be conveyed by rail to Concordia, another ledge of rocks running here almost across the river, but leaving a channel free on the Oriental side. After this we enter on a broad, smooth stretch of water for 12 miles, all plain sailing till we reach the mouth of the Arapey, an important river of Banda Oriental, the Arapey hills and the Cerro Dayman adding to the beauty of the picture on the E. side.

From the mouth of the Arapey until we pass the village of Belen, E. side. there is a series of hidden rocks for fully 20 miles, which are known as St. Gregory's rapids, but offer no difficulty to navigation. The scenery at the Tacumbú islands is very pretty, and soon afterwards we get a view of Santa Rosa on the E., and Monte Caseros on the W. bank. The first-named town stands at the confluence of the Cuareim and Uruguay, close to the Brazilian frontier, the Cuareim being the extreme N. limit of the Republic of Uruguay.

Leaving Ceibo (99 miles from Concordia) in the afternoon the steamer reaches the Brazilian port of Uruguayana the same night. In this "trajet" we pass the mouth of the Correntino river Miriñay, which drains a portion of the great lake Iberá. Seals are very numerous here, and may always be heard snorting and grunting, as they fight their way up stream, when there is any indication of bad weather. Nothing can be more beautiful than the islands, covered with

fine timber and inhabited by Italian and other woodcutters. The river is more than 1,000 yards wide, and on the left bank is an island supporting a stone turret which was erected as a landmark at a time when the island was part of the mainland. We have to pass the San Pedro rapids before dark, but as the *Mensajero* draws only 3 feet laden, we have not much difficulty, although the water is often so low that the captain has to blow the whistle to make the cattle which are drinking get out of the way, to let the steamer pass. The Brazilian shore, E. side, is alive with carpinchos. Dusk falls before we get sight of Uruguayana: the moon is up, and we can see the fish jumping and splashing around the steamer. About 10 p.m. we anchor at Uruguayana, where the captain has to pay \$20 light dues every time he anchors in the port, although sometimes the Brazilians have no light.

At Uruguayana the river has a width of 2 miles. The Argentine or W. bank is covered with palm-groves; the Brazilian side has no palms, but dwarf woods enveloping hills down to the water's edge. The port of Uruguayana has a couple of small steamers and many sailing vessels, one of the former serving as a ferry-boat to Restauracion, formerly called Paso los Libres, on the Argentine side. The schooners and boats bring down vegetables, zapallos, mani, mandioca, etc., to the market of Uruguayana, which is a town of 4,000 inhabitants and much trade. It was founded in 1843, and rapidly rose to importance: when the Paraguayans captured it, in 1865, the population exceeded 10,000 souls. Some months afterwards the Paraguayans surrendered to the Brazilian army under the Emperor Dom Pedro, who found the place in ruins. When the river is low passengers are transhipped at

this place to a smaller steamer, the *Estella*, 20 tons, 20-horse power, drawing only 32 inches.

Restauracion (155 miles) is delightfully situated on the top of a hill in the midst of luxuriant vegetation. A few miles inland in a S.W. direction is the ruined mission of Sant Ana, one of the most fertile of the old Jesuit settlements. Here the great botanist Bompland spent the last 20 years of his life, having acclimatized numbers of strange plants, but after his death (1857) his garden was allowed to go to ruin. About an hour's ride N. of Restauracion is the battlefield of Yatay, where 3,000 Paraguayans, after a most heroic struggle, were cut to pieces by a large Brazilian army in 1866, the little river Yatay running purple with their blood. At times the steamer keeps close to the Argentine bank to avoid the full force of the current, or stops at one of the wooded islands to take in fuel, all these river steamers using wood instead of coal. Numerous rafts pass us, going down stream, laden with heavy timber from Misiones for the markets of Buenos Ayres and Montevideo. We coast along the Isla Grande, which is 10 miles in length, inhabited by Correntinos and Brazilians, who live together in harmony, without recognizing either Brazilian or Argentine authority. The Miriñay hills bound the view on the W. side.

Abreast of the mouth of the Ibicuy is the Argentine village of San Martin, better known by its old name of Yapeyú, which was for a long period the residence of the Jesuit authorities of Misiones. Amidst the ruins, masses of solid stone, is shown the house wherein was born General San Martin, the illustrious colleague of Bolivar in the War of Independence: a group of French colonists cultivate the vine and sugar-cane in the vic-

nity. In the middle of the Uruguay is an island which supports a few agricultural families. The Ibicuy is the most important affluent of the Uruguay, and was called the Guazú or great river in the time of the Jesuits; it drains a watershed of 18,000 square miles, and is navigable more than 100 miles from its mouth. Its floods affect the Uruguay more than those of any other tributary, and its ordinary volume of water is equal to that of the Thames. The mouth is narrow, owing to a sandbank, but extremely deep, and on the N. bank is a hamlet called Asunción, remnant of one of the missions founded on the eastern side of the Uruguay.

After passing the Ibicuy we enter upon a superbly beautiful part of the river, which forms here the Cancha de Santa Maria, a sheet of water 3 miles wide and 15 in length. The western bank is a succession of hill and dale, covered with orange-groves, until the eye rests northward on the lovely eminence crowned with palm-trees surrounding the chapel of La Cruz. War and desecration have spared this place, the only one of the ancient missions that remains intact. It was founded by the Jesuits in 1657, and is the most picturesque of all their settlements. Orange-groves continue till we reach the mouth of the Aguapey, the only river of any magnitude on the W. bank—that is, in Misiones proper. Wooded islands occur between La Cruz and this point, at one or other of which we stop to take in fuel. A few miles above the Aguapey is an insignificant hamlet, called Alvear, after the Argentine general who beat the Brazilians in the battle of Ituzaingó (1827).

Itaqui (210 miles), in front of Alvear, is the Brazilian head-quarters in the Upper Uruguay: here they have 2 monitors, 3 gunboats, a large arsenal, and a

considerable garrison. The town is neither so large nor so busy as Uruguayana, from which it is distant 55 miles, but it is a more valuable military position, the river being here so narrow that the batteries completely command all transit up or down. The Paraguayans made a descent on this place in 1865, defeated the Brazilian forces in a pitched battle, and captured the arsenal and shipping, in their march upon Uruguayana. The river is here very deep, never less than 23 feet even in dry seasons. There is a considerable trade in yerba-mate, and the inhabitants have well-built houses which cover the slope down to the river's side. In the vicinity there are excellent pastures, for which reason the Jesuits established here an important cattle estancia in the 17th century.

The Butuhy rapids, abreast of the mouth of a river of the same name, are formed by a ledge of rocks running 600 yards across the river from side to side, the depth of water over which rarely exceeds 3 feet: the current is so strong that, with full steam on, the vessel poises and trembles for a moment in crossing the "recife". Although this place is in nearly 29 degrees of S. lat., the vegetation of Misiones now becomes quite tropical, the trees on either bank assuming a great height. The river flows through a narrow rocky bed, and is very deep all the way to San Borja.

San Borja lies 3 miles inland from the river on the E. bank, and dates its origin from the Jesuits, who founded a cattle estancia and a little chapel on the spot where the town is built. On the Argentine bank stands the mission of Santo Tomé, one of the best known, this place having been for an interval the Jesuit capital: ever since the expulsion of the Order it has been the residence of an Intendente for all the

Misiones territory, and the present population is over 2,000 souls.

Santo Tomé enjoys a situation similar to that of La Cruz, crowning a hill over the river in the midst of verdant groves and thickets. We climb a steep ascent, sinking at every step into the sand: mud huts surrounded by orange, banana, and palm trees are inhabited by an indolent race of people, the women being the only workers. The Jesuit college and church, the latter 90 feet high, were pulled down a few years ago (1870), and sold by the authorities for building materials. On the site is a bell, dated 1688. The hotel is a thatched house of sun-dried bricks, with a billard-table. There are no vegetables, the inhabitants spending their time in gambling or looking for treasure among the ruins. As the Uruguay is narrow, it is subject here to sudden rises, as much as 7 feet in one night and 36 feet in 12 days, on which occasions you may see the snakes and iguanas taking refuge in the highest trees.

Santo Tomé (270 miles) is properly the highest navigable point of the Upper Uruguay, but there are some fine parts of the river, especially near San Xavier, of such marvellous beauty that the traveller will do well to hire horses and proceed by land to San Xavier, from which place he can return by canoe down stream.

Concepción is almost midway between Santo Tomé and San Xavier; the ruins, which are of cut stone, cover an area of 140 acres, but are overgrown with orange and palm trees, cactus, ferns, etc. It was one of the finest of the missions, and the Portuguese, by order of Marquis Pombal, were 30 days burning it. The church was not destroyed, the walls still standing: it is approached by 15 stone steps, 150 feet long

There are a few hundred inhabitants living in huts among the ruins, and from them the traveller will be able to procure horses to continue his journey northwards. This part of the Uruguay is very difficult even for canoes, owing to the Garruchos rapids, abreast of which an English company is growing sugar. Rice also gives excellent results, the crop averaging 80-fold. The woods about Concepción are dense, and in most directions impenetrable; they are not considered safe, having nearly as bad a reputation for "matreros" as the woods near Apostoles mission. The San Isidro rapids, 6 miles above Concepción, are dangerous, as well as those near the island of Santa Maria Mayor.

From Concepción to San Javier (26 miles) we cross 5 streams, which rise in the Sierra de Misiones and fall into the Uruguay; one of the largest is the Santa Maria, on the banks of which is the sugar-factory established in 1880 by Messrs. Morrish & Gelling, representatives of an English company, who have obtained a grant of 10 square leagues with frontage on the Uruguay from the mouth of the Santa Maria to that of the Itacuararé, and running back into the woods. All the inhabitants about here, mostly Brazilians, have small water-mills for grinding mandioca or yerba, and are very hospitable. The road is lined with thick woods, in which the oranges have gone wild. At the passes of the streams still exists the paving placed there by the Jesuits, to facilitate the passage for waggons.

Close to the ruins of San Javier is the house of D. Manuel Fraga, a Brazilian, whose hospitality to travellers makes us overlook the fact that his house is built of the Jesuit remains. The Uruguay is not visible

from San Javier, being distant about a mile; the new village consists of a dozen houses, and is the centre of a great trade in yerba-mate. It stands in an amphitheatre of wooded hills, the most conspicuous object being Cerro Monja, about 3 miles off, which rises to a great height. At the foot of the Cerro are a chapel and a holy well, frequented by pilgrims. Luxuriant olive-groves must be penetrated before we reach the Uruguay, which is here 400 yards wide.

There is a little colony of Italian wood-cutters about a mile N. of San Javier, who have canoes 30 feet long, made of a single trunk of timbó. A better class of canoe is made of cedar, 40 feet long, one of which can carry 4 tons of yerba. Sometimes these men take provisions for several months, and go up 100 miles to the Pepiry Guazú, where they make rafts of trunks of cedar, which they bind together by means of lianas, and launch them when the river rises, sweeping down with fearful velocity to Santo Tomé or Concordia, and guiding them with poles over the rapids. Near the mouth of the Pepiry Guazú there is a Brazilian garrison of 500 men, a kind of military colony. The woods N. of San Javier are full of howling monkeys, ant-eaters, pumas, tapirs and tigers.

The charge for a canoe down-stream from San Javier to San Isidro is \$9 gold; the scenery is superb, both banks being thickly wooded. The Brazilian shore is hilly, and the river 500 yards across, with islands at intervals. The rapids of Santa Maria are easy passed, but those of San Isidro are formed by a double reef, not to be attempted. Such is the current that a German was drowned here, in 1880, and his body was recovered 15 miles lower down. From San Isidro the traveller must return by land, 30 miles to Santo Tomé, from

which port the steamer sails every Friday morning, enabling him to reach Concordia by Saturday.

The distance from Concordia to San Javier is 322 miles.

XXXIII. Buenos Ayres to Cuyabá.

Distance 2,504 miles, time 20 days.

Steamers usually run twice a month from Montevideo and Buenos Ayres to Matto Grosso. The first that ever reached Cuyabá was the *Corxa*, Capt. David Bruce, in 1856. Three years later, Capt. Page, U.S.N., went up in the exploring steam-launch *Alpha*; and in 1862 Captain Bossi headed an expedition to explore the country between the river Paraguay and the tributaries of the Amazon, but the attempt proved unsuccessful.

The route is by the Paraná (Route 39) as far as Corrientes, 835 miles, which is exactly one-third of the journey. From Corrientes we coast the Chaco for 18 miles, passing some "obrajes" or wood-cutters' settlements. At Tres Bocas there is a magnificent sheet of water, caused by the confluence of the Paraná and Paraguay. The island of Cerrito, which has some strategic importance, is surmounted by the Argentine flag, but was formerly held by Paraguay. On old maps it is marked Atajo. There are a chapel, hospital, and other buildings: the interior is mostly swampy, but the banks are high, and upon them we see hundreds of crosses for Brazilian officers buried here during the war (1865-70). It was abreast of this island that the

Paraguayans boarded the Brazilian ironclads, but the Brazilians got under hatches and drove off the boarders by volleys of hot water. A little higher, on the E. bank, is Potrero Piris, where the Paraguayans (May 24, 1866) surprised the camp of the Allies and set it on fire. Every inch of ground from here to Curuzu and Curupaity is wet with the heroic blood of men defending their country. At Curupaity the Allies sustained such a defeat, September 8, 1866, that it put a stop to the campaign for 12 months.

Humayta (884 miles) is now a pile of ruins, on the E. bank: it was for 2 years the Acropolis of Paraguay, during which time it defied the land and sea forces of the invaders. Lopez had a chain across the river, but an unusually high flood enabled the Brazilian ironclads to pass upwards, in June 1868, which placed the Paraguayans between two fires, and some months later compelled them to retire to Angostura.

Villa Pilar (912 miles) was known as Nembucú in the time of Francia, who permitted merchants to trade here, but no strangers to penetrate any further into the country. Here Luke Cressol and some others who descended the Bermejo (1826) were detained for some years, before being sent into the interior. The mouth of the Bermejo is between this place and Humaytá, about 300 yards wide, thickly wooded, and famous for fish. At present Villa Pilar is a place of no importance: it stands a mile from the river, surrounded by orange-groves, and has a handsome church.

The Tibiquary (944 miles) falls into the Paraguay after a course of 400 miles, from the Yerbales or maté-fields of Misiones. It is navigable and traverses a rich territory: before the war (1864) Lopez had ordered two steamers from England, to trade on this river. Some

30 miles above the mouth of the Tibiquary, E. bank, we pass Villa Franca, a little village.

Villa Oliva (1,016 miles) is another village, with church and public schools. Here the steamers take beef and firewood. As we proceed northwards alligators are seen on the banks, some 8 feet long, basking motionless in the sun, and carpinchos in close proximity: these alligators live on fish and serpents.

Angostura (1,085 miles) is a narrow and difficult part of the river, where Colonel Thompson, with a small Paraguayan force, held at bay for some months all the land and water forces of the invading armies. A few miles higher is Villeta, where vessels may be seen taking in cargoes of oranges at all seasons of the year. The Paraguayan women, all in white, carry baskets of fruit on their heads: these women have a bearing and figure that Grecian sculptors would have taken for models.

Lambaré, clad in luxuriant foliage, rises 312 feet in the clear blue sky, as a sentinel to the city of Asunción. Here the first Spaniards landed, and here fell the gallant Cacique of the Guaranies, whose name is preserved by the peak that marks his grave; far nobler mausoleum than the pyramid of Cheops or the "mole of Hadrian!" Sebastian Cabot was so impressed by the heroism of Lambaré and his people, that after losing 28 of his followers he re-embarked and descended the river, leaving the conquest of Paraguay to his successor, Juan de Ayolas.

The Pilcomayo disembogues into the Paraguay on the opposite bank, and a little lower down is the new town of Formosa, built by the Argentine Government for the governor of the Chaco: a swampy place, full of mosquitoes. The Pilcomayo is a river of 1,500 miles,

rising near Chuquisaca in Bolivia: on its banks the French explorer Crevaux and his party were killed by Indians, in 1880.

Asunción (1,115 miles) is rising from its ruins, having been unnecessarily bombarded by the Brazilians in 1870. The beautiful palace built by Lopez has been repaired, and is now used for the Bank of Paraguay. The city was founded on August 15, 1536, and is 44 years older than Buenos Ayres. The surroundings are very picturesque, and full of tropical beauty. There is a good hotel, where horses may be procured for excursions in the suburbs. Dr. Stewart is British Consul.

As we ascend the river from Asunción the picture is one of great beauty, the city covering the same slope as it did 300 years ago, and not much changed since the days of Yrala and Antequera. About 30 miles higher, at the mouth of the Confuso, is Villa Occidental, the principal feature of which is Gebeler's saw-mill. This was the site of a French colony founded by Lopez in 1855, under the name of New Bordeaux, the fate of which was disastrous, some of the colonists perishing in the woods in a vain attempt to escape; the survivors were sent home to France. It is now mostly inhabited by Italian wood-cutters. The Peñon is a rock rising precipitously from the river, which Lopez had some idea of fortifying. From the mouth of the Peribeby to that of the Mandovirá, on the E. bank, was a large cattle estancia of Lopez, and another some miles further was known as Caraguatay.

Rosario (1,224 miles) is a ruined village near the mouth of a river choked with water-plants. Captain Page found here large quantities of Guyaba Blanca, a species of white wax deposited by ants and used for

making candles. The ruins are infested with tigers, the inhabitants having all perished in the war against Brazil. Some tame Indians frequent the Chaco, who live by fishing, and here begins a magnificent palm-forest, called Monte Lindo, which extends for some miles; the Paraguayan side is swampy. It is remarkable that here, as in the Uruguay, palms are never seen on both banks at once.

San Pedro (1,243 miles), at the mouth of the Jejuy, was a thriving town before the war, but is now only a hamlet. The Jejuy is one of the principal affluents of the Paraguay, rising in the Maracayú mountains, watering the country of the Cayngué Indians, and after a course of 100 miles falling into the Paraguay. For a time it was believed that gold existed in the Maracayú hills, and the late Colonel Wisner perished in an expedition to this purpose in 1877. From Asunción to San Pedro the Paraguay has an average depth of 45 feet, never less than 20 feet, and the width is commonly 1,200 yards, the banks seldom rising more than 15 feet.

Concepción (1,349 miles), at the mouth of the Ipané, is the third city of Paraguay, with 2,000 inhabitants. Before the war it was a place of great commerce, often exporting 3 million lbs. of yerba-maté in a season. The distance inland is 70 miles to the yerbales, which cover 4,800 square miles. We have not seen a house on the Chaco side since Villa Occidental, but at night may be seen groups of Indians dancing round huge fires.

San Salvador (1,422 miles), on a pleasant hill on the E. bank, is the last group of habitations in Paraguay, and here Dr. Stewart has a coffee-plantation. At the close of the war (1870) the only inhabitants left were

8 men and 12 women, when the Caduveos came down from Matto Grosso, killed the men, sacked the place, and carried off the women. A few miles below San Salvador we pass the mouth of a little river, called Aquidaban, on the bank of which were killed Lopez and his son Pancho, who refused to surrender to the Brazilians (March 1870).

Rio Apa (1,518 miles) is now the frontier of Paraguay and Brazil, but Francia and Lopez always claimed as far as Rio Branco, 80 miles higher. The military post formerly kept at the mouth of the Apa was known as Confluencia; it is now deserted, the Chaco on the opposite side being held by warlike Indian tribes. The scenery from San Salvador hither has been very fine, especially at Itapucú Guazú hill range, and at Cerros Morados, which latter take their name from the purple foliage with which they are covered.

Fecho dos Morros (1,588 miles), or "the mountain gate," is an island in mid-stream, which seems to bar further progress, rising to a height of 1,300 feet, clad in forest timber. There is a channel W. of the island, 140 yards wide. Nothing can surpass the splendid view at this point, Pan de Azucar overshadowing the river from a height of 1,350 feet, but it is a deadly place. The trees are called Barrigones or pot-bellied, from their dropsical appearance, and the same disease attacks any one who settles here: a garrison of Brazilians succumbed to it in 1871. A wooden cross marks the commander's grave, and we see also the charred remains of the barrack which the Indians burned. The silence and solitude of the spot are only broken by cries of toucans and other birds. A forest of palms on the Chaco side stretches away as far as the eye can reach. Four expeditions (1537—1548) from Paraguay set out

from Pan de Azucar to cross the Chaco to Peru, but the last under Irala was the only one that succeeded: this place was then known as Candelaria.

Fort Olympo (1,635 miles) stands on a hill of the same name, on the Chaco side, 45 feet over the river, which is here 600 yards wide. It was built by Charles III. in 1798, garrisoned by Francia in 1822, and afterwards seized in turns by Brazilians and Paraguayans, till in 1865 it was dismantled by Lopez, who pulled down the bastions and officers' quarters. The outer wall, 100 feet on each side, 14 feet high and $2\frac{1}{2}$ thick, is still almost perfect. There is a range of hills in the background, nearly 600 feet high, which command the position. A stone wall runs up the hill, to serve as a fence for keeping cattle near the fort, which is deserted, but claimed by both Brazil and Bolivia. The Rio Branco debouches on the opposite bank.

Plains of grass only a few feet above the river, succeed for many miles, till we see another palm-forest on our right, called Neboleque, in the province of Matto Grosso. Here the Caduveo Indians have their wigwams. They often barter cows or tiger-skins for brandy and shirts with passing steamers. They are a muscular, broad-chested, copper-coloured race, and such powerful swimmers that the captain has to put on full steam to prevent them from boarding us. In the deep and rapid current they plunge, dive, and wrestle for the biscuits and bottles of brandy thrown them from the steamer. Salt plains extend westward, and then a forest of quebracho. The banks of either side are hardly 6 feet over water. Colonel Paradise established a colony here in 1875, but was murdered by his servants, in returning to Bolivia, and the colonists were left to starve. They were rescued by Rocha Faria's steamer after

subsisting wholly on fish. Dorado, pacú, etc., are caught here, weighing 20 lbs.

The Oliden grant extends from this point (Bahia Negra) northward to $17^{\circ}45'$ S. latitude, covering 5,000 square miles, watered by the Otuquis. It was ceded in 1832 by the Bolivian Congress to Don Manuel Oliden, who founded the colony of Santiago, where some rice, coffee, and mandioca are cultivated, 110 miles N.W. of Corumbá. He sold his rights to Mr. Vernet, of Buenos Ayres, who failed to form a company in London to colonize the lands. Captain Greenleaf Cilley led an exploring party up the Otuquis in 1874, and after terrible privations safely returned.

Fort Coimbra (1,810 miles) stands in latitude $19^{\circ}55'43''$, and longitude $57^{\circ}52'32''$, on a hill of the same name, sloping to the river. The hills on either side of us are 450 feet high, and the spur on the W. bank, where the fort is built, rises 40 feet above the water. The Brazilian flag surmounts the batteries, embrasures with 12-pounders; some facing up, some down, the river, which is 600 yards wide. It is a quadrangle of solid stone, the upper part newly built, with officers' quarters two stories high, and outside the walls are numerous huts with women and children. Supplies are obtained from the village of Albuquerque or the neighbouring Indians. It is the first habitation that we have seen for nearly 700 miles on the W. bank since passing Villa Occidental. It was built in 1775, to curb the Guaycurús, but the latter surprised and killed all the garrison in 1778. The Bolivian frontier is supposed to come within 10 miles of the fort, but all the country, most of which is swampy, is held by the Guaycurú Indians, whom the Brazilian Government treats with every consideration. Barrigon trees covered many of

the hillsides, but have been for the most part cut down on account of their pernicious effect. One mile inland is a remarkable cave, having an area of 2,000 square feet, with stalactites and stalagmites like rows of sentinels, some of which when broken off weigh 250 lbs. The cave can only be entered by wading up to the knees in water. In a forest of aguaribay we hear the first singing-birds since we left Buenos Ayres, and passing a plain on which are some deer we reach the magnificent peak, Conselho, 1,500 feet, clad in a variety of rich timber. From here to Albuquerque the scenery is of the most superb character—*islands, forests, and mountains.*

Albuquerque (1,880 miles) is an old Indian mission, 2 miles from the river, on the W. bank. The people live in the utmost simplicity and happiness, surrounded by groves of fruit-trees, and cultivating mandioca and maize, besides which they have plenty of goats, pigs, and poultry. The sierra rises behind the village. The Taquary, a river 200 miles long, falls into the Paraguay, on the E. bank, a little higher up.

Curumbá (1,986 miles) comes in sight as we get abreast of the great Brazilian arsenal of Ladario, where 800 workmen are constantly employed. Batteries on the bluff are pointed east, north and south, for Curumbá is the converging point of 3 great highways, and a port of such trade that it is supposed the seat of government will soon be removed hither from Cuyabá. The traveller may proceed 300 miles further by the river Paraguay, due N. to Villa Maria, usually by canoe (the after-part covered with straw roof against the sun), and sometimes by light-draught steamer of Del Sar's *saladero*. He may go overland by mule to Bolivia, the nearest town being San José de Chiquitos, 280

miles, a journey of 14 days. Lastly, he may continue his voyage to the capital of Matto Grosso, by steamer, which takes from 8 to 10 days, according to depth of water. Curumbá is 70 feet over the river, covers much ground, and has some fine public buildings; population, 8,000 souls. Wooded hills come so close that tigers are often seen on the highway from here to Ladario. A hunter named Moreno has killed 193 tigers, the cattle-owners giving him a prize of \$5 per head, besides which he gets \$10 for the skin. A tiger weighs 200 lbs. An Italian named Colombo has a large model farm 12 miles from town. All vegetables are dear except maize and mandioca. Horses and mules may be bought for £25; oxen, £15 each, English sovereigns being much used. The shops, mostly kept by Strasburg Jews, are well stocked with European goods, by no means dear. There are many French and Italians, and the church is served by 3 Capuchin friars from Italy. The farmers round about are very wealthy, and cattle so abundant that they may be bought *al corte* for \$15; beef, however, sells at 10 cents per lb. Tame cows are often used instead of mules. The Chiquitos Indians trade here. One of their beautiful feather hammocks costs from \$300 to \$500! The traveller will find the motú and other beautiful birds for sale at reasonable prices. Although Curumbá (19° S. lat.) is farther from the equator than the capital, it is much hotter.

Leaving Curumbá we continue to ascend the Paraguay, passing some wooded hills on the Bolivian side, where the rocks almost meet over the river. After 10 hours' steaming we come in view of Cerros Dourados, a magnificent range of mountains, the upper parts bare, the lower covered with timber. Guato Indians live in the woods, and are seen fishing in their canoes: they

are quite friendly, and of admirable physique. The wife manages the canoe, while the man stands on the prow with arrow on bow-string ready to shoot the fish. The parents are copper-coloured, but the children are so fair that one would think they were stolen English children. The Guatos do not tattoo: they and the Guanás are the best of the Indian tribes in these waters.

Dourados (2,112 miles), where we see the remains of the old Brazilian arsenal, is now only a woodcutter's station, a dreadful place for mosquitoes and sand-flies. The arsenal was burnt by the Paraguayans in 1864. An old Scotchman, named Youle, lives 30 miles N. with his family. About 27 miles higher we leave the river Paraguay, after navigating it more than 1,000 miles, and enter the San Lorenzo, which is by no means so wide. The terrible Coroados, falsely accused of cannibalism, infest the banks on our right, but are rarely seen by day.

Bananal (2,174 miles) is a woodcutter's station, the last habitation before we enter the Coroado country. Here lives a planter named José Luis, who has two sons, lawyers at San Paulo. Shoals of alligators are on either bank, the country being low and swampy, but well-timbered: the payna is a tall tree covered with balls of white cotton as big as oranges, which serve to make pillows. Deserted huts are seen, whose inhabitants were killed by Coroados, near the Boca de San Juan, and from this point the San Lorenzo changes its name and becomes Rio Cuyabá.

Tres Hermanos (2,238 miles) is at a bend of the river, abreast of the village of Poconé, 35 miles W., all the country eastward being held by the Coroados. Here the Cuyabá is often so narrow that the trees strike us as we pass: the Formiguera is so called because

it is alive with ants, which rain upon us if by chance we touch it. Deer are plentiful, some white and as big as in Scotland; also tigers and monkeys, while the banks are covered with hundreds of alligators, up to 14 feet in length. Clouds of white birds may be seen on some trees, and at a distance it is hard to distinguish them from the Payna cotton-fruit. We meet at times "igarités", a species of covered canoe, descending the river with hides and other products to Curumbá, mostly owned by Italians.

The ruins of Melgasso are on the E. bank, the blackened rafters of the chapel being visible, and a few wooden crosses; the place was burnt a few years ago by the Coroados. Anthills are numerous, looking like stumps of trees. At last we reach the hut of Juan Agustin, a tiger-killer, the first habitation that we have met for 200 miles: tiger skins, \$5 each. A couple of miles further is the comfortable farm-house of Teobaldo, surrounded with sugar and tobacco fields, the latter resembling big cabbage. Fazendas now become frequent on both banks, sugar and tobacco being equally cultivated. We see negro children horribly swollen out from eating clay, which habit ultimately kills them. Dogs have an emaciated appearance from drinking the juice that flows from the sugar mills. Groves of imbauna and cajú shelter some of the farm-houses; the cajú or cashew is known in England, and Southey says it was picked up on the Cornwall coast before the discovery of America.

Itaicis (2,418 miles) is a dangerous reef, where the steam-launch sometimes has to transfer her passengers to an igarité. The fazendeiros or farmers have cattle and poultry, which they sell to passing vessels, living themselves chiefly on fish, fruit, and mandioca. They

use as remedy for ague a kind of chocolate-paste called Guaraná, prepared by Indians on the Amazon, the price of which is here \$10 per lb. The stream is so rapid that 8 strong zingadores (so called from the zinga, or pole) of the Guaná Indians cannot advance the igarité more than 2 miles an hour. There is a short cut through the woods to San Antonio, a walk of 6 miles, by which passengers avoid 8 hours of navigation.

San Antonio (2,472 miles) is not seen from the river, but a mountain of the same name which rises behind the town. Travellers usually stop and take siesta in hammocks at the hospitable fazenda of Senhor Pedro, close to the river, and wait till their boat arrives. There is a road overland to the capital (31 miles), and tame cows may be hired for riding, but on account of the heat the steam-launch or covered canoe is preferable.

Cuyabá (2,503 miles) is seen as we pass the mouth of the Coxipó. A signal by means of semaphore is communicated to the city and a gun announces the arrival of the monthly mail. The river is lined with neat farms and plantations, which supply the city with vegetables. Landing at the naval arsenal the traveller will find tame cows for riding, or may prefer to go afoot to the capital, which is 2 miles inland. Cuyabá was founded in 1722 by Portuguese gold-diggers, and after rain small nuggets are picked up in the streets. The streets are narrow and irregular, but the public buildings are fine, especially the cathedral and Government-house in the principal square; the bishop's college, which is a large three-storied building on a hill; and 4 parish churches. There are two printing-offices, several schools, commodious barracks, hospitals, etc., and a population of 16,000 souls. There is not an

idler or a mendicant in the city. The military arsenal has 300 orphan boys, who are taught various trades, under a colonel, assisted by Lieutenant Tapajoz: the naval arsenal has 80 boys. The bishop's college has two branches, one for clerical, the other for lay students, the latter having classes for French, English, and Portuguese. There is no hotel, but one or other of the merchants always invites strangers to his house. The exports amount to £120,000 per annum, including £15,000 of gold and diamonds. The return voyage from Cuyabá to Curumbá takes only 5 days.

PART III.

CITY OF BUENOS AYRES.

This is in many respects the most important city of the Southern hemisphere. In population it surpasses Rio Janeyro, Melbourne and Sydney, and in tonnage entries it compares with the great ports of Europe or North America.

	Population.	Tonnage entries.
Buenos Ayres.	535,100	3,750,000
Rio Janeyro.	420,000	1,800,000
Melbourne.	458,000	2,150,000
Sydney.	382,000	2,380,000

Buenos Ayres was founded on February 2nd 1535 by Pedro de Mendoza, who had a force of 14 vessels and 2,000 men. The site marked out by him was between the present Plaza Mayo and the church of Santo Domingo. Hostilities occurred between him and 3,000 Querandi Indians camped near the Riachuelo, while the garrison also suffered from hunger, and in two years his force was reduced to 500 men. Fresh supplies arrived from Spain in 1538, but in 1541 Irala, who had come down from Paraguay, removed the survivors to Asunción, having burnt the city founded by Mendoza.

The second foundation was made by Juan de Garay, on June 11th 1580, comprising 144 blocks, that is 16 parallel with the river and 9 in depth. This area seems to have comprised that portion of the city now extend-

ing from Calle Tucuman to Calle Comercio, and westward as far as Calle Cerrito. Each block was of the same size as at present 140×140 yards, say 4 acres English. In 1770 the city was divided into 6 parishes; Cathedral, San Nicolas, Piedad, Socorro, Monserrat and Concepcion, the population being then 20,000, including 1,500 Spaniards, 4,000 Creoles and the rest colored people, mostly slaves.

A map of the city at the time of the English invasion (1806) shews only 34 blocks fully built on; 7 on the north side of Plaza Victoria, 15 west and southwest, and 12 south. The church of San Miguel stood in the suburbs, and gardens existed in Calle Victoria and Calle Piedras, where the Scotch church now stands. The area and population of the city at various dates were as follows:—

Year.	Blocks.	Acres.	Population.	Per acre.
1608	250	1,000	2,000	2
1730	300	1,200	11,200	9
1779	435	1,740	24,200	14
1822	600	2,400	55,400	23
1853	810	3,240	91,500	28
1869	1,550	6,060	177,800	30
1892	2,400	9,600	535,100	55

The average increase of population yearly was 2 per cent from 1730 to 1853, but after the fall of Rosas it rose to 4 per cent, from 1853 to 1883, and in the last 9 years it has been 7 per cent. As regards density of population Buenos Ayres compares as follows with other cities:

Inhabitants per acre.					
Buenos Ayres.	55	Manchester.	85	Liverpool.	106
London.....	52	Paris.....	154	Vienna...	258
Edinburgh....	54	Berlin....	264	Rome....	341

The municipal area takes in not only the built portion but also the rural departments of Flores and Belgrano, thus covering altogether 45,200 acres. Its extreme length from E. to W. is 11 miles, and circumference 39 miles. Comparing this area with other cities we find:—

	Aeres.		Aeres.
Buenos Ayres.	45,200	Berlin	15,800
London	84,000	Dublin	4,200
Paris	19,500	Hamburg	2,900

If the population of Buenos Ayres were to go on increasing 7 per cent per annum it would be 2,200,000 in 1912, which is about that of Paris or New York at present. In other words the whole municipal area, as far as Floresta and Villa Devoto would be as thickly peopled as the 2,400 "cuadras" that are now built on.

The population of 1892 (compared from parentage of birth) compares with that of 1869 as follows:

	1869.	1892.	Increase.
Argentines	89,661	99,500	11 per cent.
Italians	41,957	224,800	433 »
Spaniards	13,998	68,500	390 »
French	13,402	23,000	61 »
British	3,081	9,100	195 »
Germans	2,039	7,500	275 »
Various	13,629	102,700	650 »
TOTAL	177,767	535,100	201 »

Some of the houses built in the 17th century by the early Spanish settlers are still standing, and easily distinguished by their tile roofs. Those built in the 18th century had flat roofs and no upper storey, which circumstance proved of great use to the citizens in their gallant resistance against the British invasion under Whitelocke in 1807. It was not till after the fall of General Rosas, in 1852, that houses of two or three storeys began to be built.

In 1887 the monthly rental of houses in currency dollars (worth 36 pence English) was as follows:

Per month.	Houses.	App. aggregate. \$
Not over 50\$..	15,262	450,000
50 to 100....	10,454	730,000
101 to 200....	4,878	680,000
201 to 300....	1,347	350,000
301 to 400....	597	210,000
over 400....	1,023	680,000
TOTAL....	33,561	3,100,000

This represented in English money £465,000 monthly, or nearly £5,600,000 per annum, which is equivalent (estimating rents at 8 per cent.) to a capital value of 70 millions sterling.

During the "boom" of 1889 the value of house-property was estimated at 422 millions of gold dollars, say £84,000,000 sterling, as follows:—

Class.	No.	Value. \$ gold.	Average. \$ gold.
1	11,400	249,000,000	21,700
2	12,500	118,000,000	9,400
3	13,400	55,500,000	4,100
	37,300	422,500,000	11,300

The real value, however, was hardly 60 per cent of the above figures, the sales of the last six years shewing the following averages:—

Years.-	Average per sq. metre	
	of 3 best parishes \$ gold.	of all 14 parishes \$ gold.
1886—87	76	31
1888—89	129	53
1890	79	34
1891	50	20

It would appear, therefore, that the present value does not exceed \$250,000,000 gold or 50 millions sterling.

The value as compared with population in Buenos Ayres and other cities shews as follows:—

\$ gold per inhabitant.			
Buenos Ayres...	465	New York....	930
London	756	Sydney.....	1,220
Paris.....	640	Melbourne....	1,050
Berlin.....	540	Liverpool....	505

In 1887 the houses of the city shewed as follows:—

Containing.	Houses.	Rooms.
Less than 6 rooms ...	14,714	52,543
6 to 10 » ...	11,393	86,227
11 to 15 » ...	3,338	42,392
16 to 20 » ...	2,288	26,326
over 20 » ...	1,828	53,970
TOTAL.....	33,561	261,458

This gives an average of nearly 8 rooms to each house.

The aggregate value of houses sold in 5 years ending December 1891 was \$394,200,000 gold, or £78,000,000 sterling. The buyers and sellers were:—

	Buyers \$ gold.	Sellers \$ gold.
Argentines.....	181,600,000	213,000,000
Italians.....	51,400,000	47,500,000
Spaniards.....	19,500,000	18,100,000
French.....	16,100,000	14,200,000
British.....	11,200,000	7,100,000
Germans.....	6,700,000	6,400,000
Companies.....	53,800,000	32,900,000
Various.....	53,900,000	55,000,000
TOTAL....	394,200,000	394,200,000

The number of house-owners compares with population thus:—

	Population.	House-owners.	Ratio.
Argentines.....	99,500	10,789	10.8
Italians.....	224,800	16,919	7.5
Spaniards.....	68,500	3,365	4.9
French.....	23,000	2,457	10.6
British.....	9,100	884	9.8
Germans.....	7,500	493	6.5
Various.....	102,700	8,138	7.9
TOTAL....	535,100	43,045	8.1

It appears that 8 per cent of the population are owners of house-property, and that Argentines, French and British shew even a higher ratio. Notwithstanding the extent of the city there are parts over-crowded, one-fifth of the population living in "conventillos" or tenement houses, which have nearly doubled in 7 years, viz:—

Year.	Conventillos.	Population.	Per house.
1883	1,868	64,200	35
1890	3,142	103,550	33

The death-rate in such houses is very high, and affects the health of the city.

There are 83 streets, of which 52 run from North to South, the others crossing at right angles: average length 3 miles. The appearance of the city is monotonous and dismal, the streets being only 40 feet wide, with high houses, each block or manzana covering an area of 4 acres, and the streets intersecting one another every 150 yards. The only street that has not changed its name since Garay's foundation is the Calle Piedad, and at the corner of this street and Florida may still be seen (May 1892) one of the tile-roofed houses built by Garay's companions. Another remarkable edifice is the old Custom House, on the beach, at the foot of Calle Belgrano.

The Cathedral stands on the site of a chapel built by Garay in 1580, in which were employed the first bricks made in the country. It was re-built in the following century, with two towers, but fell down in 1752, when the architect Rocha erected the present magnificent church, 315 feet long, 144 wide, and capable of holding 9,000 persons, having nearly half the superficial area of St. Paul's, London. The exterior has a portico of 12 Corinthian pillars, facing the grand square. The interior is stately, with 12 side altars: the high altar is under the dome, which rises to a high of 115 feet. In the right aisle is General San Martin's monument; in the left the entrance to the Chapter room, in which are the portraits of 15 bishops, from Dr. Carranza down to Dr. Escalada, the predecessor of the present prelate, Dr. Aneyros. The see was raised to an arch-bishopric in 1866. The Chapter consist of 9 Canons. Attached to the Cathedral is a spacious episcopal palace.

Santo Domingo, Calle Defensa, is not a parish church, but attached to a convent of friars. The Dominicans had a small chapel on this spot in 1591, which fell down in 1677. A church was then built, which had the same fate in 1751. In this last year arrived from Italy one Antonio Marsella who built this church and San Telmo. The former cost \$45,000, and has not since been altered, except that the western turret was erected in 1858. The convent was suppressed in 1823 by Rivadavia, but he permitted Father Burke and another old priest to remain as care-takers. General Beresford mentions that in his quality of prisoner (1806) he met with much kindness from Father Burke. The convent has 45 cells, a spacious library, and a refectory 60 feet in length. The church consists of three

naves, the central one 230 feet long by 33 wide. General Crawford surrendered here with 930 men, in 1807. Some cannon-balls thrown by the British fleet are still in the eastern turret.

San Francisco, Calle Defensa and Alsina, is also a conventual church. The Franciscans were in Buenos Ayres in 1589, and their convent was built on its present site in 1594. St. Francis Solano built a chapel adjoining the convent in 1604, and in the court-yard of the cloister is still shewn an orange-tree planted by the saint. The present church, however, was not begun until 1731, the architect being the Jesuit father, Andrea Blanqui; it was completed in 1783 (except the towers) at a cost of \$500,000, having been first opened to divine service in 1754. The viceroy ordered the works to be demolished in 1770, as dangerous to the public, but some abutments and additions were found sufficient. In 1807 the church suffered from the British troops, and an order was again issued to pull it down, but an able architect, named Tomas Toribio came up from Montevideo and made the edifice quite strong by means of iron clamps. The towers were erected in 1810 by Francisco Cañete: one of them had a six-hour clock, on which the time was reckoned as by the Arabs, from sunset to sunset, revolving 4 times in 24 hours; it was removed in 1865. In the portico of the church is a slab marking the grave (A.D. 1637) of Fray Gabriel Arregui and his brother Juan, both natives and Franciscans, who became successively bishops of Buenos Ayres. The interior is 286 feet long by 44 wide, and has 12 altars. The cloisters are spacious and imposing: the library has 7,000 volumes in seven different languages. On the north side of the convent is the chapel of San Roque.

The Merced or Our Lady of Mercy, Calle Cangallo and Reconquista, was built in 1768 for a convent of nuns. It has been frequented by Irish residents for 100 years. The first Irish priest recorded in Buenos Ayres was Father Machony (Mahony?) in 1740, who was rector of the Jesuits. The second was Father Burke, a Dominican, who came here in 1802 and died in 1828; he was succeeded by Father Moran, who died in 1830. The Irish mission was in charge of Father O'Gorman from 1830 till his death in 1847, and in the latter year arrived Father Anthony Fahy, who combined the energy of a statesman with the devotion of an apostle: he died of Yellow Fever in 1871.

San Ignacio, Calle Bolivar, is better known as the College church, having been attached to the old Jesuit college, which in the 17th and 18th centuries covered the whole of this block. The firsts Jesuits (Field and Ortega) came to the River Plate in 1591, but the College was not founded until 1608. The present church was built in 1724. The Jesuits were expelled by decree of the King of Spain in 1767, but were recalled in 1835. They were again banished in 1841, for refusing to hang up in the church the portrait of the tyrant Rosas. The church has 14 altars; it is 176 feet long by 72 wide.

Salvador, Calle Callao, is a stately church attached to the Jesuit college. The Fathers were allowed to return in 1862, and the church was built in 1872. A mob burned down the college in 1876, but it was at once rebuilt. The library was destroyed in the flames.

San Miguel, Calle Piedad and Suipacha, was built in 1727, after a great plague, with an orphanage attached for girls. This institution was founded by a wealthy merchant named Alonso Gonzalez, who became a priest

after his wife's death. He spent his fortune on the orphanage, and was succeeded by his son, also a priest, who died in 1801, as recorded in a slab on the right of the altar. The orphans were removed to the Merced convent in 1823.

San Juan, Calle Piedras, was built in 1749, and has a convent with 36 Capuchin nuns. The church is attended by French priests.

Monjas, Calle San Martin, takes its name from the Dominican nuns, whose convent is attached. They are called Catalinas, after St. Catherine of Sienna. The church and convent were built in 1744: there are 40 nuns, who follow an austere rule. General Auchmuty captured this convent with the 87th regiment in 1807, when the other points of Whitelocke's attack were unsuccessful.

Holy Cross church, Calle Caridad, is attached to the Passionist convent. This was founded in 1884 by Father Fidelis (Rev. Kent Stone), who is still Superior. The church, which is a beautiful specimen of Gothic architecture, was built by the Irish residents in 1891. Here are usually 4 Fathers, who attend to sick-calls in the city when sent for. The Order has a branch-house at Salto, province of Buenos Ayres, and is building another at Arroyo Luna, near Giles.

Redemptorist chapel, Plaza Libertad, is attached to a college kept by German priests, founded in 1878.

Irish Convent, Calle Rio Bamba, founded by Father Fahy in 1856, covers an area of two acres. It was turned into a hospital by the Sisters of Mercy during the great plague of 1871, after which the Lord Mayor and citizens of London sent the Sisters a donation of £22 for their self-devotion. The Sisters have an

orphanage of 120 Irish girls: annual expenditure £710 sterling, or nearly £6 per head. There are also convents of the Sacred Heart and the Sainte Union, composed mostly of Irish nuns, who have admirable schools for young ladies, at Palermo and Caballito.

Balvanera, Calle Piedad, is a new church of great dimensions. Attached to it is a large college, St. Joseph's, under the care of the Fathers of St. Vincent, for the education of boys.

Buenos Ayres is at present divided into 12 parishes, besides the suburbs of Flores and Belgrano, and counts 25 Catholic churches and 4 for Protestants.

The English church of St. John, in Calle 25 de Mayo, was built in 1831, on a site given by the Government. The trustees were Messrs. Barton, Downes, Gowland, Garratt, Hallett, Zimmermann, Harratt, Lord, Lamont, and Rev. John Armstrong. The last-named gentlemen came as chaplain, from Honduras, in 1825. The succession of clergymen has been:—

Rev. John Armstrong.....	1825—1839
Rev. Win. Armstrong.....	1839—1842
Rev. Barton Lodge.....	1842—1847
Rev. Martin Falkener.	1847—1853
Rev. Chubb Ford.....	1853—1870
Rev. Francis Smith.....	1871—1885
Rev. Lennox Robertson.....	1886—1888
Rev. Pelham Ogle.....	1888

The church holds 700 persons and has two pews, marked A. and B., for ship-captains. The school attached has 100 children.

The Scotch church, Calle Piedras, was built in 1829, at a cost of £7,000, and has seats for 300 persons. The school attached dates from 1842 and has over 100 children. The chaplains were:—

Rev. W. Brown, D. D.....	1827—1854
Rev. James Smith, D. D....	1854—1883
Rev. Martin Fleming A. M..	1883

As the number of the Scotch farmers increased, so did the Presbyterian community. A chapel was built at Jeppener, near Ranchos, in 1858, another near Chascomus in 1862. Services are also held at four suburbs on Sundays.

The American church, Calle Corrientes, attended by English and American Methodists, is a handsome structure, built in 1870. The clergymen in charge have been:—

Rev. Mr. Parvin.....	1824
Rev. Dr. Goodfellow..	1860
Rev. Mr. Jackson....	1883
Rev. Dr. Drees.....	1888

This church has a school attached, and gives fine concerts at intervals.

The German Lutheran church, in Calle Esmeralda, was built in 1847, architect Edward Taylor. It holds 300 persons and has a splendid choir.

There is no city in the world where people of different religions live in better harmony. Only 4 per cent. of the population are Protestants, the remainder being Roman Catholics, except a very small number of Greeks and Jews. The religion of the masses has, meantime, been undermined by the Civil Marriage law, 37 per cent. of persons married in 1891 dispensing with any religious ceremony.

There are 12 plazas or squares, varying in extent from 4 to 12 acres, viz:—

Plaza Mayo, formerly Victoria, covering 8 acres, has the Government House on the E. side; the Cathedral, episcopal palace and other buildings on the N. side,

and the Congress-hall on the South. The old Cabildo, built in 1711, stood on the W. side, but has been recently pulled down. The grand Boulevard Mayo starts from here, and is to be prolonged to the Boulevard Callao: it has already cost £2,000,000 sterling.

Plaza San Martin, formerly Retiro, at the north end of the city, covers 8 acres, tastefully laid out as a park, with General San Martin's equestrian statue in front of the barracks. The latter building was originally a depot, built by the English slave-merchants in 1703, who had a monopoly for the sale of negroes. Bull-fights were held in this square in the 18th century, and the bull-ring was pulled down in 1818. Criminals were executed here down to 1860. Some of the Consuls and merchant-princes of Buenos Ayres have splendid houses in this square.

Plaza Lavalle, formerly Parque (4 acres), is in front of the Artillery magazine, founded by Moreno in the War of Independence, in which are preserved some curious, old Spanish pieces of cannon. On the N. side in the year 1830 stood the Vauxhall Argentino, a pleasure-garden. The Plaza takes its name from a brave commander, whose statue is on a column in the centre.

Plaza Libertad (4 acres), formerly called Hueco de Doña Engracia, was laid out as a garden in 1862, and has a statue of Colonel Alsina.

Plaza Lorea, in the centre of the city, has a water-tank 100 feet high. It is called after Don Isidro Lorea and his wife, who were killed on this spot while defending the city, in the act of throwing hot water on General Whitelocke's troops, in 1807. The market on the E. side was opened by Mr. Lanus in 1884.

Plaza Belgrano (3 acres), formerly Monserrat, was the drill-ground for colored troops, under Puyrredon, who aided to defend the city against the British invasion.

Plaza 6th of June (12 acres) is near the Cinco Esquinas, beautifully planted and laid out, in the highest part of the city.

Plaza Once Setiembre (12 acres) is the extreme W. end. There was in olden times a beef-salting establishment here, called the Miserere, and on this spot White-locke made his head-quarters on the morning of his assault on the city, 5th July 1807. The principal wool-market of Buenos Ayres was established here in 1858, until removed to Barracas in 1880, when the grounds were made into a handsome park.

Plaza Independencia, formerly Concepcion, was the extreme S. end of the city only 50 years ago. It was entrenched and fortified in the defence of the city in 1859 against General Urquiza.

Plaza Constitucion (12 acres), in front of the Great Southern railway terminus, is another elegant park. It was used as a wool-market down to 1880.

Plaza Caridad (4 acres) is on the S.W. verge of the city, adjoining the terminus of the City of Buenos Ayres Tramway Co.

Plaza 29th December (12 acres) is the extreme south end: it is handsomely laid out, and on the N. side is the principal convent of the French Sisters of Charity.

There are some minor squares, such as the Plaza Carmen or Bola de Oro, at the crossing of the streets Cordoba and Rodriguez Peña; the Plaza Temple at the crossing of Viamonte and Suipacha, where the Spaniards had an establishment for testing the *temper* ("templé" in Spanish) of their swords; and the Plaza Andes in

Calle Balcarce, adjoining the old Custom-house of the Colonial epoch.

The city has also two promenades. The Paseo Julio, which runs along the beach from the Government house to the Retiro, was laid out by Governor Rosas in 1844 as an Alameda, and again tastefully adorned as a public garden in 1859, but it has since been cut up by the works of the Madero Docks. The Recoleta park, in front of the oldest city cemetery, covers the bluff that overlooks the Waterworks: it was laid out, by the Intendente Alvear, with consummate taste and regardless of expense, with grottoes, fountains, plantations, etc.

The total area of plazas and promenades in Buenos Ayres (exclusive of Palermo Park) is 120 acres, or an acre to 4500 inhabitants, but if Palermo be included the park area will be 960 acres, or an acre to 560 inhabitants. This compares with some other cities as follows:—

Inhabitants to one acre of park.

Buenos Ayres... 560	Dublin..... 175
Edinburgh..... 410	Glasgow..... 1,293
London.... 1,114	Liverpool..... 1,025

Palermo Park is the great suburban rendezvous of wealth, beauty and fashion on Sunday and Thursday afternoons, distant two miles on the N. side of the city. It was laid out by President Sarmiento in 1872, and has a fine avenue of palms, a zoological garden, etc. It is not uncommon to see 300 splendid carriages and 10,000 pedestrians, on a fine afternoon.

The public buildings of Buenos Ayres are more remarkable for show than solidity, if we except the churches and some of the foreign Banks. They are

mostly of brick and plaster. Nevertheless prodigious sums have been expended on them, as well as on private residences. It is estimated that in ten years ending 1890 a sum of £18,000,000 sterling has been spent in building, and this has been a principal cause of the crisis.

The Casa Rosada or Government House, not yet finished, has already cost £120,000 sterling. It was on this spot that Juan de Garay built his fort in 1580, which was removed in 1688 to make room for a solid structure, the cost of which was 150,000 Castilian crowns (say £30,000): it had accommodation for a garrison of 150 men, besides the Viceroy's family and suite. It was captured without firing a shot, by Beresford, on 27th June 1806, but recovered by Viceroy Liniers on August 12th, when the total English force, 1,200 officers and men, were made prisoners of war. The fort, as it was called, saw many changes in successive years. It was occupied by British, French and American marines in 1859. A part of the site was for some time used as a Custom-house, and afterwards as the General Post-office.

The University and the National College are in the block where the old Jesuit College was situated, in Calle Bolivar. Here Father Falkner spent some years and here, after the expulsion of the Jesuits, was confined and tortured the last of the Incas, Tupac Amaru. The State Library is also in this block, on the west side, as well as the Museum. The latter is rich in fossils and contains many collections of birds, butterflies, insects, coins and curiosities. Both the Library and Museum are open to the public, free.

The Mint is a handsome edifice, on the site of the old Barrack of the Negro Battalion, at the corner of

Defensa and Mexico. Professor Kyle is the Government assayer.

The Correo or General Post-Office is a rambling structure in Calle Moreno, which served as Government House until the erection of the Casa Rosada. The department is, meantime, admirably managed by Dr. Carlos Carles, the present Post-master General. The business has grown prodigiously, the number of letters received or delivered in Buenos Ayres having averaged in the last 5 years 22,300,000 against 195,000 in 1862. The total city traffic averages 40,200,000 per annum, between letters and papers, or 74 per inhabitant, against 40 in France and 61 in England. The ratio of dead-letters was 4 per thousand in the years 1888-90, but fell last year to $1\frac{1}{2}$ per thousand. The amount of money sent by post in 1891 was \$26,400,000 currency (£1,500,000), against \$3,100,000 in 1889.

The Bolsa or Exchange, was first called the Camuati or Bee-hive when established in Calle Cangallo: it was closed by Rosas in 1841. A handsome Exchange was built in Calle San Martin in 1861, but the number of members having risen to 2,500, the present superb building was erected in 1885. It has frontage on Plaza Mayo, the chief business entrance being in Calle Piedad. It has an area of 3,600 sq. yards, and receives daily telegrams from Europe. It was the theatre of much speculation during the disastrous years of inflation following on the Free-banking Law. The following is a table of Joint-stock companies launched in the last 10 years:—

Years.	\$ currency.	£ sterling.
1882—84.	30,700,000	= 6,100,000
1885—87	141,300,000	20,400,000
1888—89.	574,400,000	70,100,000
1890.	190,500,000	15,100,000
1891.	13,200,000	700,000
10 years.	<u>950,100,000</u>	<u>112,400,000</u>
Land Co's	165,800,000	= 19,700,000
Railways	151,000,000	17,700,000
Insurances.	138,900,000	15,700,000
Banks.	137,800,000	15,600,000
Sundries.	<u>356,600,000</u>	<u>43,700,000</u>
10 years.	<u>950,100,000</u>	<u>112,400,000</u>

It is believed that 90 per cent of the capital sunk in the above enterprises may be regarded as hopelessly lost. The shares of many have declined 99 per cent.

The Provincial Bank, Calle San Martin, built by Mr. Hunt in 1869, is a magnificent edifice, which cost £90,000, the principal hall being 120 feet long: this bank was founded in 1822, reformed in 1836 and again in 1853. It is now in liquidation.

The balance-sheet of this bank in March 1892 compared with March 1891, reducing all accounts to currency thus:—

	1891	1892
ASSETS:—	\$ currency.	\$ currency.
Bills	124,700,000	62,800,000
Bad debts.	41,400,000	71,300,000
Official do.	21,800,000	25,300,000
Sundries.	25,000,000	17,300,000
Cash.	6,900,000	2,100,000
TOTAL.	<u>219,800,000</u>	<u>178,800,000</u>
LIABILITIES:—		
Deposits.	118,500,000	81,600,000
Capital	44,500,000	72,200,000
Sundries.	56,800,000	25,000,000
TOTAL.	<u>219,800,000</u>	<u>178,800,000</u>

The capital may be considered figurative, as the cheques of depositors are selling (April 1892) at 60 per cent discount. The deposits in this bank in 1884 reached £13,500,000 sterling, or one-half those in the Bank of England. There were 24,000 depositors, of whom 40 per cent were Italians, 28 per cent Argentines, 12 per cent Spaniards, and 20 per cent made up of French, British, Germans etc.

The National Bank was opened in December 1891 in the premises which once formed the Colon Theatre. It has 44 branches, all over the Republic, its capital consisting of an advance of \$8,000,000 currency (say £450,000) from the Caja de Conversion. The balance-sheet of April 30th 1892 shewed thus:—

	Amount, \$ currency.	Number.
Depositors	23,100,000	2,749
Discounts	21,200,000	3,243

This bank has taken over the offices and some of the business of the late National Bank, which began in 1873 with a capital of £1,600,000, afterwards raised to £10,000,000, and was closed in April 1891, owing 70 millions to depositors.

The London and River Plate Bank was the first European joint-stock bank in this part of the world. It was opened in small rooms behind the Cathedral, and moved in 1867 to its present site, corner of Piedad and San Martin. The grand hall is 90 × 45 feet and 42 feet high. There is a hydraulic lift for lowering or raising bullion, the vaults being capacious: the strong-room is 48 × 12 feet. In June 1891 the bank purchased the Carabassa Bank at the opposite corner.

The English Bank of the River Plate is a simple, commodious structure in Calle Reconquista. There is a gorgeous edifice in front of the London Bank which was erected for the English Bank, but its failure in 1891 stopped the works.

The South American Bank, facing the Merced church, is a building of no pretensions, and the same may be said of the other new English banks, mostly in hired premises.

The Italian Bank, in the best style of architecture, in Calle Piedad, is one of the handsomest buildings in the city. There is another Italian Bank called Banco Nuevo Italiano, for which a superb edifice has been constructed in Plaza Mayo.

The Spanish Bank is a magnificent structure in Calle Reconquista. The *French* and the *German Oversea* banks are in the same street.

Congress-hall in Plaza Mayo was built in 1863, but is too small. Proposals were solicited in April 1889 to erect a new Hall in Calle Callao on a site of 8 acres at a cost of £1,200,000 sterling, exclusive of site or of ornamentation, but the crisis supervened.

Theatres. There are at present 26 theatres, but the number constantly varies, as the returns shew:—

	Theatres.	Spectators.
1887	35	1,506,000
1889	19	2,460,000
1891	26	929,000

The returns for 1891 shewed as follows:—

	Spectators.	Receipts, \$ currency.
Comedia	201,000	130,000
Pasatiempo	143,000	187,000
Politeama	101,000	124,000
Alhambra	85,000	59,000
Goldoni	74,000	80,000
San Martin	72,000	120,000
Doria	58,000	86,000
Nacional	35,000	110,000
Opera	30,000	166,000
Onrubia	25,000	46,000
16 others	96,000	78,000
TOTAL	920,000	1,186,000

Some of the foregoing, such as the Opera, Nacional, Onrubia and Politeama are spacious and magnificent houses. The San Martin was accidentally burnt last year. The Odeon is a handsome new theatre, built by Mr. Bieckert. The gross receipts of theatres in three cities compare thus:—

	£ sterling.	Per inhabitant shillings.
Buenos Ayres	67,000	2.5
London	1,450,000	7.0
Parls.	1,280,000	10.5

The average number of spectators in Buenos Ayres is 3,000 per night or one in 180 inhabitants. There are also two *Frontones* or ball-courts, the Euskara, covering 4 acres, in Calle Rioja, and another in Calle Cordoba: the stakes played for in 1891 amounted to \$5,330,000 currency or £300,000 sterling.

It is recorded that the first theatre in Buenos Ayres was built in 1778 by the Viceroy Vertiz on the site known as Rancheria, where the Central Market now stands. It was accidentally burnt a few years later by a rocket falling on the roof, which was of canes. In 1804 the Argentino was built, facing the Merced church, for 30 years this was the principal evening rendezvous.

In 1806 a small theatre stood on the Hueco de Animas, at the corner of Calle Reconquista and Plaza Mayo, and here the Viceroy Sobremonte was sitting with his family when the news reached him of Beresford's landing at Quilmes: it was enlarged by Rosas, who gave a grand ball here in 1851. Subsequently a joint-stock Co. bought and pulled down the old theatre, and on the same site erected in 1856 the magnificent Colon Opera-house, of which the architect was Mr. Charles Pellegrini, father of the actual President of the Republic. It held 3000 persons, but was afterwards converted into the National Bank, and is at present used for the offices of the new Argentine Bank. There was a theatre called Victoria, built in 1833 in the street of that name; when digging for foundations the workmen came on a trench full of the bones and uniforms of British soldiers killed in 1807. This theatre was pulled down in 1872.

Markets. There are 20 markets, and the returns for 1891 shew as follows, for consumption:—

Market.	Cattle No.	Sheep No.	Poultry No.	Vegetables tons.
Central.....	42,900	77,400	360,000	2,310
Plata.....	63,600	63,800	180,000	1,850
Modelo.....	31,100	21,400	103,000	11,330
Lorea.....	26,800	52,000	77,000	—
Rivadavia.....	20,900	29,900	62,000	250
Florida.....	16,600	33,300	121,000	1,410
Comercio.....	13,400	17,900	12,000	1,260
Independencia..	13,500	12,600	11,000	90
Garibaldi.....	19,400	17,500	23,000	530
Pilar.....	20,800	29,900	67,000	770
Libertad.....	16,000	63,600	44,000	1,210
S. Cristobal....	17,200	26,900	58,000	110
8 others.....	124,500	161,300	69,000	4,240
TOTAL...	426,700	607,500	1,187,000	25,360

The city also consumed 11,000 pigs, 590,000 brace of partridges, 30,000 rabbits, 1,600 tons of fish, 39,500,000 eggs, 700 tons cheese and butter, 9,800 tons fruit, and 32,000 tons flour. The consumption of meat at various dates was:—

	Tons.			Lbs. per inhabitant.		
	1822.	1854.	1891.	1822.	1854.	1891.
Beef.....	9,100	16,400	57,800	890	670	235
Mutton.....	620	820	7,850	60	33	33
Pork.....	190	700	1,310	18	28	6
TOTAL...	9,910	17,920	66,960	968	731	274

It is evident that there was a great waste of meat in 1822 and 1854. At present the consumption compares with other cities thus:—

Meat, lbs. per inhabitant.			
Buenos Ayres....	274	Munich.....	166
Paris.....	167	London....	128
Berlin.....	99	Dublin.....	60
Hamburg.....	92	Melbourne..	265
Montevideo.....	242	Rosario....	264

There were two markets in the time of the Spaniards: the Mercado Viejo, where the Central Market is now, in Calle Peru, and the Perdices or market for game on the site where stands General Belgrano's statue in Plaza Mayo. The Plata market was built in 1859, burnt in 1863, and afterwards rebuilt. The Comercio was built in 1862, the Lorea in 1864, the Independencia in 1866, the Florida in 1867, and the others later.

Clubs. There are 55 clubs. The first established in Buenos Ayres was the Sala de Comercio, opened in 1811 at the house of Doña Clara, widow of Captain Taylor, in Calle Tres Reyes, now Calle 25 de Mayo, where the

British merchants met daily. It was enlarged in 1822, under the direction of Mr. Love, who provided it with a library of 600 volumes, and still further improved it in 1829, with maps, telescopes, etc.; the members were 56 in number, and dined together 4 times a year at Faunch's hotel.

In 1841 Mr. Thomas Duguid founded the *Club de Residentes Estrangeros*, in Calle San Martin, being joined by the other merchants, who elected him first president; in 1880 the club was moved to its present commodious premises in Calle Victoria. The committee liberally allow visitors the use of the club for 3 months gratis, and tickets may be had from the manager.

The Progreso, the best native club, was founded after the fall of Rosas (1852) by Messrs. Alvear, Posadas, Elizalde, and Estrada; it has splendid apartments and is known for the most brilliant balls in South America. It admits foreign residents.

The Plata, founded in 1860, is another club of the best native society, and likewise admits foreigners; its balls are very splendid.

The Industrial Club, founded in 1875 by Messrs. Daumas, Schwarz, Gimenez, Godet, Alcantara, Berthe, Zamboni, Leroux, Sommer, Peck, Schlesinger, Cayol, etc., is simply a body of Protectionists, whose influence has sufficed to impose oppressive duties on European imports.

The English Literary Society, founded in 1876 by Rev. Dr. Smith, M. Forrester, Dr. Hiron, Messrs. Day and Martin, etc., has a library of 3,000 volumes, and gives dramatic entertainments and lectures; there are 350 members.

The *Argentine Geographical Society* meets at intervals, and publishes a journal of its labours, including recent explorations in Patagonia. Messrs. Francisco Moreno, Fontana and Ramon Lista have carried out important discoveries.

The *Rural Society*, founded in 1866, by Messrs. Newton, Martinez de Hoz, and Olivera, has 200 members, who meet at No. 35 Calle Perú, and have a fine library. Entrance \$20, subscription \$6 per annum. President, Leonardo Pereyra; Vice-Presidents, Mariano Acosta and Richard Newton; Secretary, Miguel Nazar; Treasurer, José Berdier.

There are 9 German clubs, the Germania, Turnverein, Vorwärts, Concordia, and 5 others, mostly of a musical, athletic, or philanthropical character.

The *Amateur Dramatic Club*, composed of British and American residents, gives admirable performances in English at intervals, for benefit of charitable institutions.

The *Ladies Club*, founded by Hon. Mrs. Pakenham in 1891, has commodious apartments at George Mercer's Restaurant, Calle Florida, and is a convenient rendezvous for ladies who come into town for shopping or visits. Entrance \$20, subscription \$5 currency per month.

Carriages. At the census of 1770 Buenos Ayres was found to have 16 carriages and 24,000 inhabitants. The returns of wheeled vehicles in late years shew thus:—

	1887.	1891.
Carriages.....	2,792	4,874
Hack do	265	360
Waggons	6,052	5,344
TOTAL	9,109	10,578

The fare for hack-coaches is 75 cents to any part of the city (say a shilling), or 1.50 per hour.

Municipality. The city is governed by an Intendente or mayor and a council of 31 members. It is proposed to build a fine town-hall; the present offices are in Calle Victoria. The official statement of finances is as follows:—

	Revenue. \$	Expenses. \$
1887	5,100,000	10,060,000
1888	5,050,000	14,780,000
1889	7,060,000	25,760,000
1890	6,860,000	11,950,000
1891	7,150,000	8,070,000
5 years . . .	31,220,000	70,620,000

It appears that expenditure in the last 5 years was much more than double the revenue: the deficit was almost 40 millions. The debt on Dec. 31st 1891, of the city, was:—

	\$ currency	£ sterling
London loan	—	2,000,000
Internal debt	49,750,000	= 2,700,000
Floating do	17,030,000	950,000
TOTAL		5,650,000

The *Policia* occupies a 'manzana' of 4 acres at the corner of Calles Moreno and Zeballos. It is a fine building and cost over £200,000 sterling. The Chief of Police, Dr. Daniel Donovan, is son of an Irish resident. The city is divided into 28 sections, each under a Commissary. The total police staff consists of 330 commissaries, inspectors, etc., and 3,045 policemen, including sergeants, in all 3,375, the annual expenditure being \$2,500,000 currency or £150,000 sterling, that is £45 per man, whereas the London force costs £97,

and the Paris £140, per man. The force compares in number with those cities thus:

	Police.	Population.	Ratio.
London.....	12,200	4,200,000	one in 350
Paris	8 300	2,400,000	» » 288
Buenos Ayres...	3,375	535,000	» » 160

The force in this city is relatively twice as numerous as in London. This is accounted for by the rapid increase of crime, as shewn by the following official statistics for the city:

	1881.	1886.	1891.
Murders	22	37	69
Assault.....	476	686	1,492
Robbery.....	1,123	1,105	2,600
Sundries.....	145	139	507
TOTAL....	1,766	1,967	4,668

Assault, of course, included cases of stabbing, many of which proved fatal, as the bills of mortality last year shewed 899 from "wounds". If we take the cases of murder and assault, and those of robbery, they will result, compared with population, thus:

	Per 10,000 pop.		
	1881.	1886.	1891.
Murder etc.....	16	18	29
Robbery.....	37	28	49
TOTAL.....	53	46	78

The weapons employed by criminals in the murders and assaults of the last 6 years were:—

Fire-arms.....	796
Knife.....	2,793
Various.....	2,313
TOTAL.....	5,902

The nationality of arrested criminals in 1891 compares with 1882 as follows:—

	1882.	1891.	Increase.
Argentines	526	1,405	879
Italians	394	1,370	976
Spaniards	166	840	674
French	61	296	235
Germans	—	57	57
British	12	39	27
Various	114	337	223
TOTAL	1,273	4,344	3,071

The number increased 250 per cent. in 9 years. The ages of the criminals compared thus:—

Age.	1882.	1891.	Increase.
Under 20	267	1,008	741
20—50	959	3,224	2,265
Over 50	47	112	65
TOTAL	1,273	4,344	3,071

The sex and condition of arrested criminals shewed thus:—

Men.	1882.	1891.	Increase.
Married	296	1,150	854
Unmarried	925	3,000	2,075
TOTAL	1,221	4,150	2,929
Women.			
Married	22	85	63
Unmarried	30	109	79
TOTAL	52	194	142
GRAND TOTAL	1,273	4,344	3,071

Arrests for drunkenness happily shew a great decline in the last 4 years, viz:—

	1887.	1891.
Argentines	14,255	5,105
Italians	16,923	6,143
Spaniards	6,463	3,078
French	3,558	1,586
British	2,968	1,452
Germans	571	352
Various	4,971	2,142
TOTAL	49,679	19,858

It is very remarkable that while drunkenness has declined 60 per cent. in 4 years, crime has increased 150 per cent., viz:—

	1887.	1891.
Crimes.....	1,876	4,688
Arrested criminals....	1,569	4,344

This seems to shew that, at least in this country, intemperance has no relation with crime.

Buenos Ayres has two prisons, the *Penitentiary*, which is situated near Palermo and contains 938. and the *Correctional* prison which had last December 82. criminals. The aggregate of the same shewed thus in December 1891:—

Crime.	Inmates.
Murder.....	154
Robbery etc.....	866
TOTAL.....	1,020

The police statistics shew the amount of property stolen thus:—

	Stolen. \$	Recovered. \$ currency
1883	120,000	19,000
1887	284,000	40,000
1891	1,474,000	234,000

The *Fire-Brigade* has its head-quarters in Calle Belgrano and comprises 505 men, in 7 companies, including 28 officers. It has a good supply of engines and horses, and a floating battery, The annual expenditure is \$400,000 currency or £25,000, that is £50 a man.

The force compares with other cities as follows:—

	Men.	Do. per 100,000 pop.
Buenos Ayres.....	505	94
London.....	707	17
Paris.....	1,500	60
Hamburg.....	790	263
New York....	690	43

During 6 years ending 1891 the average value of property destroyed by fire was \$3,600,000 per annum, say £250,000 sterling. and of this amount nearly 10 per cent was covered by insurance.

Vaccination Department, in Calle Moreno, was established by Dr. Saturnino Segurola in 1813. It appears, however, that Dr. Michael O'Gorman vaccinated 200 children at the Fort as early as August 1805, under the Spanish regime. A decree was issued by Rivadavia in 1823 making it compulsory to vaccinate infants within 4 months after birth, and in two years following the number of vaccinations averaged 1,590 per annum, which was equal to 90 per cent. of births. In later years the number declined; for example from 1854 to 1858 it averaged only 1,100 yearly. The latest returns of this department compare with the number of births as follows:—

	Births.	Vaccinations.
1887	15,939	2,069
1888	19,119	661
1889	22,044	9,342
1890	23,020	20,109
1891	24,591	9,198

Even if we add 50 per cent for infants vaccinated in their homes it will be seen that nearly half the children go unvaccinated, which accounts for the heavy small-pox mortality.

Hospitals. There are 15 hospitals, and the aggregate returns for five years ending December 1891 shewed as follows:—

	Admitted.	Died.	Death-rate.
San Roque.	18,344	2,128	11.6
Italian.....	8,886	771	8.7
Clinical	8,533	860	10.1
Rawson.....	7,814	1,336	17.1
Rivadavia.....	7,776	960	12.3
Infectious	6,913	2,118	30.7
Spanish	5,091	608	11.9
Military	4,122	282	6.9
British..	3,727	253	6.8
German	3,524	201	5.7
French.....	3,349	393	11.7
Incurable.....	2,161	343	16.0
Children's.....	2,140	345	16.0
Venereal.....	2,302	59	2.5
TOTAL.....	84,682	10,656	12.6

The German and British Hospitals have the lowest death-rates.

St. Martin's Hospital for men was founded in 1611, on the bluff at Calle Comercio, adjacent to the church of San Telmo. It was maintained by the Cabildo until 1748, when the Bethlehemite monks took charge of it, and at their suppression, in 1823, it passed into the hands of Government. Rosas allowed it a subsidy of \$12,000 yearly, and in 1848 handed it over to the Damas de Beneficencia. After his fall the Municipality took it in charge and enlarged it. In 1866 it had 350 beds and received 4,000 patients yearly, who were attended to by 20 French Sisters of Charity and a large staff of doctors and assistants, the annual expenditure averaging \$80,000 gold, or \$20 per patient: the death-rate was 11 per cent. The patients averaged 42 per cent. Argentines and 58 per cent. Europeans. In the Cholera of 1867 this hospital was found too small for the needs of the city, and that of San Roque was established. The old Hospital was closed in 1883, and pulled down in 1885 after an existence of 300 years.

The *Women's Hospital*, under the patronage of St. Michael, was founded in 1743 by Father Juan Alonzo Gonsalez (the same who founded the Girls' Orphanage at San Miguel) with accommodation for 10 patients, in Calle Esmeralda. It was enlarged in 1784, and again in 1823 by the Damas de Beneficencia. The Municipality brought out 14 nuns (Daughters of Mary) from Italy in 1859 (the same order that has charge of the Caridad Hospital at Montevideo). Before its removal to the new building in Calle Santa Fé, in 1886, it had 200 beds and admitted yearly 1,100 patients, of whom 21 per cent died.

San Roque, now the foremost hospital in the city, admitting 3,200 patients yearly, was founded in 1867 for Cholera patients, the site being then two miles from town. It stands in Calle Caridad, with a frontage of 300 feet, covering with the grounds an area of 7 acres. It is one of the highest points of the city, 90 feet over sea-level. In 15 years down to 1882 it was used only for epidemics or contagious diseases, and more than 9,000 patients were received in that period. At first it had only 40 beds, but in 1874 the present building was commenced at an estimated cost of \$7,000,000 old currency (£60,000 stg.) and it was completed August 12th 1883, with accommodation for 200 patients. In 1886 a furnace for cremation was established. During the year 1888 no fewer than 4,530 patients were admitted, besides 3,000 out-door, but this was the largest number on record. There are 340 beds, and in 9 years ending December 1891 the number of patients admitted was 27,000. The actual staff, between Doctors, Sisters of Charity and servants is 82 persons. Annual expenditure \$132,000 currency or £7,500 stg., the cost of each bed being \$1.80 cents. or two shillings

daily. The medical staff considers that the death-rate would be lower if the hospital had proper drainage.

The *Rivadavia* Hospital was built in 1885 for women, in various separate sections, surrounded by gardens. It is on the right of the high-road to Belgrano, and has 260 beds.

The *Clinical* hospital, in Calle Cordoba, near Dr. Leslie's old quinta, is considered the finest in Buenos Ayres. It stands on an area of 5 acres, and is built in distinct sections or pavilions. It admits men, women and children to the number of 1,900 yearly, and has 320 beds.

The *Rawson*, in Calle Caseros, is called after the high-minded statesman and physician who flourished in Buenos Ayres from 1860 to 1880. It stands on 13 acres, and admits 2,000 patients yearly. The death-rate is the highest of all. There are 210 beds.

St. Luis's Hospital is for children, and was established in 1874 near the Cinco Esquinas. It receives 400 in-door patients yearly, having 80 beds, besides relieving a large number out-door.

The *Incurable* is in Calle Comercio, close to San Telmo; it has 100 beds and admits over 400 patients yearly, of whom 16 per cent die.

The *Military* is a new and admirable building in Calle Pozos at the S.W. extremity of the city, standing on 13 acres, and provided with everything that medical science suggests. It has 250 beds and receives over 1,200 soldiers yearly, or nearly 20 per cent of the effective strength of the Argentine army. Death-rate very low.

The *Venercal* was established in 1889 with 100 beds, and receives 800 patients yearly.

The *Lazzaretto* or Casa de Aislamiento was founded in December 1882 at the Leslie Quinta, Calle Paraguay, with room for 40 patients, but in 1883 no fewer than 93 persons from small-pox were crowded in it at one time. This caused heavy mortality, and again in 1885 it was so densely packed that whole wards of sick people died in 24 hours. Hospital gangrene carried off great numbers. In 1886 the Lazzaretto was removed to Calle Caseros, corner of Pasco. It stands on 20 acres, one of the highest points of the city, and comprises 9 pavilions with 200 beds, for persons suffering from yellow fever, cholera, small-pox, leprosy, diphtheria or other contagious disorder. There are three classes of patients: those in private rooms pay \$6 (say 8 shillings) a day: those in the general ward \$30 for the whole time of their stay; and the paupers, who pay nothing. The returns for 9 years shew thus in the aggregate:—

	Patients.
Small-pox	4,016
Measles	1,202
Cholera	1,015
Typhoid	933
Diphtheria.....	637
Sundries	1,387
TOTAL.....	9,190

The largest number of patients was in 1890, when 2,323 were admitted, including 1330 for small-pox. A Crematory is attached, in which 7,400 corpses were consumed in 5 years ending December 1891.

The *British Hospital* was founded in 1844 by Rev. Barton Lodge and others, in a small house in Calle Independencia. A regular hospital was built at Horn's Hill, Calle Defensa, in 1859, which cost £3,000, the British Government paying half; this was sold in 1885.

and a new hospital erected in Calle Caseros, corner of Solis. It contains 50 beds and is a handsome and commodious structure, standing on two acres, including the garden. The committee includes the British Consul the Anglican and Presbyterian chaplains, and the Prior of the Passionist convent. The report for 1891 shews as follows:—

	\$ gold
Income	27,924
Expenditure	<u>25,488</u>
SURPLUS	2,436

The expenditure per patient was about \$4 currency or 5 shillings daily. There were 624 admitted, of whom 57 died, being 9 per cent: there were 162 paying patients, for whom the charge is \$10 or 12 shillings daily. Of the remainder 153 were seamen, for whom the shipping pays. The creed and nationality of patients shewed as follows:—

Anglicans	271	British	495
R. Catholics	209	Americans	23
Presbyterians	62	Italians	19
Various	<u>82</u>	Various	<u>87</u>
TOTAL	624		624

The hospital has received several legacies and endowments, the interest on which in 1891 amounted to \$690 currency or £40 sterling. The income in 1891 was made up thus:—

	\$ gold
Subscriptions	14,515
Shipping dues	2,580
Patients fees	11,620
Sundries	<u>209</u>
TOTAL	27,924

Expenditure comprised \$11,200 gold for provisions, and \$14,288 for salaries, drugs and sundries.

The *Italian Hospital*, Calle Bolivar, was begun by Count Cerutti, Sardinian Minister, and other Italian residents in 1858, and opened in 1862. The solemn inauguration by the Pope's Nuncio took place on 27th December 1863, in presence of President Mitre and Archbishop Escalada. It is a fine and spacious structure, with 220 beds: in the court is a statue of Charity, of Carrara marble. It covers 2 acres and is in charge of Italian nuns. The committee consists of the Italian Consul and 100 merchants.

The *French Hospital* was opened in 1862 close to Plaza Libertad, under the care of 4 Sisters of Charity, with 35 beds. During the cholera of 1867 the Sisters experienced such hardship that the Rev. Mother died. During the Paraguayan war more sisters were brought out from France, who took charge of the military hospitals at Corrientes. The new French hospital, built in 1886, covers a block of 4 acres in Calle Rioja and has 90 beds. The committee expelled the Sisters, who had rendered such splendid services during 20 years.

The *Spanish Hospital*, covering a block of 4 acres in Calle Belgrano, was opened in 1877. It has 120 beds and receives 1,400 patients yearly. The chapel is very handsome.

The *German Hospital*, built in 1878, stands on 5 acres, with separate pavilions, being the first built on this principle. It has 50 beds and receives 900 patients yearly.

The foregoing 15 hospitals in 1891 received the following patients:—

Wounds and fractures ..	1,147
Venereal.....	1,207
Child-birth.....	703
Phthisis.....	701
Rheumatism.....	389
Various.....	12,713
TOTAL.....	16,860

Of the above number 2,038 died, say 12 per cent, against 8 per cent in England and 10 per cent in France. The returns were made up thus:—

	Admitted.	Died.	Death-rate.
Argentines.....	4,862	664	13.7
Europeans.....	11,998	1,374	11.5
TOTAL.....	16,860	2,038	12.0

Hospital accommodation compares with the same in other cities thus:—

	Beds.	Do. per 10,000 pop.
Buenos Ayres.....	2,100	40
London.....	7,100	18
Paris.....	9,000	41
Rome.....	1,500	48

The maintenance of the 15 hospitals in Buenos Ayres costs about \$2,500,000 currency or £150,000 sterling per annum, say £9 per patient. Each foreign community maintains its own hospital, the rest being supported out of the public revenues.

The *Convalecencia* or Lunatic Asylum was founded by Bethlehemite monks in the 18th century. It stands on a hill, in Calle Salta, overlooking Barracas. Pillado mentions that in 1785 there were only 7 lunatics in Buenos Ayres. A large building was erected in 1859 at a cost of 100,000 gold dollars, to accommodate 400 patients, the women being under charge of Italian nuns. In 1865 the annual expenses were 35,000 gold dollars or £7,000, say £18 per patient. The returns for the last 5 years shewed thus:—

	Inmates.	Died.	Death-rate.
1887	1,094	123	11.2
1888	1,267	188	14.9
1889	1,417	296	20.9
1890	1,337	225	16.9
1891	1,261	237	18.8

The returns for 1891 shew as follows:—

	Inmates.	Died.	Death-rate.
Men	706	161	22.8
Women	555	76	13.7
TOTAL	1,261	237	18.8

As this is the only Lunatic Asylum in the republic the above figures of insanity correspond to at least half the total population, say 2,000,000. Argentina therefore compares as regards insanity with other countries thus:—

Insane per million.			
Argentina	630	France	2,520
England	2,792	Italy	1,710
Scotland	2,580	Norway	4,085
Ireland	3,680	U States	3,310

The death-rate among insane is very high in Buenos Ayres, say 19 per cent yearly, against 10 per cent in England, 8 per cent in Ireland, 10 per cent in U. States and 15 per cent in France.

There are 20 asylums for orphans or indigent persons, and the number of inmates and the death-rate in each year shewed thus:—

	Inmates.	Deaths.	Death-rate.
1887	4,624	570	12.4
1888	5,063	473	9.3
1889	3,844	1,173	30.4
1890	3,596	815	22.6
1891	4,010	685	17.1
	21,137	3,715	17.7

The returns for 1891 shew as follows:

Asylum.	Inmates.	Died.
Foundlings.....	1,627	550
Immigration.....	535	17
Mendigos.....	489	114
Girl's Orphanage.....	243	2
Boy's do.....	386	1
Irish Orphans.....	140	0
French ».....	66	0
Various.....	524	2
TOTAL.....	4,010	685

In the preceding table the number of inmates is that which existed on December 31st., which is very different from the number admitted.

The *Cuna* or Foundling Asylum was founded by Don José Riglos and the Viceroy Vertis in 1779 close to San Francisco church, with the inscription "God's pity has sheltered us": it has been a preventative against infanticide. It is under the charge of Italian nuns, who have a staff of wet and dry nurses always on hand. When weaned the children are sent to the grand Infants' Asylum in Calle Buen Orden, overlooking Barracas. The parents may claim a child up to two years, but after that age it becomes a ward of court, under the Judge of Minors. In spite of every care one-fourth of the infants die: the returns for 1891 were:—

No. on January 1st.....	1,638
Admitted during year.....	847
Withdrawn » ».....	308
Died.....	550
No. on Dec. 31st.....	1,627

The *Immigrants Asylum*, at the Retiro station received last year 16,600 new-comers, of whom 17 died. This is a Government institution, and, unless in periods of over-crowding the inmates are well fed and treated:

they are kept here free of charge until the Labor Office finds them employment, when they are sent to whatever part of the republic, with their baggage, without any expense. In 1824 the merchants of Buenos Ayres formed a committee to take care of immigrants, which was remodelled in 1853, but its functions were assumed by Government in 1860.

The *Mendigós* or Mendicants' Asylum occupies the extinct convent of Recoleta or Bethlehemite friars, on a bluff overlooking the Waterworks. The site was bought by the friars, in the 17th century, for a suit of clothes, and when the order was suppressed in 1823 the Government seized the convent and made the garden into a city cemetery. Forty years ago there were no poor in Buenos Ayres except a few aged persons who wore a police medal and made their rounds on horseback every Saturday, when they were presented with a copper coin or sent away with the remark "Pardon me, brother, for giving you nothing". In 1858 the Municipality converted the convent into a Poor Asylum, under the care of Sisters of Charity, to receive 80 old men and women, who were well fed, well clothed and allowed a sum weekly for tobacco or sweetmeats. The number rose to 200 in 1866, and at present it holds 490. The returns for 1891 shew:—

No. on 1st January	481
Admitted during year	259
Died	114
Retired	137
No. on 31st December	489

The great majority were Europeans.

The *Asilo de Huerfanos*, in Calle Jujuy, covers an area of 4 acres. It was founded after the plague of 1871, when hundreds of boys were left homeless orphans.

It has a frontage of 300 feet, and is built in Italian style. At first it admitted 200 destitute boys, regardless of nationality, but now it holds 430. There was, some years ago, a serious outbreak of ophthalmia. Mr. John Denby (Duguid & Co.) left all his fortune of £15,000 to this asylum. There were 486 boys on the rolls last year, including 99 put out to trades. Only one death was recorded, but most of the asylums send their sick to the city hospitals, and hence the apparent number of deaths in any of these orphanages signifies nothing.

The *Merced Asylum* for little girls was founded in 1727 by Father Alonzo Gonzalez adjacent to San Miguel church. It was just after the terrible plague of that year, when (for want of grave-diggers) the corpses of the victims were lassoed and dragged to pits outside the city. Gonzalez had been a merchant, but devoted his whole fortune to the orphans. He was seconded by the Jesuits, who possessed the only printing-press in S. America and generously gave the proceeds of same each year to support the orphans. In 1825 Rivadavia removed the institution to the Merced. In 1891 it counted 243 little girls.

The *Servants of Jesus* is the name of a similar institution under the care of Italian nuns in Calle Independencia, covering an area of two acres. It had last year 160 little girls. There is also another asylum called Del Pino, which contains 72 girls.

The *Irish Girls' Orphanage* is in the Mercy Convent, Calle Rio Bamba, which was founded by Canon Fahy in 1856. At first the number was limited to 15, but in 1891 there were 110 orphans, maintained by the Irish Catholic Association and educated by the Sisters of Mercy. Average expenditure £6 per head yearly,

there being no wages or salaries and no charge for rent. There is a neat chapel.

The *Boys' Orphanage*, founded by a committee of Irish ladies on May 19th 1891. The foundation, was in great measure due to the efforts of Mr. John Alsina, Comm. Gen. of Immigration, who secured for it a Government subsidy of \$4,000 or £250 yearly. The committee elected Mrs. Michael Mulhall president, and installed the orphanage at 146 Calle Segunda Cochabamba, adjacent to the college of the Lazarist Fathers, who educate and feed the boys, at \$50 gold per annum, say £10 each. The number of orphans in the school varies from 30 to 33, but the Committee has resolved to take a house adjoining and enlarge the institution. The total expenses for the 12 months were \$10,500 currency (including \$1,500 for furniture and installation): balance of cash in bank \$4,400 or £250 sterling.

The *Invalidos* for old soldiers has 75 beds, the *French Orphanage* 70, the *Misericordia* asylum 130.

There are two asylums for destitute boys at Flores and Belgrano, the former holding 75, the latter 25, children, who are taught trades. There are, moreover, in three different parts of the city *Mothers' Homes*, which received last year 1,511 children, of whom 20 died. Besides the foregoing asylums the Salvation Army Refuge received 8,633 destitute persons, and the Newspaper Boys' Refuge 8,990 boys, in the half-year ending December 31st 1891.

Although not strictly a charitable institution it is proper to mention here the admirable school of Don Bosco at San Carlos, with 280 boys, who are taught all kinds of trades, the friends or parents usually paying \$160 or £10 a year. The establishment has steam-power and electric light, and covers 4 acres. It has a

country-house near Quilmes. The order is correctly known as the Salesian Fathers, who have large schools also at San Nicolas and Patagones.

Vital Statistics. The population of the city increases very rapidly: thus we find in a term of 4 years down to December 1891 there was an increase of 23 per cent, say 101,700 souls as follows:—

Births over deaths.....	33,600
Immigration.....	68,100
TOTAL.....	101,700

Although two-thirds of the increase was due to immigration the surplus of births over deaths was also very great. The following table shews the average annual rates per 1,000 of population in 4 years ending 1890:—
Per 1,000 inhabitants yearly.

	Births.	Deaths.	Increase.
Buenos Ayres.....	42	28	14
London.....	35	20	15
Dublin.....	28	26	2
Edinburgh.....	28	18	10
Paris.....	26	24	2
Berlin.....	33	23	10

The nationality of parents in the table of births is shewn thus:—

Parents.	Children born.		Ratio.	
	1887.	1891.	1887.	1891.
Argentine.....	3,254	4,561	204	186
Italian.....	7,592	10,333	476	421
Spaniards.....	1,293	3,169	82	128
French.....	435	1,048	27	43
Various.....	3,365	5,480	211	222
TOTAL.....	15,939	24,591	1,000	1,000

This shews that in the past 4 years Argentines and Italians have been losing ground as component parts of the population, while Spaniards and French have risen in ratio. The other nationalities are very much inferior, English being slightly ahead of Germans.

The number of persons married in the years 1887 and 1891 shewed thus:—

	1887.	1891.	Ratio.	
			1887.	1891.
Argentines	2,155	2,529	314	252
Italians	2,568	3,491	375	349
Spaniards	927	2,185	136	218
French	420	847	62	85
Various	774	962	113	96
TOTAL	6,844	10,014	1,000	1,000

Here again we find the Italian and Argentine ratios declining, and the Spanish and French increasing.

It is sad to observe that in the year 1891 there were 1,867 civil marriages in excess of those performed by Catholic or Protestant clergymen; that is to say 37 per cent of the persons "married" abjured all form of religious ceremony. This is exactly what was predicted in 1887, when the Free Marriage Law was passed.

The aggregate bills of mortality for 5 years ending 31st December 1891 shew the causes of death thus:—

	Number.	Ratio.
Pneumonia	6,965	101
Enteritis	6,035	88
Phthisis	5,337	78
Small-pox	4,614	68
Meningitis	3,576	52
Diphtheria	3,377	49
Heart disease	2,950	43
Typhoid fever	2,213	32
Bronchitis	2,040	29
Tetanus	1,730	25
Cancer	1,554	22
Croup	1,151	16
Accidental	1,134	16
Homicide	899	13
Puerperal dis	349	5
Various	24,694	363
TOTAL	68,618	1,000

In the foregoing table the first item includes bronchial-pneumonia, the second gastro-enteritis, besides the diseases properly called as above.

The relative mortality during 5 years ending Dec. 1890 from some of the above diseases in Buenos Ayres and other cities compares as follows:—

In 1000 deaths.

	Small-pox.	Diphtheria.	Typhoid.	Plithisis.
Buenos Ayres.....	72	76	32	84
Edinburgh.....	1	24	8	96
London.....	1	20	8	99
Rome.....	21	19	17	81
Vienna.....	4	25	5	230
Marsilles.....	47	44	31	102
St. Petersburg.....	5	21	30	170
Paris.....	2	30	16	190

The number of accidental deaths in the last 6 years averaged 290 yearly.

Statistics of suicide (including attempts) for 9 years sum up as follows:—

	Number.	Per annum.	Per 100,000 persons.
Argentines.....	300	33	33
Italians.....	281	31	14
Spaniards.....	139	15	22
French.....	109	12	52
British.....	15	2	18
Germans.....	33	4	43
Various.....	89	10	10
TOTAL.....	966	107	20

French and Germans shew double the tendency to suicide of the rest of our population; English and Italians the lowest.

The actual suicides in 1891 were 78, that is 146 per million of souls, or nearly double the London ratio, viz:—

Suicides per million pop.

London.....	85	New York	144	Rome.....	53
Buenos Ayres...	146	Paris	422	Dublin....	12
Berlin	170	Vienna.....	287		

Cemeteries. Buenos Ayres has 6 cemeteries; which cover collectively 230 acres,

The *Recoleta* (13 acres) was opened in July 1822 and the number of interments since then has probably reached 165,000. The monuments of Admiral Brown and Governor Valentin Alsina are the finest. It is so crowded that the Municipality has ordered it to be closed, but the order is not enforced. At the east side, in a niche adjoining the church, were placed the remains of Father Anthony Fahy, the first of 46 priests who perished in the Yellow fever epidemic of 1871. The *Southern Cemetery* (12 acres) was opened during the Cholera of 1867, and closed during the Yellow Fever of 1871 having received about 22,000 corpses during the two epidemics: it was covered with a layer of 200 tons of quick-lime. The *Chacarita* (184 acres) was also opened for the Cholera of 1867, and the number of interments registered to December 31st 1891 was 123,980, the average in 1890 and 1891 having been 920 monthly or about 30 daily. The *British cemetery* (4 acres) was moved from the Socorro in 1832 to its present site in Calle Victoria, and about 9,000 interments have taken place. the average in the years 1887—91 having been 260 yearly: the Municipality is about to close it, and give new ground at the Chacarita. The suburban cemeteries of Flores and Belgrano (17 acres) receive, each, about 250 corpses yearly. Besides the city cemeteries, there is a Crematory attached to

the Lazzaretto or Casa de Aislamiento, since November 1886, and in 5 years it has consumed 7,380 corpses.

Factories. Twenty years ago Buenos Ayres had no manufactures except beer and flour. The Protection tariff begun in 1876 by Dr. Plaza, and every year made heavier, has caused hundreds of factories to spring up, of various kinds, to the prejudice of public health and without any real benefit to the nation. The census of 1887 shewed thus:—

No. of factories.....	1,244
Hands employed.....	42,321
Steam, horse-power.....	6,277
Value of factories.....	\$19,500,000
Do. raw material.....	\$47,700,000

Besides the above factories there were 4,884 retail establishments: the former were classified according to their annual consumption of raw material as follows:—

Raw material Value \$	No. of factories
Over 50,000.....	90
20,000—50,000.....	254
5,000—20,000.....	900
TOTAL.....	1,244

The above included 23 foundries, 36 steam saw mills, 23 flour mills, 98 distilleries, 89 steam printing-offices, 35 tanyards, 31 boot-factories, 84 coach-factories and 8 steam-laundries.

Professions. The census of 1887 shewed as follows:—

	Argentines.	Foreigners.	Total.
Lawyers	859	249	1,108
Physicians	277	159	436
Engineers	140	419	559
Journalists	60	75	135
Surveyors	73	35	108
Teachers	749	750	1,499
Artists	226	1,394	1,620
Clergymen	71	246	317
Civil Service	5,324	3,813	9,137
Merchants	7,049	22,272	29,321
Military	2,271	224	2,495
Farmers	992	2,013	3,005
Tradesmen	14,807	60,815	75,622
Servants	20,832	52,766	73,598
Various	42,141	58,739	100,880
TOTAL	95,871	203,969	299,840

The growth of certain trades appears as follows:—

Shops of	1830.	1853.	1887.
Tailors	33	51	466
Bakers	39	61	243
Tinsmiths	18	19	151
Carpenters	68	110	651
Saddlers	12	23	97
Bootmakers	35	108	697

All other trades increased in like ratio.

The first mention of lawyers is in 1613, when the citizens petitioned the Viceroy to prevent the arrival of three, named Andrada, Fuensalida and Ojeda, who were coming from Cordoba: a meeting of the Cabildo was held and the result was that the Viceroy sent messengers to intercept them and forbid their coming, as the public did not want litigation. Physicians had already settled here, for we find that in 1610 the Cabildo appointed Don Manuel Alvarez municipal doctor. Just at the same period the first school was opened by Juan Pardo, for 30 boys, who paid him a dollar a month each.

Schools. The returns of primary public schools were:

	1887.	1891.
Schools.	110	130
Teachers.	714	855
Pupils on rolls	26,200	32,100
Average attendance.	19,700	26,500

The above schools occupy 122 buildings, of which 69 belong to the State and 53 are rented from individual owners. Some of the former are magnificent structures, of the most costly character. In 1891 the Municipality paid \$1,240,000 currency (£70,000 stg.) in salaries, etc., for these schools. There are 3 National Colleges in the city, in which 1,410 students matriculated last year; also 2 Normal schools, with 314 students. The Normal school in Calle Callao is one of the most superb in the New World.

Printing-offices. There are 83 worked by steam or gas, and employing 1,250 printers: this included the offices at which news-papers and reviews are published (see p. 50). The first printing-press was that of the Jesuits, which was brought from Cordoba on the expulsion of the Order in 1767, and continued to be used for support of the orphans; the *Gazeta de Buenos Ayres* was printed by it during the War of Independence. An American named Hallett arrived with a press in 1825, and started a paper called the *Cosmopolite*, which was succeeded by the *British Packet* in 1826, edited for many years by Mr. Love and afterwards by Mr. Ramsay. The *British Packet* died in 1858, giving place to the *Commercial Times*, which lasted till 1862. All the preceding were weekly papers, at an extremely high price, 25 cents or one shilling per copy. The *Standard* was the first English daily paper in this con-

continent, and is now in its 32nd year, besides which are also published the *Herald* and the *Southern Cross*, both in their 16th year, the former daily, the latter weekly. There are 77 papers and reviews published in the city, of which 17 appear daily, namely 8 Spanish, 3 Italian, 2 English, 2 French and 2 German. The *Prensa* is supposed to have the largest circulation, probably 30,000 copies, and publishes daily about 2,000 advertisements.

Tramways. The first line was laid down by Mr. Lacroze in 1869, and called the Central, running from Plaza Victoria to Once Setiembre. This line has since been sold to an English company. In the same year the City of Buenos Ayres Co. began running. Lines were laid to Barracas in 1870, Flores in 1871 and Belgrano in 1872. There are at present 6 lines as follows:—

	Miles.
City of Buenos Ayres.....	40
Anglo-Argentine	65
Capital.....	9
Belgrano.....	13
National.....	30
New.....	26
TOTAL.....	183

The traffic returns shew as follows:—

	Miles.	Passengers.
1873	—	12,200,000
1878	—	12,700,000
1884	84	22,800,000
1890	155	56,100,000
1891	173	57,800,000

In 1887 each inhabitant made 82 trips, and in 1891 made 108 trips in the year. It appears that the ratio is 86 trips per inhabitant in Montevideo, and 55 in Rosario, per annum.

There are moreover 6 railways running from Buenos Ayres in various directions and their traffic shews thus:—

	Tons carried.	Passengers.
1887	—	3,630,000
1889	1,690,000	6,590,000
1891	1,370,000	6,550,000

It is needless to add that the passenger traffic ought to be 5 times greater; the tariffs are too high.

Streets. The first proposal to pave the streets was rejected by the Viceroy Loreto, in 1786, because the rumble of the waggons might shake down the houses. The first street paved was from Plaza Victoria to San Ignacio church, in 1795. So late as 1840 there was a "pantano" in front of where the Bolsa now stands in Calle Piedad, and in 1860 there was no paving beyond Calle Artes. The mileage of paving has grown as follows:—

	Miles.	Cost \$
1882	82	6,000,000
1888	169	12,800,000
1892	242	20,000,000

In 1892 the area of paving was 867 acres, made up thus:—

	Miles, length.	Aeres, area.
Cut-stone	118	420
Common.	107	325
Wooden.	13	96
McAdam.	4	26
TOTAL.	242	867

The mileage of paved streets compares with other cities thus:—

	Streets miles.	Population.	Inhab. per mile of street.
Buenos Ayres.	242	535,000	2,230
London.	1,830	4,120,000	2,250
Paris.	610	2,260,000	3,700

In 1614 the Municipality erected *ñandubay* posts every 3 yards on each side of streets, to protect pedestrians. These were cut down in 1854, except at corners of blocks, the latter not being removed till 1863.

Water-supply. Water-carts were in use until late years. In 1867 Mr. John Coghlan constructed works at the Recoleta, with a tank in Plaza Lorea, calculated to supply a million gallons daily or 6 gallons per inhabitant: the works cost £50,000. In 1873 Mr. John F. Bateman began the present works, and the consumption of water has been as follows:—

	Houses supplied.	Gallons daily.	Per inhab.
1880	—	1,050,000	3
1884	6,600	2,250,000	6
1887	14,700	3,050,000	7
1892	24,300	11,300,000	21

Consumption compares with other cities thus:—

Gallons daily per inhabitant.

Liverpool.....	20	London.....	38	Marseilles....	50
Buenos Ayres...	21	Paris.....	39	New York....	70
Dublin.....	22	S. Francisco..	42	Sydney.....	120
Edinburgh.....	33	Glasgow.....	48	Rome.....	670

The tower of in-take stands one mile from the Belgrano shore and is 33 feet over high-water. There is a tunnel of $3\frac{1}{2}$ miles to the Recoleta, 5×4 feet, which can convey 20,000,000 gallons in 24 hours. At the Recoleta are 3 basins, which can hold collectively 12,000,000 gallons, and these as well as the roofed filters which have an area of 4 acres, are protected by a sea-wall, having reservoirs underneath for 10,000,000 gallons. The water runs 4 feet per minute, precipitating much matter: the River Plate holds so much in suspense that it is said to carry down 10,000 tons per hour to the sea. A tunnel four feet high conveys the

filtered water to the pumps, which are 500 horse-power and can throw up 450 gallons at each revolution, or 15,000,000 gallons daily to a height of 160 feet. The consumption of coal is 23 tons daily. The great tank covers a block of 4 acres between Calles Cordoba, Viamont and Rio Bamba: it is 81 feet high, and holds 13,500,000 gallons. The tank is of iron, in 3 compartments, weighing 14,000 tons, and is supported by 28,000 tons of masonry: total weight when full 110,000 tons: it cost £400,000 sterling. Two pipes, 2 feet diameter, convey the water down. The consumption varies from 300,000 to 800,000 gallons per hour, being greatest at 9 a.m. The number of houses supplied in May 1892 was 23,100, there being still 11,000 houses unsupplied. It is found necessary to construct two acres more of covered filters, and to increase the pumping-power. The works employ 600 men, whose salaries reach \$700,000 currency or £420,000 per annum.

Drainage. The want of drains is supposed to have caused the epidemics of 1867—68 and 1871: the first was Cholera, which carried off 15,100 citizens, the second, Yellow-fever, 26,000. The Bateman contract in 1873 stipulated 7 per cent commission, for water-works and drainage. The works, after 19 years, are approaching completion: the actual outlay has been under £5,000,000 sterling, but owing to sale and re-sale of the concession the Government has had to pay £6,300,000 to recover the works. A further outlay of £1,000,000 sterling will finish them. The street-drains vary in diameter, the largest being 5 feet; the main-drains are 14 feet. The principal main drain is 16 miles long, terminating below Quilmes: the pumping-station at Bernal is 500 horse-power. In March 1892 there were 6,270 houses with drainage service, leaving

28,000 not yet connected: the connection works are being carried out at the rate of 200 a month, so that the works will be completed in about 10 years. The quantity of sewage matter conveyed is 30,000 tons daily.

Gas Companies. There are 4 companies of which the oldest is the Primitiva, started in 1856, under Mr. Colquhoun. Viceroy Vertiz began to light the streets in 1778, by means of lamps fed with mares' grease: these were made to give place to tallow candles about the close of the 18th century. It is recorded that Mr. James Bevans C. E., grand-father of Pres. Pellegrini, lighted the Plaza with gas on the national anniversary, May 25th 1824. The street-lighting in recent years shews as follows:—

	Lights.		Gas consumed Cubic feet.	Gallons Petroleum.	Total cost \$ currency.
	Gas.	Petroleum.			
1887	5,079	3,160	86,800,000	90,000	305,000
1889	7,744	4,046	131,800,000	126,000	470,000
1891	7,742	4,545	132,400,000	132,000	685,000

The consumption in houses was as follows:—

Year.	Houses.	Cubic feet.	Cost \$ currency.
1889	11,258	296,800,000	1,460,000
1891	31,898	632,800,000	4,950,000

The total consumption in 1883 and 1891 compare thus:—

	Consumption, cubic feet.		Cost, \$ currency.	
	1883.	1891.	1883.	1891.
Streets	42,000,000	132,400,000	180,000	475,000
Houses	160,000,000	632,800,000	1,080,000	4,950,000
TOTAL..	202,000,000	765,200,000	1,260,000	5,425,000

The cost of public lighting in 1891 was £36,000 sterling, and compares with other cities, per head, as follows:—

Pence yearly per inhabitant.

Berlin.	13	Rome.	40
Vienna	14	London	60
Buenos Ayres. . .	16	Paris	138

Consumption public and private compares as follows:—

	Million cubic feet.	Cubic feet per inhab.
Buenos Ayres.	765	1,400
London.	24,700	5,400
Paris.	11,010	4,800

There are 360 miles of gas-pipes, supplying 400,000 lights in houses and 7,700 street-lamps.

The *Custom house*, during the Spanish rule was close to Santo Domingo church, at the foot of Calle Belgrano, where the old tile-roofed building is now half-covered with "debris". In the year 1650 a municipal law prohibited bullock-carts from standing anywhere but in the square now called Plaza Andes (behind Santo Domingo), which was the entrepot of all import and export trade. The merchants were then very rich, a traveller who visited Buenos Ayres in 1664 writing as follows:—

"There are 211 merchants, many worth £60,000 sterling or more. In fact a man worth £3,000 or thereabout is regarded as a huxter."

The revenue of the Custom-house in the years 1791 to 1795 averaged \$400,000 or £80,000 per annum.

After the Independence a portion of the Fort was set apart for the Custom-house. The trade of the city was then about 90 per cent of that of the Confederation. The records shew thus:—

Year.	Imports \$ gold.	Exports \$ gold.	Total \$ gold.
1825	7,000,000	5,600,000	12,600,000
1850	9,500,000	10,200,000	19,700,000
1865	24,400,000	18,800,000	43,200,000
1881	45,700,000	40,600,000	96,300,000
1890	103,200,000	57,700,000	160,900,000

The returns for 1890 were equal to 67 per cent of the trade of the Republic.

The Customs valuation is found to be 50 per cent too high on import goods, and 20 per cent on exports, so that the real trade of Buenos Ayres was only \$116,000,000 or £23,000,000 sterling. It compares with other ports as follows:

	Trade £ sterling.	Tonnagé entries	Per inhabitant.	
			Trade £.	Tons.
Buenos Ayres....	23,000,000	3,240,000	43	6
London.....	210,000,000	7,470,000	51	2
Liverpool.....	208,000,000	5,370,000	376	9
Glasgow.....	25,500,000	990,000	50	2
Marseilles.....	54,000,000	3,360,000	150	9
New York.....	111,600,000	5,470,000	90	4

The administration of the Custom-house consists of 5 departments: it has a light-house visible 15 miles. The above registered tonnage for Buenos Ayres is exclusive of internal navigation, which shews 1,030,000 tons entries, bringing up the total to 4,270,000 tons.

The *Madero Docks* extend for nearly three miles along the city front. The works were begun in March 1887, on plans of Sir John Hawkshaw, the contractors being Messrs. Walker & Co. The concession is in the name of Eduardo Madero & Co., the price fixed by Congress being £4,000,000, but the outlay will probably exceed £5,000,000. The works were carried out without interruption during 4 years, until in May 1891 the

Government was compelled by want of funds to prosecute them on a reduced scale, at an outlay of £40,000 a month. They were originally divided into 9 sections, viz:—

Name	Water, acres.	Quay wall, yards.	Cost £
South basin.....	25	1,100	450,000
Dock 1.....	23	1,540	902,000
Sea-wall.....	—	—	440,000
Dock 2.....	23	1,560	691,000
Dock 3.....	27	1,870	219,000
North basin.....	40	1,650	465,000
Dock 4.....	—	—	—
North channel.....	—	—	—
TOTAL....			<u>3,167,000</u>

The above was the amount actually expended, according to Mr. Drabble, down to 31st December 1891, and he estimated that a further sum of £1,600,000 would be required for completion of the works. The Government has paid £2,167,000 in cash, and Mr. Drabble's Co. furnished £1,000,000 as Trust-money.

The Prime Minister's report to Congress gives the total outlay as follows:—

	£ sterling.
1887 to April 1891.....	3,405,000
May 1891 to March 31st 1892...	<u>365,000</u>
TOTAL....	3,770,000

Deducting £120,000 spent in the first quarter of 1892, the works would still require, on Mr. Drabble's estimate, a further sum of £1,480,000, which would bring up the total cost to £5,250,000. Each dock has a shed which cost £60,000, and in the aggregate these sheds have 14 acres of accommodation; each has 4 floors with 3 hydraulic cranes, capable of lifting 30 cwt. each. There are on the quays 46

travelling cranes of equal power (30 cwt.), besides two that can lift 5 tons each, and a fixed crane of 30 tons power. The works include 12 miles of railway and 130,000 sq. metres or 33 acres of paving. It is proposed to dredge the South Channel to a depth of 23 feet, but to abandon the North Channel for the present, as well as Dock 4. In the excavation of these docks 7 steam-navvies were employed, which excavated 150,000,000 cubic feet of stuff. Each dock has about 80,000 tons of granite for quay-wall. The sea-wall is three miles long, or 5,000 yards, of which 2,600 were built of cement and granite, and 2,400 of pitch-pine, the whole length being backed by a "tosca" bank of 50 feet wide. The pumping apparatus includes a centrifugal pump that delivers 10,000 gallons of water per minute. The hydraulic machinery is supplied by Armstrong & Co., Newcastle-on-Tyne.

Besides the foregoing there are the Boca port-works, two miles south of the city, which were begun in 1876; the dredging and cost have been as follows:—

Period.	Tons dredged.	Total outlay on works. \$
1876—80	1,300,000	900,000
1881—83	2,820,000	2,270,000
1884—91	9,340,000	5,280,000
15 years.	13,460,000	8,450,000

Allowing for the varying value of the dollar in the last 15 years the outlay was about £1,200,000 sterling. So far only 9 miles of the deep-water channel giving access to the port of Buenos Ayres have been dredged: present depth of water 17 feet. There are 3 miles more to be dredged, and the Minister proposes an

uniform depth of 21 feet*), besides widening the first kilometer and the Riachuelo, and prolonging the south pier. This will involve a further outlay of \$4,000,000 currency or £250,000 sterling, bringing up the total to £1,450,000, which being added to £5,250,000 for the Madero Docks will make a total expenditure of £6,700,000 for the port of Buenos Ayres, and this compares with other ports thus:—

	Acres.	Cost, £	Per acre, £
Buenos Ayres	165	6,700,000	40,600
London	690	20,100,000	29,100
Liverpool	560	18,200,000	32,500
Antwerp	105	6,800,000	64,600
Trieste	86	1,100,000	12,800

The outlay as compared with length of quay-wall is £520 per yard in Buenos Ayres, against £550 in Antwerp, £240 in Marseilles and £208 in Trieste, but it must be observed that in Buenos Ayres it has been necessary to build a sea-wall three miles in length to protect the above works.

There are three principal suburbs: Flores, Belgrano and Barracas, connected both by rail and tram with the city.

San José de Flores, 5 miles west, stands on a slope overlooking the Riachuelo valley, and was founded in 1804 by Ramon Flores. The Viceroy Sobremonte had a country-house here, and the chapel built in his time gave place in 1831 to a parish church, in which the treaty of Nov. 1859 was signed, whereby Buenos Ayres re-entered the Argentine Confederation. The present

*) It is found that the river deposits one million tons of stuff yearly in the channel, the annual cost of dredging which is estimated at \$600,000 currency or £33,000 sterling.

superb church was built by Canon De Vita in 1885. The town is lit with gas, and there is a Protestant chapel under care of Rev. Lennox Robertson M. A. The boulevard from Flores to the city is lined with magnificent country-houses. Midway is the stately convent of the Sainte Union, and a little nearer town that of the Sacred Heart, both devoted to the education of young ladies. At Almagro is the institution of San Carlos, one of Don Bosco's order, for teaching trades to orphan boys.

Belgrano, 5 miles north, is on a high ground which commands a view of the River Plate, and was founded in 1854. It has a stately church, of rotunda form, surrounded by Grecian pillars, and over one hundred quinta residences of great value, mostly belonging to English, German and other merchants. The boulevard Santa Fé which connects it with Buenos Ayres has a succession of country-houses, mostly resembling those of the Champs Elysées at Paris, all the way from the gates of Palermo Park to the edge of the city.

Barracas, 3 miles south, is in low ground, but healthy. The chapel and orphanage of St. Felicitas stand on the spot where Mme. Alzaga was assassinated in 1872. There are many beautiful residences in the Avenue Santa Lucia. South Barracas, on the other side of the Riachuelo, has the Solá workshops of the G. S. railway, and the new Produce-market, which latter has 30 acres of flooring for the storage of 240,000 tons of wool, hides etc.

PART IV.

PROVINCE OF BUENOS AYRES.

This province is bounded on the N. by the Arroyo del Medio, which separates it from Santa Fé; on the E. by the Paraná, River Plate and Atlantic Ocean; on the S. by the Atlantic and the Federal territories; and on the W. by the 5th degree of longitude W. of Buenos Ayres (63°23' W. of Greenwich). Its extreme length is 550 miles, and breadth, from E. to W., 370 miles; total area, 120,900 square miles, being precisely the area of the United Kingdom, and rather less than one-tenth of that of the Republic, or one-fifth of the inhabited portion comprised in the 14 provinces. It is almost a flat plain, interrupted by only two ranges of hills, viz:—

Range.	Elevation, feet.	Area, sq. miles.
Tandil	660 to 1,480	2,730
Ventana	1,300 to 3,830	1,050

The highest point of the Tandil range approaches the elevation of the rock of Gibraltar, while that of the Ventana is nearly equal to Vesuvius. The seaboard on the Atlantic is 740 miles, besides 150 miles on the Paraná, accessible to sea-going vessels of 18-foot draught. There are 12 ports, without counting Buenos Ayres, which has been federalized—viz, Patagones, San Blas, Bahía Blanca, Quequen, and Mar del Plata on the

Atlantic; Ajó, Magdalena, and Ensenada on the River Plate, and San Fernando, Campana, San Pedro, and San Nicolas on the Paraná. The following table shows high and low tides in 3 ports, in English feet, viz:—

Quarter ending.	Patagones.		Riachuelo.		S. Nicolas.	
	High.	Low.	High.	Low.	High.	Low.
March	17	8	23	10	24	20
June	17	9	20	10	25	21
September ..	17	9	23	10	23	15
December . . .	19	10	20	10	21	15

At Patagones the highest tides are in November, the lowest in March; at the Riachuelo, highest in January, low tides uniform; and at San Nicolas, highest in April, lowest in November.

There are 305 rivers and streams, and 615 lakes, but they are, for the most part, comparatively small. A few of the lakes reach an area of 80 square miles, the most remarkable being those of Bragado, Junin, 25 de Mayo, Los Padres, Encadenadas, Chascomus, and Mar Chiquito. Only 4 rivers deserve the name. The Rio Negro rises at Lake Nahuel-Huapi, in the Andes, and after a course of 630 miles falls into the Atlantic Ocean, being navigable for 420 miles, up to fort Roca (Route 37, page 189). The Colorado rises also in the Andes, near the Planchon pass, and flows nearly 700 miles, discharging its waters into the Atlantic between San Blas and Bahia Blanca. The Salado rises near Junin, has a course of 360 miles, and falls into the bay of Samborombon a few miles S.E. of Chascomus. The Luxan rises W. of Mercedes, flows 150 miles in a N.E. direction, and falls into the Paraná. Among the streams of minor note the only ones worth mentioning are the Arrecifes and Areco in the north; the Saladillo,

Las Flores and Samborombon in the centre; the Quequen, Sauce Grande, and Naposta in the south.

There is little timber, unless the peach and poplar plantations in the delta of the Paraná; ornamental clumps of acacia, eucalyptus, etc., in the vicinity of towns; the solitary ombú in the pampas; the willow, chañar, ceibo, etc., on the banks of streams; and groves of peach-trees, which may be found near every house in the camp. The pita, or flowering aloe, is, like the ombú, indigenous, and grows 30 feet high, the base surrounded by prickly leaves, impenetrable to an army, on which account the pita was regularly planted as a fortification against the Indians. Peach-trees are grown as much for fuel as fruit, the only other fuel being sheep-droppings, sun-dried. Peaches are so plentiful that swine often are fed on them; the flavour is not equal to the same fruit in Europe. Grapes, figs, and pears thrive remarkably; but fruit culture is not yet sufficiently attended to. All kinds of European vegetables are grown abundantly; potatoes, however, degenerate, and must be renewed, by importing seed from abroad, every 3 years, although the potato is of South-American origin. Flowers of the rarest and most delicate classes require but little trouble, camelias, jessamines, diamelas, etc, being much commoner here than in Europe.

The fauna is becoming more limited every day; the rhea, or ostrich, has been reduced to a very small number; the biscacha is being rapidly exterminated; peludos and mulitas, of the armadillo family, are killed in large numbers as a delicacy for the table; and Italian bird-killers show no mercy to any of the feathered tribe that serve for eating. There are no wild animals, except some deer in the southern camps; silver foxes

in Patagonia, pole-cats, tiger-cats, and nutrias; the last-named are so much hunted for their skins that only a few remain. Rats, mice, frogs, and a species of guinea-pig are very abundant. Formerly the frontier departments suffered much from wild-dogs, which went in troops, like wolves, but they are now rare. The comadreja, a kind of weasel, often infests farm-yards, sucking eggs, and has a pouch for its young, like the opossum. The only reptile is the *Vivora de la Cruz*, the bite of which is often deadly. There is also a kind of toad the *escuerzo*, found in old wells, which is venomous, and some kinds of spiders have a bad reputation. On the other hand centipedes are harmless, and even the scorpion loses most of its venom. A certain caterpillar is so charged with electricity, or some similar power, that if you only touch it your hand and arm swell prodigiously, the symptoms being accompanied with fever for a day or two. Game abounds. ducks in hundreds of thousands, and two species of partridge, besides snipe, batitú, parrots, horned plover, etc. Patagonian hares weigh 25 lbs., and are excellent food. Humming-birds, oven-birds, calandrias, and urracas are numerous, as well as ibis, flamingoes, caranchoes, chimangoes, etc.

The northern camps are mostly high, and sometimes visited with drought; more than 4 million sheep, cows, and horses perished in the drought of 1859. The southern camps are low, and so subject to inundation that in 1880 the Salado drowned a million sheep and cattle. It is proposed to canalize the Salado valley, to prevent future floods. Locusts are, at long intervals, a dreadful visitation, destroying crops, fields, trees, and sometimes thatched roofs of houses. In spring the pampas present a beautiful aspect of verdure, and as

summer approaches the thistles, which before looked like a crop of turnips, grow up to 10 or 12 feet in height, armed with strong prickles, forming dense jungles, impenetrable to man or beast; with such rapidity does this occur, that the face of the country is quite changed in a fortnight. About Christmas (Midsummer) the thistles are in full bloom, and soon afterwards they droop and die, the earth resuming its verdant aspect in winter. Snow has fallen but twice in the present century, unless in the far south, about Azul, where it is often seen. Ice as thick as a shilling occurs at times in the neighbourhood of Buenos Ayres. The Pampero is a cold wind, very healthy and invigorating: the northern is relaxing and unwholesome. The rainfall in various parts of the province, from observations over a term of years, gives the following results:—

	Inches.		Inches.		Inches.
Buenos Ayres .	35	Matanzas..	38	Dolores...	32
San Antonio ..	33	25 Mayo..	38	Tandil. ...	35
Carmen Areco..	35	Salado....	29	B. Blanca .	19

The wealth of the province at various dates (including the city of Buenos Ayres) was approximately as follows:—

Year.	Millions of \$ gold.	\$ gold per inhab.
1857	185	660
1884	1,135	1,245
1891	1,332	950

The census of 1884 made the wealth of the province, without the city, to reach 830 million gold dollars, but so much of the wealth of the province belongs to inhabitants of the city that it is necessary to include the latter. The total for city and province is made up thus:

	\$ gold.	£ sterling.
Lands and f nces	341,000,000	= 68,000,000
Cattle	135,000,000	27,000,000
Railways	190,000,000	38,000,000
Houses	333,000,000	66,000,000
Furniture, implements etc.	250,000,000	50,000,000
Sundries	83,000,000	6,000,000
TOTAL	1,332,000,000	265,000,000

Owing to the rapid influx of immigrants the average wealth per inhabitant has fallen from £249 in 1884 to £190 in 1891. The ratio is nevertheless still high, and compares thus with other countries:—

Wealth per inhabitant: \$ gold.

Buenos Ayres	950	Germany	700	U. States	1,010
U. Kingdom	1,235	Italy	505	Canada	980
France	1,120	Spain	740	Australia	1,710

The increase of wealth in Buenos Ayres was as follows:—

Period.	Amount, \$ gold.	Per annum, \$ gold.	Per head yearly, \$
1857—84	950,000,000	35,200,000	61
1884—91	197,000,000	28,100,000	26

In the last seven years the accumulation of wealth per inhabitant was much less than half what it had been in preceding years. It is still, however, as much per head as in the United Kingdom or France, say £5 yearly per inhabitant. The estimated earnings are 205 million gold dollars per annum.

That is, the gross earnings made up thus:—

	\$ gold.	£ sterling.
Pastoral products	59,400,000	= 11,900,000
Agricultural products	33,000,000	6,600,000
Trade profits	23,200,000	4,600,000
Manufactures	18,000,000	3,600,000
Sundries	71,400,000	14,300,000
TOTAL	205,000,000	= 41,000,000

The gross earnings are equivalent to $15\frac{1}{4}$ per cent on the capital value of the city and province shewn on page 312. Earnings compare with other countries, per head as follows, in gold dollars:—

Annual earnings per inhab: \$					
Buenos Ayres...	150	Germany...	111	U. States...	195
G. Britain.....	169	Belgium....	140	Canada.....	130
France.....	139	Denmark...	163	Australia...	201

In the following table are shewn the areas under agricultural and pastoral industries in 1881 and 1891, and the value of land:—

	Area, acres.		Value \$ gold in 1891.
	1881.	1891.	
Tillage.....	1,404,000	3,420,000	34,200,000
Sheepfarms etc..	48,480,000	58,200,000	296,000,000
Desert.....	20,166,000	8,430,000	10,800,000
TOTAL.....	70,050,000	70,050,000	341,000,000

As a rule tillage land is worth £3 an acre or 120 currency dollars per 'cuadra'; pastoral £650 per square mile or \$100,000 currency per square league. There are supposed to be 90,000 miles of lineal fence, the area of fenced land exceeding 30,000,000 acres or 45,000 sq. miles: the cost of fences is estimated at \$34,000,000 gold or almost £7,000,000 sterling.

Sheep-farming is the great business of the province: the flocks in 1888 numbered 55,800,000 sheep, and at present are supposed to reach 70,000,000, owned approximately as follows:—

Owners.	Head.
Argentines.....	40,000,000
Irish & Scotch....	20,000,000
Basques and others.	10,000,000
TOTAL...	70,000,000

The area under sheep is roughly estimated at 50,000 sq. miles or 32 million acres, from which it appears that the average is rather more than 2 sheep to the acre. It is, however, very common to find on Irish or Scotch estancias 20,000 sheep to the square league, or three to the acre, whereas the Australian average is only one to the acre. Formerly a shepherd on horseback was employed for each flock, say 1,000 to 2,000, but since fences have been introduced one man can mind three flocks. A shepherd's wages are usually \$240 currency or £15 a year, with house and food. Sheep were burnt for fuel in the time of the Spaniards, and a royal edict prohibited the colonists from driving them alive into the brick-kilns. The father of modern sheep-farming in Buenos Ayres was Thomas Lloyd Halsey, U. S. Consul, who imported fine merinos from Lisbon in 1813, placing them at Alto Redondo, 25 miles S.W. of the city. Most of the animals perished in a camp-fire, and the remainder were bought by Mr. Dwerhagen, a German farmer at Quilmes. In 1825 the latter found his flock numbered 400 head, and as the camps were coarse he resolved to move to Santa Fé. He sold half his flock to Messrs. Aguirre and Rojas of Corrientes, and was so unfortunate in Santa Fé that he mortgaged the rest, and died of a broken heart. The flock of Aguirre and Rojas, at Rincon de Luna, was swept off by sickness. In 1828 some of Dwerhagen's flock were brought back to Buenos Ayres, and gave such good results that Mr. Stegmann and Peter Sheridan commenced importing Negretti sheep from Germany. They were followed by Harratt, Hannah, White, M'Clymont, Halbach, Bell, Miller, Bishop, Gowland, Miró, Dorrego, Velez, Mendoza, and others, who laboured strenuously and successfully in refining the flocks of Buenos Ayres.

Cattle-farming is mainly in the hands of Argentines, the distribution of cows and horses being approximately as follows:—

Owners.	Cows.	Horses.
Argentines	8,600,000	1,600,000
Europeans	1,000,000	260,000
TOTAL	9,600,000	1,860,000

An ordinary estancia has 10,000 head of horned cattle, divided into herds of 2,000 each, which require two men to mind. Cattle thrive on coarse grass (*pasto fuerte*) and give little trouble unless in time of drought, when the peons use a “*balde-sin-fondo*” for drawing water from a well, worked by a man on horseback, who can thus water 2,000 head daily: the usual stock is 2,000 per square league, that is 200 per sq. mile. An estancia with 10,000 cattle or 100,000 sheep represents a capital of \$700,000 currency or £45,000 stg.

There is no country in the world where the ratios of live-stock to population are so high as in Buenos Ayres, viz:—

	No. of head per 100 inhabs.			Value per inhab. \$ gold.
	Sheep.	Cows.	Horses.	
Buenos Ayres	5,050	690	136	98
U. States	68	75	25	40
Canada	54	80	23	45
Australia	2,600	250	40	85
Cape colony	1,300	120	25	65
U. Kingdom	76	28	5	25
France	60	36	8	28
Germany	42	35	8	28
Russia	55	28	20	29
Austria	36	37	9	25

If we counted only the rural population (exclusive of the city) each inhabitant of the province would be found to possess 81 sheep, 11 cows and 2 horses, representing

a value of \$161 gold or £32 sterling, that is 4 times as much as in the U. States, and nearly double as much as in Australia. The population subsisting on pastoral and agricultural pursuits is approximately shewn in the following table:—

	Population.	Earnings \$ gold.	Do. per head \$ gold.
Pastoral.	350,000	59,400,000	170
Tillage.	228,000	33,000,000	145
Trade etc . . .	272,000	37,600,000	138
TOTAL. . .	850,000	130,000,000	153

Agriculture. The estimated area under crops in 1891 compares with 1881 thus:—

	Acres.	
	1881.	1891.
Wheat	215,000	1,160,000
Maize	241,000	1,610,000
Barley.	15,000	40,000
Potatoes.	45,000	60,000
Linsced.	71,000	100,000
Alfa	86,000	200,000
Wine	13,000	20,000
Sundries.	718,000	230,000
TOTAL. . .	1,404,000	3,420,000

The capital invested in agriculture is shewn approximately as follows:—

	1891. \$ gold.
Lands	34,200,000
Houses	15,000,000
Implements	8,000,000
Sundries.	13,800,000
TOTAL	71,000,000

The capital directly employed in agriculture and in pastoral pursuits, and the product, are shewn thus:—

	Capital. \$ gold.	Product. \$ gold.	Per cent.
Agriculture	71,000,000	33,000,000	27
Estancia farming.	515,000,000	59,400,000	12
TOTAL	586,000,000	92,400,000	16

Agriculture requires comparatively a small capital, whereas sheep and cattle farming can only be profitably carried on by men of large fortune.

Area and population. At various dates we find the area and rural population were:—

Year.	Area sq. miles.	Population.
1744	3,050	6,064
1801	11,100	32,200
1822	13,700	82,100
1853	63,600	180,300
1883	110,000	612,000
1891	110,000	850,000

In 1744 the territory of Buenos Ayres included Magdalena, Ensenada, Quilmes, San Vicente, Matanzas, Luxan, Capilla, San Antonio, Baradero, Zarate, Conchas, and San Isidro. In 1779 were added Chascomus, Ranchos, Monte, Lobos, Navarro, Mercedes, San Pedro, Carmen Areco. Arrecifes, Salto, Pergamino, Rojas, San Nicolas, and Patagones. During the ensuing 50 years the area was extended about 300 square leagues, by the addition of Dolores, Azul, Tandil, and Bahia Blanca.

In 1833 General Rosas made his great expedition against the Indians, annexing 5,000 square leagues, and making the territory of Buenos Ayres 5 times the extent it had been. After his fall, in 1854, the Indians recovered most of the country which he had wrested from them, reducing the area to about 3 000 square leagues. By degrees the frontier was extended until it embraced 4,500 square leagues, in 1877, when Colonel Alsina commenced a vigorous and unrelenting war

against the Indians, annexing 2,200 square leagues. Subsequently Col. Roca (afterwards President) undertook, in 1878, to carry the frontier to Rio Negro, driving all the Indians beyond that river, and the ultimate arrangement of limits between the National Government and the province of Buenos Ayres left the area, as it now is, at 10,700 square leagues.

At the present rate of progression the population doubles in 17 years, so that in 51 years hence it ought to reach 7,000,000 souls, that is 65 to the square mile, this being the same density as now exists in the Western States of North America. According to the census of 1881 there is a great surplus of males, namely 129 to 100 females, which is the result of immigration: the same is observed in Australia which has 124 males to 100 females. In 1881 the province of Buenos Ayres had 100 Argentines to 34 Europeans.

No country in the world has so many children under 5 years of age in ratio to population, the latest returns shewing as follows:—

Children under 5 years in 1,000 pop.

Buenos Ayres..	152	Germany.....	127	Belgium....	124
England.....	136	Austria.....	132	Switzerlad..	127
Scotland.....	137	Italy.....	123	Holland....	113
Ireland.....	111	Spain.....	142	Brazil.....	108
France.....	92	Norway.....	135	U. States....	137

This is partly owing to the shortness of the average span of life: the number of persons over 50 years of age, by the census of 1881, was only 69 per 1,000, against 118 in the U. States and 166 in the U. Kingdom. It is not that the climate is unhealthy, but the poor gauchos are miserably housed, and the number of violent deaths is, moreover, very considerable.

House-property. The census of 1881 shewed that the total value of house property (excluding the city of Buenos Ayres) was \$59,000,000 gold. Deducting the small towns the average was \$68 per head in the northern, and \$29 in the southern, departments. The gauchos of the southern camps are much worse housed than the Russian Moujiks, whose houses shew a value of \$55 per inhabitant. The difference between the northern and southern population in this respect is shewn by comparing some of the departments:—

House-value, \$ gold per inhabitant.

North.		South.	
San Nicolas.....	170	Tapalquen.....	22
Mercedes.....	150	Tordillo.....	17
Arrecifes.....	140	Vecino.....	16

The condition of the south has, however, notably improved since 1881, with the introduction of railways and of foreign settlers.

Vital Statistics. The annual average number of births (exclusive of B. Ayres city) during 30 years shewed as follows:—

Period.	Legitimate.	Illegitimate.	Total.	Ratio of. illegit.
1857—66	7,288	3,504	10,792	32 p. c.
1867—76	10,555	4,633	15,188	30 »
1877—86	16,422	5,616	22,038	25 »

The sexes of births shewed thus:—

Period.	Males.	Females.	Total.	Males to 1,000 females.
1857—66	5,425	5,367	10,792	1,011
1867—76	7,771	7,417	15,188	1,047
1877—86	11,240	10,798	22,038	1,044

The surplus of male births is the same as in Europe, nearly 5 per cent. The births and deaths of 5 years ending 1886 shewed the following averages:—

Births yearly.....	23,810
Deaths »	10,998
Increase	12,812

The increase was equivalent to 20 per 1,000 of the population.

The principal causes of death were in the same 5 years as follows:—

	No.	Ratio.
Tetanus	5,079	91
Phthisis.....	4,814	87
Pneumonia	3,566	64
Small-pox	2,473	44
Heart-disease....	1,985	36
Typhoid.....	1,546	28
Violent deaths..	2,330	42
Various	33,195	608
TOTAL.....	54,988	1,000

It will be observed that Tetanus or lockjaw occupies the first place, three-fourths of deaths from this cause being infant-tetanus.

Schools. In 1891 the province (without the city) had 50,000 children attending school, the annual sum spent on education being \$2,120,000 currency or £130,000 sterling. The returns for 1887 shewed as follows:—

No. of schools.....	632
Boys attending.....	26,027
Girls »	22,105

The expenditure on schools in 1891 was equal to 3 shillings per inhabitant or 52 shillings per scholar, as compared with 50 shillings per child in England, and 63 shillings in the U. States. It is supposed that 12,000 children are educated in their homes, making in all 62,000 that receive instruction, out of 143,000 of school age, that is between 6 and 14 years, leaving 81,000 or 56 per cent uninstructed. The scattered character of the population renders this almost inevitable.

Churches. There are 67 parish churches in the 84 departments that compose the province; also 76 chapels of ease and 6 Protestant chapels. There is no church or chapel of any kind in Tordillo, Tuyú, Mar Chiquito, Castelli, Vecino, Alvear, Peguajó, Trenquelanquen, Loberia, Suarez, Guaminí and Puan, which departments have 51,000 population and cover 28,500 sq. miles.

Institutions. The civil service, including all branches, comprises 9,300 paid servants, whose salaries in 1887 made up \$6,870,000, viz:—

	No.	Salaries, \$	Per head, \$
Police	3,060	1,180,000	390
Senators and Deputies..	127	275,000	2,200
Governor & Cabinet....	5	45,500	9,100
Railway-men	3,315	2,355,000	700
School-teachers	1,590	925,000	600
Bank-clerks	498	952,000	1,900
Various	735	1,137,500	1,560
TOTAL	9,340	6,870,000	750

The number of persons arrested during the year 1887 was:—

For murder	258
» robbery	2,455
» rape	201
» assault	1,650
» drunkenness	8,820
» minor offences	11,496
TOTAL	24,880

There are 4 prisons, at Sierra Chica, Dolores, Mercedes and San Nicolas, containing 590 criminals. There are 26 hospitals, with 760 beds, receiving 2,400 patients yearly, of whom 14 per cent die. There are 38 free libraries with 54,000 volumes.

Products. The quantities of products sent to market in 1887, were as follows:—

	Tons.		No.
Wool.....	79,200	Cows.....	1,238,000
Sheepskins ..	19,400	Sheep.....	4,666,000
Horsehair ...	800	Mares.....	234,000
Tallow.....	2,100	Hides (cow).	932,000

There is no record as regards grain, linseed, alfa, etc. The above weight of wool is equal to 174 million pounds, being only $2\frac{1}{2}$ lbs. per sheep, but the returns were probably incomplete, the ordinary clip being 130,000 tons, or 4 lbs. per sheep.

Municipalities. The population and revenues of the principal towns in 1887 were:—

	Population.	Revenue, \$	\$ per head.
I.a Plata.....	66,000	215,000	3·25
San Nicolas.....	19,000	44,000	2·30
Chivilcoy.....	14,000	41,000	2·90
Mercedes.....	12,000	31,000	2·60
Azul.....	8,000	97,000	12·10
Dolores.....	8,000	31,000	3·90
Pergamino.....	8,000	38,000	4·70
San Fernando...	7,000	21,000	3·00
Bahia Blanca....	7,000	119,000	17·00
Lobos.....	7,000	55,000	7·90
San Pedro.....	6,000	29,000	4·80
Tandil.....	6,000	48,000	8·00
Other towns.....	147,000	1,211,000	8·20
TOTAL...	315,000	1,980,000	6·20

Railways. The province in May 1892 had 2210 miles of lines working, the cost of construction having been £37,800,000 sterling. Mileage and capital compare with other countries thus:—

	Miles per 100,000 pop.	Railway capital per inhab. £
Buenos Ayres	412	71
U. Kingdom	52	20
France	46	15
Germany	50	10
U. States	252	31
Canada	254	30
Australia	257	24

It is apparent that there has been a superfluous if not reckless construction of railways in this province. There are in fact several parallel lines not far apart. The railways of Buenos Ayres are fully described in Chapter VI., page 22.

Finances. The revenue and expenditure of the province since 1880 were approximately as follows:—

	Sum \$	Per annum, \$
Revenues	84,000,000	7,000,000
Expenditure	254,000,000	21,200,000
Deficit	170,000,000	14,200,000

The debt which has accrued since 1880 is \$53 500,000 gold or 171 millions currency, equal to £10,700,000 sterling. We have no record of how the money was spent, but probably as follows:—

	\$ currency.	£ sterling.
La Plata docks	48,000,000	= 3,000,000
Public buildings	90,000,000	5,600,000
Sundries	33,000,000	2,100,000
TOTAL	171,000,000	= 10,700,000

The estimates for 1892, by Minister Moreno, shew as follows:—

	Revenue, \$ currency.		Expenditure, \$ currency.
Property-tax . . .	1,910,000	Government . . .	6,500,000
Stamps	1,850,000	Treasury	1,100,000
Licenses	950,000	Legislature	875,000
Banks etc.	<u>4,295,000</u>	Banks etc	<u>4,077,000</u>
TOTAL	9,005,000		12,552,000

The same Minister stated the finances for preceding years as follows:—

	1890. \$ currency.	1891. \$ currency.
Revenue	9,810,000	9,000,000
Expenditure	<u>20,860,000</u>	<u>20,500,000</u>
Deficit	11,050,000	11,500,000

The three years 1889-90-91, he says, shewed an aggregate deficit of 33 millions currency, or £2,400,000 sterling, which was met by the sale of the State railways to an English Co.

The estimates of expenditure for 1892, as given above, do not include the service of the public debt, which would demand £800,000 or \$13,100,000 currency. The debt, as shewn by the Minister, in December 1891, was as follows:—

	Debt.		Interest.
	£ sterling.	\$ currency.	\$ currency.
Foreign	8,200,000	= 131,200,000	10,100,000
Internal	2,500,000	40,300,000	3,000,000
TOTAL	<u>10,700,000</u>	= <u>171,500,000</u>	<u>13,100,000</u>

In the above table gold is reduced to currency at 320, that is \$16 currency per £ sterling, this being the present value (June 1892). Internal debt is made up of \$29,000,000 in bonds, and \$11,300,000 in Treasury bills.

DEPARTMENTS. There are 84, and the returns and estimates for 1887 shewed as follows:—

Department.	Population.	Sq. miles.	Property. Value, \$	Cows.	Sheep.	Acres tilled.
Ajó.....	5,400	1,090	9,500,000	152,000	860,000	17,600
Alsina.....	2,900	2,180	9,900,000	225,000	2,175,000	28,500
Alvear.....	3,700	1,330	5,500,000	100,000	850,000	17,500
Areco Carmen...	5,700	413	9,400,000	45,000	800,000	5,000
Arrecifes.....	7,800	695	22,900,000	22,000	650,000	41,200
Ayacucho.....	11,500	2,990	30,100,000	261,000	2,422,000	7,000
Azul.....	19,900	2,310	18,300,000	215,000	1,405,000	47,500
Bahia Blanca...	13,000	2,390	46,100,000	884,000	1,187,000	13,500
Balcarce.....	5,500	1,410	11,600,000	200,000	2,000,000	1,200
Baradero.....	11,100	380	20,300,000	33,000	312,000	101,200
Barracas.....	25,400	37	51,100,000	—	—	13,000
Bolivar.....	6,600	2,060	9,000,000	315,000	340,000	20,000
Bragado.....	11,300	1,220	10,100,000	103,000	1,489,000	75,000
Brandzen.....	4,600	350	7,500,000	10,000	115,000	3,000
Brown.....	4,700	60	4,700,000	6,000	4,000	18,000
Campana.....	7,200	193	7,300,000	4,000	30,000	9,000
Cañuelas.....	6,300	460	11,400,000	38,000	407,000	8,500
Capitla.....	4,500	217	7,600,000	20,000	780,000	35,000
Castelli.....	2,700	776	6,400,000	50,000	700,000	6,000
Chacabuco.....	12,200	980	12,500,000	85,000	903,000	94,000
Chascomus.....	11,100	1,600	21,700,000	163,000	1,612,000	22,500
Chivilcoy.....	23,700	920	18,000,000	62,000	818,000	200,500
Conchas.....	8,400	162	5,300,000	6,000	2,000	12,000
Dolores.....	10,400	768	10,300,000	150,000	1,500,000	90,200
Ensenada.....	66,000	420	169,600,000	19,000	385,000	105,000
Giles.....	6,700	465	11,700,000	17,000	500,000	18,000
Guamini.....	3,100	4,810	10,100,000	190,000	1,193,000	2,400
Heras.....	3,300	270	7,800,000	10,000	250,000	132,500

Department.	Population.	Sq. miles.	Property Value, \$	Cows.	Sheep.	Acres tilled.
Juarez.....	8,800	3,350	21,700,000	473,000	1,984,000	58,000
Julio 9 de.....	16,100	5,700	27,100,000	353,000	655,000	75,000
Junín.....	7,800	1,245	9,500,000	135,000	323,000	82,000
Las Flores.....	12,100	1,730	13,100,000	107,000	1,746,000	37,000
Lincoln.....	10,100	5,100	34,600,000	333,000	522,000	37,500
Lobería.....	5,600	2,110	15,000,000	200,000	1,000,000	1,000
Lobos.....	11,400	656	11,700,000	43,000	770,000	48,000
Lomas.....	11,400	86	11,800,000	7,000	3,000	2,000
Luxán.....	9,200	306	8,200,000	15,000	207,000	60,000
Magdalena.....	11,300	1,264	22,500,000	81,000	1,068,000	6,000
Mar Chiquita.....	2,700	1,210	13,200,000	100,000	1,000,000	2,000
Marcos Paz.....	3,600	174	5,400,000	12,000	260,000	15,000
Matanzas.....	4,600	131	7,100,000	20,000	8,000	3,000
Mayo 25 de.....	18,700	2,430	12,100,000	501,000	1,055,000	35,000
Maypú.....	4,200	990	10,300,000	101,000	1,100,000	1,000
Mercedes.....	16,200	420	15,900,000	28,000	560,000	22,500
Merlo.....	3,700	62	5,800,000	10,000	30,000	7,500
Monte.....	4,700	745	11,000,000	60,000	1,155,000	2,500
Moreno.....	3,100	100	9,300,000	20,000	125,000	16,000
Moron.....	8,900	46	8,600,000	4,000	2,000	3,300
Navarro.....	7,800	625	7,800,000	50,000	1,300,000	5,000
Necochea.....	7,800	3,150	15,000,000	245,000	1,300,000	9,500
Olabarria.....	13,200	4,260	22,000,000	800,000	2,000,000	144,500
Patagones.....	3,700	6,770	1,800,000	203,000	523,000	15,000
Pergamino.....	24,600	1,256	25,200,000	133,000	1,058,000	85,000
Pila.....	3,400	1,550	9,400,000	90,000	1,050,000	3,500
Pilar.....	8,100	272	6,400,000	5,000	50,000	126,000
Pringles.....	5,900	3,780	11,500,000	110,000	1,700,000	4,500

Department.	Population.	Sq. miles.	Property. Value, \$	Cows.	Sheep.	Acres tilled.
Puan.....	4,000	3,790	6,200,000	78,000	995,000	37,500
Pueyrredon.....	8,600	1,070	9,900,000	120,000	1,300,000	10,200
Quilmes.....	12,800	178	12,500,000	30,000	70,000	43,500
Ramallo.....	5,900	380	10,900,000	50,000	300,000	99,000
Ranchos.....	5,600	475	8,900,000	30,000	900,000	17,500
Rauch.....	7,700	1,645	9,800,000	450,000	2,560,000	36,000
Rodriguez.....	3,300	145	4,800,000	12,000	230,000	31,000
Rojas.....	9,400	1,180	11,900,000	180,000	300,000	75,000
Saladillo.....	10,300	1,370	13,800,000	75,000	2,000,000	33,000
Salto.....	6,200	596	15,400,000	100,000	900,000	13,000
San Antonio.....	6,700	407	7,900,000	26,000	484,000	41,500
San Fernando...	9,200	15	5,400,000	3,000	5,000	1,000
San Isidro.....	7,400	26	9,200,000	2,000	—	15,000
San Martin.....	6,100	41	5,500,000	1,000	7,000	27,000
San Nicolas.....	24,400	240	19,100,000	12,000	156,000	49,000
San Pedro.....	10,500	471	17,000,000	20,000	500,000	158,000
San Vicente.....	6,500	388	9,900,000	35,000	500,000	14,000
Suarez.....	8,500	3,870	18,400,000	338,000	1,270,000	34,500
Suipacha.....	3,200	347	5,400,000	31,000	650,000	3,000
Tandil.....	10,700	1,890	20,000,000	258,000	1,235,000	25,000
Tapalquen.....	4,500	1,655	7,600,000	150,000	774,000	3,500
Tordillo.....	1,500	465	2,700,000	62,000	252,000	100
Trenquelauquen..	5,400	5,140	—	400,000	900,000	48,000
Tres Arroyos.....	5,000	1,705	16,700,000	121,000	930,000	4,000
Tuyú.....	3,200	1,210	13,500,000	154,000	667,000	2,000
Vecino.....	3,100	1,890	6,700,000	25,000	950,000	2,500
Zarate.....	7,300	222	9,700,000	35,000	225,000	172,500
TOTAL.....	752,400	110,285	1,217,500,000	10,422,000	65,363,000	3,048,400

The area under crops was as follows:—

	Acres.
Wheat.	775,000
Maize.	1,590,000
Linseed.	190,000
Alfa.	415,000
Sundries.	78,400
TOTAL.	3,048,400

Ajío. Has a seaboard of 70 miles on the Atlantic, including Cape St. Anthony. The lands are low and swampy, no part of the district being more than 80 ft. over sea-level. It was brought within the frontier by Colonel Puyrredon in 1818. Population sparse, only 5 to the square mile. Among the best estancias is that of Messrs. Gibson, founded in 1822: others are those of Messrs. Gilmour, Moran and Palmer. The Gibson estancia ranks among the finest in the River Plate, and Messrs. Gibson have valuable concessions for making a port near Ajío and branch railway to connect with the Great Southern. The town of Ajío, sometimes called Lavalle, 210 miles S, of Buenos Ayres, was marked out in 1864, and now counts over 2,000 inhabitants: it is healthy, although surrounded with swamps. Mr. William Morgan's meat factory gives employment to many hands: it was begun in 1876, and at present Mr. Morgan has 4 factories, at Ajío, Magdalena, Ensenada and Bahia Blanca, representing a capital of £40,000, and turning out 600,000 tins yearly of tongues, corned beef etc. There is a considerable coasting trade, vessels plying weekly to and from Buenos Ayres. The department has 6 schools, attended by 370 children.

Alsina. Is one of the new departments in the far South with only one inhabitant per square mile. Here Col. Alsina built Fort Carhué in 1877, around which

has sprung up a town of 1,400 souls. Agriculture has made great progress. There are two schools, with 130 children, and a small chapel. The chief land-owners are Unzué, Leloir, Levalle, Nuttall and Goddard. G. Nuttall's estancia, Masallé, was the head-quarters for more than 20 years of the Cacique Calfucurá, whose name signified Blue Stone. Carhué is 380 miles S.W. of Buenos Ayres, and may be reached, by way of rail to Curumalan, in 20 hours.

Alvear. Is a wild, thinly settled district, watered by the river Las Flores and covered with rich pastures. General Rosas took it from the Indians in 1833, but they regained it after his fall (1852). The department was formed in 1869, but is still very backward, most of the people living in mud huts. There are 4 schools, attended by 200 children, but no church or chapel. The village of Alvear, 140 miles S.W. of Buenos Ayres, was founded in 1873 and has 1,500 souls: it may be reached in 8 hours from town, by way of rail to Saladillo.

Areco Carmen de. Is one of the best sheep-farming districts, dating from 1779, when Captain Betbezé made a frontier out-post here, to protect the highroad to Peru. The lands are high, averaging 360 feet over sea-level, and of the best description. Besides the river of Areco there are several lagoons. Most of the department belongs to foreign settlers, including Hale, Duffy, Allen, Dowling, Kenny, Lynch, Mullen, Maguire, Murray, O'Connell, Wallace, etc. Mr. Hale's estancia of Tatay, covering 25,000 acres, is one of the finest in the north. The town of Carmen de Areco, 90 miles N.W. of Buenos Ayres, is subject to malaria, says Dr. Fuselli, from stagnant pools in the vicinity: typhoid and pulmonary disease are common. It has 3,000 inhabitants

and several good shops, being reached from Buenos Ayres in 6 hours, by rail to Sarmiento station. The church was built in 1858. The department has 7 schools, attended by 540 children. The people are well housed, the average value of house-property being \$90 per head: population 14 to the square mile.

Arrecifes. Is another excellent district for sheep, watered by the river of same name. It was, however, exposed to Indians until the Irish settlers came, in 1864, after which it rose rapidly in value. Assessed property multiplied six-fold in value between 1872 and 1882. The department has 8 schools, with 570 children. Stegmann's estancia is the finest; others are those of Fox, Browne, Bannon, Dalton, Ham, Kavanagh, Kenny, Mooney, O'Connor, O'Neil, Sarsfield, Sillitoe, Allen, Doyle, Cunningham, etc. The town of Arrecifes, with 4,000 population, is 100 miles N.W. of Buenos Ayres, ant dates from 1756, when Señor Peñalva built here a chapel to St. Joseph. The present church was built by Perez Millan in 1820. There are 105 shops, but the streets are unpaved, and typhoid, diphtheria and phthisis are common. The hospital receives 70 patients yearly. There are steam-mills, free library, hotels, etc. Arrecifes is 5 hours by rail from town.

Ajacucho. Is a rich, undulating country, nearly midway between the Sierras of Tandil and the Atlantic, watered by streams from the Sierras: only 4 inhabitants to the square mile. Colonel Rauch conquered this territory in 1826, from the Indians, when he established his frontier from Cape Corrientes to Azul. The Indians recovered it after the fall of Rosas, and the department was not formed till 1865. It sprung into importance with the opening of the G. Southern Railway in 1880. Among the estancias are those of Corkhill, Cosgrove,

Forbes, Green, Hardy, Moore, etc. The adjoining department of *Arenales* is included with this in all statistical returns, consisting of 5 large estancias belonging to Pereyra, Vela, Lezama, Rufino and Velez, all north of Ayacucho. The people are badly housed, mostly in huts. There are 11 schools, with 670 children, but only one chapel in an area of 3,000 sq. miles. The town of Ayacucho, with 4,000 inhabitants, is 206 miles S. of Buenos Ayres, and dates from 1867, when a chapel was founded to St. Louis Gonzaga. There is a hospital with 18 beds. The Tandileofú floods the town, causing much sickness. It is 9 hours by rail from Buenos Ayres.

Azul. Is a high, hilly, picturesque department, rising in some places to 1,200 feet over sea-level. It was the central point of Colonel Rauch's frontier in 1826, but this territory was lost after the fall of Rosas, and remained almost wholly in the hands of Indians until 1862, when a number of Danes arrived and began wheat-growing. Several English settlers followed later, including Gordon, Shennan, Grant, Cox, Cobham, Grierson, Lawrie, Smith, Tucker, Wilson, Walker, etc. The department has 10 schools, with 1,330 children. There is a hospital with 12 beds. The town of Azul has a brisk trade (see p. 83) and is reached in 9 hours by rail: distance 198 miles.

Bahia Blanca. Is a tract of mountainous country, between Sierra Ventana and the Atlantic, which was annexed by General Rosas in 1833, but recovered by the Indians 20 years later. The soil is rich and the department watered by several streams from the Sierras. The first European settlers were three Swiss in 1863, Caronti, Heusser and Claraz, and in the following year came Arnold, Brackenbury, Cobbold, Cattey, Dobson,

Edward, Donner, Holmes, Goodhall, Milred, Lane, Nicholson, Parker, Shuttle, Walker, Wood, etc., whose rifles kept the Indians at bay. Most of them settled in the Napostá valley, as sheep-farmers. Since 1885 agriculture has made great progress. There is no rural department which approaches this in value, the assessment for 1887 shewing \$46,000,000, this of course including the town. The department has 7 schools, with 560 children, one parish church and two chapels. The seaport town of Bahia Blanca, 447 miles by rail from Buenos Aires, dates from 1828, when Colonel Rodriguez founded a fort here. Rosas made it the base of his frontier in 1833, and two years later built a chapel to Our Lady of Mercy. The town takes its name from the white sand, being 6 miles from the sea: the interval is a swamp, full of crabs (see p. 84). The railway was opened hither in April 1884. There are many fine quintas and farms in the vicinity, where all European fruits are grown, and from the grapes is made the Chocoli wine. The canal made by Rosas serves for irrigation. The climate is windy: the heat on 3rd January 1883 reached 111° Fahr. in shade, the greatest on record. Snow has only fallen three times in 23 years, and the average rainfall has been 19 inches. Dr. Lucero says that diphtheria is common. There is a hospital with 50 beds. Mr. Muggeridge is British vice-consul. Waggons or horses may be hired from Bramajo or Bustos. A coach runs weekly to Patagones, on the Rio Negro.

Balcarce. Is a wild district between Ayacucho and the Atlantic, lying within Colonel Rauch's frontier of 1826, but over-run by Indians until 1860. Some parts are 800 feet over sea-level, It is well-stocked with sheep and cattle, but there are only 4 inhabitants per

square mile, and the people live mostly in mud huts. The Anchorenas, Lezamas, Martinez and Valientes own vast estancias, and among English settlers are Mc. Connell, Patterson and Hardy. The department has 7 schools, with 450 children. Martinez de Hoz maintains on his estancia an orphan asylum for 36 children. The town of Balcarce, founded in 1876, is 240 miles from Buenos Ayres by rail, on the newly opened branch from Ayacucho to Necochea or Quequen, on the seaboard.

Baradero. Is one of the most populous and thriving departments in the north, having 30 persons to the square mile. Sheep-farming is giving place to agriculture, more than 70,000 acres being under plough. Tillage was introduced by a Swiss colony in 1856, since which time land has risen 6-fold in value. The people are admirably housed and very industrious. There are 10 schools, attended by 740 children. Among the Irish sheep-farmers are Brennan, Elliff, Connaughton, Lynch, Egan, Maguire, Moran, Murtagh, O'Rorke, Wallace, Whelan, etc. The town of Baradero was established as a reduction of Quilmes Indians in 1666: it stands on a bluff overlooking the Palmas branch of the Paraná, but is subject to intermittent fever. It is 93 miles N. of Buenos Ayres, and is reached in 4 hours by rail.

Bolivar. Is a new territory, between Azul and Trenquelauquen, having been taken from the Indians in 1876 by Colonel Alsina. The people live in mud huts, and the population is only 3 to the square mile. Among estancias are those of Dick, Moore and Kiernan, the rest belonging to Argentines. There are 5 schools, with 320 children. The village of Bolivar, otherwise San Carlos, dates from 1877 and occupies the site of

a great battle with the Cacique Calfucurá, in 1872: it stands N.W. of the Saladillo river, 170 miles S.W. of Buenos Ayres, and may be reached in 12 hours, via Western railway to Peguajó.

Bragado. Is a low-lying western district beyond the Salado, no part being 200 feet over sea-level: the camps are good for sheep, and lagoons are numerous. It was mostly Indian country down to 1855, until numbers of Basques and Italians settled down. Among the estancias are those of Kavanagh, Broderick, Evans, Gaynor, Grigg, Langley, O'Brien, Redmond, Shanahan, Smith, Wilson etc. The people are poorly housed, but agriculture has made strides, about 50 000 acres being under plough. There are 11 schools, with 920 children. The town of Bragado, on the lake of same name (see p. 91) is 130 miles from Buenos Ayres, and is 6 hours journey by rail. This department has 9 inhabitants to the square mile.

Brandzen. Is in the Samborombon valley, within Capt. Betbezé's frontier of 1779, and includes among other sheep-farms those of Mahon, Sheddon and Thorp. There are 8 schools, with 390 children. The only town is Ferrari, on the G. S. railway, 40 miles from Buenos Ayres. The department takes its name from a German colonel who was killed in the battle of Ituzaingó (1827); the town from an Italian farmer of the neighborhood.

Brown. Is a small agricultural district, thickly populated, having 80 persons to the square mile, and in reality a suburb of Buenos Ayres, only 12 miles from town. Burzaco's is the largest grain-farm. There is a number of English residents in the vicinity of Adrogué, a charming village with two fine hotels. The plaza has a statue to Admiral Brown, the Nelson of the River Plate. The department has two chapels, also 6 schools

with 440 children. Many of the quintas have large plantations, and the roads are bordered with trees.

Campana. Is a small department on the Paraná, adjoining Zarate, and famous for its frozen-meat factory. There are 4 schools, with 320 children. It is only two hours by rail from Buenos Ayres (see p. 78), and has 38 inhabitants per square mile.

Cañuelas. Is a low, fertile district, in which sheep-farming may be said to have been cradled by the Whites and McClymonts, of 60 years ago. It was included in Capt. Betbezé's frontier of 1779. The people are well housed, the lands heavily stocked. Among the best estancias are those of Brown, Ball, McClymont, Dixon, Russell, Sheridan, Thompson, White etc. There are 6 schools with 460 children. The town of Cañuelas stands where Betbezé built his fort, to which he gave that name on account of the abundance of reeds that grew there: it is 30 miles S.W. of Buenos Ayres, and is reached by rail in less than two hours.

Capilla del Señor. Was a favorite department of Irish sheep-farmers, but is now rapidly changing into a zone of Italian wheat-farms. It extends from the Luxan river to the Paraná, and was included in the frontier of 1744 by Governor Ortiz. Among the Irish estancieros are Cullen, Culligan, Delamore, Fox, Gaynor, Kelly, Lennon, Lynch, O'Brien, Pugh, Scally and Tormey. The department has 5 schools, with 270 children. The town is commonly known as Capilla, but the official name is Exaltacion. It was founded in 1740 by a Spanish settler named Barragan, who found a crucifix here and built a chapel called Holy Cross. It has a steam-mill, free library, 102 shops, and 3,000 inhabitants, and is two hours by rail from Buenos Ayres. Rev. Mr. Purcell is Irish chaplain.

Castelli. Is a low, swampy district, south of the Salado: there are 3 inhabitants per square mile, and the people live in mud huts. The Anchorenas, Alzagas and Valientes own vast estates, but care little for their people: there is no church or chapel in the whole department of 800 square miles. There are 3 schools, with 130 children. A village is springing up at Guerrero, 102 miles from Buenos Ayres, which is reached in 4 hours by G. S. railway. The Rincon de Lopez abounds in game.

Chacabuco. Is a flat and populous western district, where agriculture has made great progress, there being 90,000 acres under crops. It is also a favorite centre of sheep-farming, and among the estancias are those of Perkins (the first settler in 1862), Allen, Bell, Casey, Dowling, Duggan, Forest, Green, Keating, Lynch, Maclean, Murray, Pearson etc. This country was conquered by Colonel Rauch in 1826, but the Indians recovered it and held it over 30 years. The town of Chacabuco (see p. 100) has two steam-mills and 113 shops, and is 6 hours by rail from Buenos Ayres. There are 10 schools, with 640 children.

Chascomus. Lies between the Samborombon and Salado rivers, and is mostly low, but famous for rich pastures. It was comprised within Pueyrredon's frontier of 1818. The people are well housed, and there are 7 inhabitants to the square mile. It is a favorite district with Scotch sheep-farmers. Among the estancias are those of Bell, Brown, Buchanan, Burnett, Campbell, Cox, Dodds, Fair, Graham, Green, Johnston, Maxwell, Mullady, Newton, Nowell, Plowes, Reid, Robson, Sheil, Thwaites, Wallace, Wilde and Wilson. The Newton estancia was the first that was fenced in the province; Fair's, of the Espartillar, is also a fine establishment.

There are Presbyterian chapels at Jeppener and Adela. The department has 11 schools, with 940 children. The town of Chascomus (see p. 85) is only 3 hours by rail from Buenos Ayres: it is one of the best towns in the south. Madame Farnesi has an English school for young ladies. There are a free library and a local newspaper. The hospital has 16 beds.

Chivilcoy. Is a populous and progressive western district, with 28 persons to the square mile. It was annexed in 1826 by Colonel Rauch, but made no advance until Dr. Sarmiento established an agricultural colony here in 1854, the settlers being Italians and Basques. They were, however, often forced to sell their maize as fuel for brick-kilns until the railway was opened hither, in 1871. There are 180,000 acres under plough, and the department is also rich in flocks and herds. The people are well off, house-property averaging \$133 per head. Among the estancias are those of Brown, Hearne, Casey, Lawler, Egan, Ronayne, etc. The department has 13 schools, with 1550 children, one church and 2 chapels. The town of Chivilcoy (see p. 90) is 4 hours by rail from Buenos Ayres: the municipal report shews that it is unhealthy, owing to swamps and stagnant pools, phthisis being very prevalent. It has 8 steam-mills, 250 shops, and a hospital with 18 beds. Rev. Samuel O'Reilly is Irish chaplain.

Conchas. Is a suburban district, one hour from Buenos Ayres by Northern railway, being between the Conchas and Luxan rivers. It was taken from the Guacunambi Indians in 1814. Although low and swampy, it is healthy, and is also of amazing fertility: quinces grow as large as a man's head, and 6 water-melons sometimes fill a cart. Many of the merchants and lawyers of Buenos Ayres have elegant villas, where they spend the

summer months. The church was built by Doña Magdalena Bonelo in 1780. There are 6 schools with 430 children. It includes the village of Tigre. Tigers sometimes landed here from the floating islands of the Paraná: Mr. Milberg trapped one so late as 1865.

Dolores. Is a populous, southern district with 13 persons to the sq. mile. It is low and swampy, nowhere more than 60 feet over sea-level, affording excellent pastures. The people are well housed, and better attended to in public matters than elsewhere in the south. There are 10 schools, with 1,160 children. Among the estancias are those of Fahey, McInerny, Purdie, Warren, White, Yates, etc. Rainfall averages 32 inches yearly. The town of Dolores (see p. 86) is only 6 hours by rail from Buenos Ayres: its progress dates from the opening of the Great Southern railway in 1874. It has a superb church, town-hall, theatre, free-library, hotels and 300 shops. The hospital has 34 beds.

Ensenada. This is now called La Plata, and includes the capital of the province. It extends along Barragan's Bay (see p. 97) and is mostly low, nowhere exceeding 80 feet over sea-level. Among the estancias are those of Bell, Buchanan, Allen, Davidson, Cooper, Mahon, Taylor, etc. Ensenada was used as a port for 200 years in the time of Spanish rule, and in 1824 Dr. Rivadavia raised a loan of £1,000,000 sterling to improve the harbor, under the direction of Mr. Bevans C. E. (grandfather of President Pellegrini), but the war with Brazil prevented the undertaking. Mr. Wheelwright again took it up in 1868, and made a temporary pier, 3,000 feet long and 25 wide, at Punta Lara, but his death shortly afterwards again stopped the works. The bay of Ensenada has an area of 2,120 acres. and is now connected with La Plata city by the new docks: these

were begun by Mr. Waldorp in 1884 for the Provincial Government, and have cost £3 000 000 sterling, admitting vessels of 24 feet draught. The works extend about 3 miles in length and the trade of the port in 1890 was:—Imports \$3,000,000 gold, exports \$1,130,000, entries 200,000 tons.

The city of La Plata promises to be in time one of the grandest in South America. It was founded on the 19th November 1882, and has at present 60,000 inhabitants, the value of houses and public buildings being 260 millions currency or £16,000,000 sterling (see p. 97): its avenues, boulevards, public edifices, electric light etc. give it a fine appearance. Mr. E. T. Puleston transacts most of the business for banks and in connection with official departments. There are 29 schools, attended by 3 500 children. The public library has 14,000 volumes. There are 3 hospitals, with 250 beds. The Museum is very rich in fossils, and is ably directed by Don Francisco Moreno. There are one church and 4 chapels. The suburb of Tolosa is the central point of the railways of the province. La Plata is reached in less than two hours from Buenos Ayres the distance being 35 miles and the railway service good.

Giles. Is a small western department, of high, rolling camps, well suited for sheep, and takes its name from a farmer named Giles, to whom Capt. Betbeze gave these lands in 1779, when he laid down the frontier. Among the estancias are those of Morgan, Mooney, Kenny, O'Brien, Elliff, Carry, Tormey, Wheeler etc. The people are well housed and prosperous. There are 6 schools, with 260 children. The town of Giles was founded in 1826, and has 2,000 inhabitants.

Guamini. Is a new frontier department in the south-west, with less than one inhabitant per square mile.

It has more cows than sheep, being mostly "hard" camps, taken from the Indians by Col. Alsina in 1877. The first settlers were Thompson and Dickson in 1881. Among present owners are Baker, Grant, Bridger, Shennan, Thompson, Roberts, Barclay, Norton, Dashwood. The estancia Lahusen is cut up into meadows and has fine buildings and offices. That of Shennan and Evans has much fine stock, that of Roberts large plantations of trees. The soil is well suited for tillage. Brunkhorst has an estancia of 26,000 acres at Tres Marias, carrying 12,000 merino sheep and 2,500 cattle. The town of Guamini has 1,000 inhabitants, and 3 schools, with 150 children, but there is no church or chapel. It stands near some large lakes, midway between Trenquelauquen and Curumalan. It is 270 miles from Buenos Ayres, as the crow flies, and may be reached in 18 hours, via rail to Trenquelauquen.

Juarez. Is a wild and hilly frontier district, with only two inhabitants per square mile: it is in some parts 1,400 feet over sea-level, and is watered by streams from the Sierras of Tandil. There are 40,000 acres under plough, and two million head between sheep and cows. The people are badly housed and little attended to by the wealthy land-owners, Anchorenas, Ezeizas, Iturraldes, Otamendis etc. Among English settlers are Edwards, Garrett, Reddy, Ryan and Turner. The department has 6 schools, with 270 children. The town of Juarez (see p. 88) is 300 miles from Buenos Ayres, and may be reached in 16 hours. Dr. Casal says the town is healthy, but very cold in winter and subject to pulmonary disease. There are steam-mills, 41 shops, an hotel, and a hospital with 6 beds.

Julio Nueve de. Is a large, thinly settled western department with barely 4 persons per square mile. It

was annexed by Rosas in 1833 and recovered by the Indians in 1853. Coliqueo's friendly tribe held a great portion down to 1864. The first English settlers were (in 1860—62) Douthat, Fletcher, Dick, Kenyon, Foster, Stevenson, Shaw, Smith and Wallace, but only some of these remain. The Negras estancia founded by Mr. Douthat is now the property of Edward Hawes, the first man to introduce fencing in the western camps in 1878, and who has since imported Durham bulls and other fine cattle. Among other estancieros are Burns, Potts, Perry, Vernon, Kiernan, Lynch, Kavanagh, McDonnell, Murray etc. John Campbell's estancia of 45 000 acres is divided into 16 meadows: he has 100,000 trees, a fine park and house, and pedigree stock. The Jewish colony of Mauricio adjoins. The department has 6 schools, with 480 children. The town of Nueve de Julio was founded in 1863 (see p. 91) but made little progress till the opening of the Western railway in 1884. There are a church, a steam-mill, 47 shops and a hospital with 38 beds. It is reached in 7 hours from Buenos Ayres.

Junin. Is a new western district that has made very rapid progress, having already 6 inhabitants to the square mile. It was recovered by the Indians after the fall of Rosas. Some Europeans ventured here in 1865, but the Indians came in and killed them and carried off their wives, so late as 1873. Flocks and herds are numerous, and the area under plough is over 80,000 acres. The lands are low and often flooded by the Salado. Among the estancias are those of Dowling, Kearney, Murray, O'Neill and Atkins. There are three large lagoons, from 10 to 20 miles long, the largest being called Mar Chiquita. The department has six schools, with 540 children. The town of Junin is

only 7 hours from Buenos Ayres, on the Pacific Railway.

Las Flores. Is a very rich pastoral district of the south, and at times flooded by the Salado. It was conquered in 1779 by the Viceroy Vertiz, who found the river-banks lined with flowers, and hence its name. It was, however, so exposed to Indian forays that the first European settlers did not venture here till 1856. Musgrave was the first to introduce fencing, in 1864. Among the estancias are those of Beckford, Brown, Codd, Forster, Gebbie, Kelly, Manson, Mason, O'Grady, Eborall, Robson and White. There are 10 schools, with 780 children. The people are well housed. The town of Carmen de Flores (see p. 82) is only 7 hours by rail from Buenos Ayres, and is the junction for three lines of railway. It has a free library, local newspaper and 170 shops or factories.

Las Heras. Is a small south-western district, once famous for sheep-farms, but now rapidly changing to tillage. There are 130,000 acres under plough, and 12 inhabitants to the square mile. Twenty years ago the lands were owned by the Dillons, Murphys, Hams, Lynches, Moores, Caseys, Healys, etc.; most of whom have since sold at exceedingly high prices, and moved further out. The department has 5 schools, with 270 children. There is a village called Hornos, with 1,000 inhabitants, founded in 1870, on the Saladillo branch of the Western railway, 2 hours from town: it has a church and a few shops.

Lincoln. Is a vast western district, with two inhabitants to the square mile. It is mostly low, lying SW. of the Salado. Rosas did not attempt to include it in his frontier of 1833, and it was regarded as Indian territory until 1865 when Murray, Dowling and some

other Irishmen planted estancias near fort Ituzaingó. Among the present land-owners are Duggan, Oostendorp, Grigg, Younger, Gowland etc. Duggan's estancia covers 500 square miles, all fenced. That of Oostendorp is likewise of great extent. The town of Lincoln, founded in 1867 on the site of Fort Chañar, has a chapel, hotel, shops and 2,000 inhabitants. There is also a hamlet called Lavalle, further west, with 300 inhabitants. Either place may be reached in one day from town, via rail to Junin or Vedia, on the Pacific line. Lincoln is 180 miles west of Buenos Ayres as the crow flies, and about 40 south-west from Junin, being on the proposed line of railway from that town to Trenquelauquen.

Loberia. Is a very wild, southern department, with less than 3 inhabitants to the square mile. It extends from the Sierras of Tandil to the Atlantic, and takes its name from the numbers of seals (lobos) along the coast. Some parts are 800 feet over sea-level. It is rich in flocks and herds, but the people live in mud huts, and there is neither church nor chapel. This territory of 2,000 square miles belongs to a few Argentine estancieros, the Casares, Fernandez, Luros, Guericos, Oteros, Suarez and Valientes: the only English owners are Gaynor and McClellan. The department is watered by the river Quequen, near the mouth of which it is proposed to build "the city of Quequen", only separated by the Quequen river from the new watering-place, Necochea, on the south bank. As Quequen is the terminus of the new branch of the G. S. railway from Ayacucho it will soon become of some importance. The department has 4 schools, with 320 children.

Lobos. Is a low-lying, fertile and prosperous district of the south-west, thickly stocked and having 18 inha-

bitants per square mile. It was conquered by Capt. Betbezé in 1779, being inside the Salado. Irish sheepfarmers settled here in 1840, and among the best estancias are those of Gahan, Casey, Moore, Garraghan, Geoghegan, Lawler, O'Gorman, O'Neill, Dolan, Wright etc. Agriculture is advanced, the area under crops being 110,000 acres. The department has 8 schools, with 810 children. The people are affluent and well housed, the ratio of house-property being \$155 per head. The town of Lobos (see p. 92) has grown rapidly since the railway was opened, in 1867: it has a fine church, free library, a hospital with 16 beds, town-hall, 170 shops and 6,500 inhabitants. It is 61 miles from Buenos Ayres.

Lomas. Is a suburb of Buenos Ayres, 10 miles to the south, with 130 inhabitants per square mile. It includes Monte Grande and Santa Catalina, where Robertson's Scotch colony was established in 1826. The grounds of Santa Catalina were beautifully laid out by Mr. Tweedie, the plantations comprising 1,100,000 trees: this was for many years the residence of Mr. Patrick Bookey, and is now a Government "haras" and prize farm. Close by is the Victoria Convalescent Home, founded in 1887. There are many fine quintas, especially that of Mr. Meeks, near the railway. Although the department is very small it has 6 railway stations: Lanus, Banfield, Lomas and Temperley on the G. Southern line, and Llavallol and Monte Grande on the Cañuelas branch. There are 8 schools, with 740 children. The town of Lomas is officially called La Paz (see p. 80): the district was granted by Garay in 1580 to a gentleman called Zamora. It is now a favorite residence of British merchants, having an admirable train-service. The Lomas Harriers meet once a week

in winter. There is an English chapel, in charge of Rev. Canon Pinchard.

Luxan. Is a prosperous western district, watered by the river Luxan, which takes its name from a brave officer of Mendoza's, Capt. Diego de Luxan, killed on its banks in a battle with the Querandis. It was one of the 6 departments into which the province was divided in 1744 by Ortiz de Rosa. Irish sheep-farmers arrived in 1840, and among the estancias are those of Brown, Casey, Clavin, Fitzsimons, Garraghan, Kelly, Kenny, Maguire, Maxwell, Ham, Whitty etc. The department has 7 schools, with 500 children. The people are well housed and prosperous. The town of Luxan (see p. 90) is only 2 hours by rail from Buenos Ayres. In 1806 Captain Arbuthnot took from the Cabildo £300,000 of silver, deposited here by Viceroy Sobremonte on his flight to Cordoba, which was sent home and lodged in the Bank of England. The town has little trade, and is only remarkable for its shrine, for which it is proposed to build a grand 'basilica'.

Magdalena. Is a low-lying, coast department, running 70 miles from Ensenada to the Samborombon, including Point Indio. Some of the coast has thick woods. The people are affluent, and there are 9 persons to the square mile. The lands are rich and heavily stocked, yielding some of the best wool. Among the estancias are those of Buchanan, Fink, Garraghan, Hamilton, Malcom, Newton, Ritchie, Simons and Thompson. The department has 10 schools, with 630 children. It takes its name from a chapel built in honor of St. Mary Magdalen in 1776. The town (see p. 97) is 4 hours by rail from Buenos Ayres.

Mar Chiquita. Is a wild, thinly settled department on the south coast, with two inhabitants per square

mile. It was a part of the Indian territory annexed by Col. Rauch in 1826, and made into a department by Rosas in 1839. It has a coast-line of 30 miles, and takes its name from an inlet of the Atlantic, which forms a gulf 5 miles in length. Anchorena's estate of Loma de Gongora covers 600 square miles, besides which there are vast properties belonging to Aguirre, Barbosa, Bernal, Ezeiza, Cobo, Piran, Ibañez and Sosa. The people live in mud butts, the average value of which is officially stated at \$16 per head: there is neither church nor chapel, the land-owners being utterly heedless of the condition of their people. There are 7 schools, with 180 children. It is proposed to build a village on the gulf above-mentioned, which would be nearer to Buenos Ayres than Mar del Plata, and better suited for sea-bathing; for this purpose a branch railway should be made to Arbolito station, 20 miles distant. Mar Chiquita would then be 230 miles from Buenos Ayres, say 10 hours' journey. There are some English landowners: Gaynor, Jones, Reddy, Quinn, Donne, McGaul and Holder.

Marcos Paz. Is a small, populous western department, where sheep are rapidly giving place to tillage. The estancias formerly owned by Dillons, Murphys, Lawlers, Slavins and Tallons are now cut up among Italian wheat-growers. The people are well housed and prosperous. The department has 5 schools, with 400 children. The town of Marcos Paz, founded in 1871, has 2,000 inhabitants, and is a station on the Saladillo branch of the Western railway, two hours from the city. Brunkhorst's model farm, started in 1879, has 1,500 fine merino sheep and 200 Durham cows.

Matanzas. Is a small, suburban department, only 15 miles SW. from Buenos Ayres, and takes its name

from the "slaughter" of Querandi Indians in 1580 by Juan de Garay. It was one of the departments of 1744. The Matanzas river afterwards, in passing through Barracas, is called the Riachuelo. The Ramos Mexia family, who have a very handsome residence, possess the original Cedula of Philip II granting them these lands, in the 16th century. In 1824 Mrs. Hannah Burns established a dairy farm here; her house was fortified, with a piece of cannon on the roof, and she lived to an advanced age, the dread of cattle-lifters. In later years it has been a favorite district for Basque milkmen. There are 7 schools, with 440 children. The people are prosperous and well housed. The town of San Justo has 1,000 inhabitants, and is a station on the branch railway from Haedo to La Plata. It was founded in 1856, by Justo Villegas. Rainfall averages 38 inches yearly; temperature shews highest monthly range 77, lowest 54 Fahr.

Mayo 25 de. Is an extensive, prosperous and well stocked south western department, with 8 inhabitants to the square mile. The lands are low and fertile, often flooded by the Salado, lying as they do between that river and the Saladillo. This territory was annexed by Col. Rauch in 1826, and made into the department of Mulitas by General Rosas in 1846, but recovered by the Indians after his fall. One of the first settlers was Mr. Keen, in 1864. The pastures are rich, being watered by the Salado and various lagoons. The estancias comprise those of Atucha, Unzué, Lezica, Fernandez, Villaraza etc. among Argentines, and Dickson, Keen, Elliff, Whelan, Wright etc. among foreigners. The people live mostly in mud huts. There are 12 schools, attended by 800 children. The town of Veinte-cinco de Mayo, formerly Mulitas, is equi-distant

between Saladillo and Bragado, but coaches prefer the former station, and by this route the journey to Buenos Ayres is done in 10 hours. The town is frequently a prey to typhoid, diphtheria and small-pox. There are a church, free library, steam-mills, 130 shops and 7,000 inhabitants: there is a hospital with 6 beds. Average rainfall 38 inches: mean annual temperature 60 Fahr.

Maypú. Is a low, swampy district, south of Dolores and Tordillo, with 4 inhabitants to the square mile. It is sometimes called Monsalvo, from a forest of that name, and was annexed by Col. Rauch in 1826. Rosas included it in the department of Vecino in 1839. It has fine pastures, teeming with flocks and herds, but the poor gauchos are utterly uncared for, the whole country being owned by Alzagas, Acostas, Diaz, Elias, Lastras, Pereyras and Ramos Mexias. The last-named family has an estate of 400 square miles. The people live in mud huts, the value of house-property being only \$38 per head. There are 4 schools, with 250 children. The only English land-owners are Logan and Wheeler. The town of Maypú (see p. 86) is a station on the G.S. railway, from which starts the branch-line to Mar del Plata. It has a church, free library, 100 shops and 2,000 inhabitants, and has sprung up since the opening of the railway in 1879, which brings it within 7 hours of Buenos Ayres.

Mercedes. Is one of the richest western departments, very flat and covered with rich grasses. It was annexed in 1779, but made little progress until Irish sheep-farmers came in 1840. Among the estancias are those of Allen, Connor, Dillon, Flanagan, Garaghan, Kelly, Ledwith, Lowe, Maguire, Mahon, Martin, Murphy, Murray, Stafford and Tyrrell. The lands are heavily stocked, carrying three sheep to the acre. The people

are prosperous, and house property shews \$155 per inhabitant. The department has 4 churches, 10 bridges and 16 schools attended by 1,470 children. The town of Mercedes (see p. 90) stands on the site of Guardia Luxan, built by Capt. Betbezé in 1779. It takes its name from a church erected to Our Lady of Mercy in 1786, and is the 4th town in the province, with well-built streets, public edifices, steam-mills, 240 shops and a hospital of 40 beds. There is a local bank, under the presidency of Mr. Nicholas Lowe, an enterprising Irishman, who has also promoted fairs and agricultural shows. The town-hall has a free library and a ball-room 100 feet long. St. Patrick's college covers 4 acres. Mercedes is a central point on the Western and the Pacific railways, and is reached in 3 hours from Buenos Ayres. Dr. Creagh is English physician. Rev. Father O'Grady has a chapel, attached to the college.

Merlo. Is a suburban district, 19 miles W. of Buenos Ayres, in which agriculture is progressing, being watered by the Conchas river. It has 5 schools, with 430 children. The town (see p. 89) takes its name from Francisco Merlo who built a chapel to St. Anthony in 1724, and laid out the village in 1730: his descendants are still in the neighborhood. The first steam-mill in the province was built here in 1857 by Blumstein and Laroche. The population is 1,500 souls, and there are some pretty country-houses. It is the junction from which the Saladillo railway starts.

Monte. Is a flourishing southern department, inside the Salado, and formed one of the 10 departments of 1779. The lands are low, and have many lagoons. Scotch and Irish sheep-farmers have long been numerous, and among the estancias are those of McClymont,

Russell, Shennan, Malcom, White, Wilson, Brady, Craig, Dillon, Hogan, Kenny, Lyall, Martin, McLoughlin, Moran etc. The gauchos are badly housed; they are good horse-tamers. The dictator Rosas passed here his early years. The department has 8 schools, with 350 children. The town of Monte stands where Capt. Bethezé built a fort in 1779, on the banks of a lake. A chapel was built to St. Michael in 1811, which gave place to a handsome church in 1872, the Scotch and Irish farmers contributing liberally. There are 2 hotels, 60 shops and 2,200 inhabitants. A new branch of the G.S. railway was opened in June 1892 from Cañuelas to Las Flores, passing through Monte, which brings this town within 3 hours of Buenos Ayres. Agriculture is progressing rapidly, this department having 90,000 acres under plough.

Moreno. Is a small western department, which was included in the frontier of 1744, watered by the affluents of the Conchas and Luxan. Numbers of small farms are held by Italians, population being 31 to the square mile. The department has 13 bridges, and 5 schools with 420 children. The town of Moreno (see p. 89) is only one hour from Buenos Ayres, and was founded in 1860. It has 70 shops and 1,400 inhabitants.

Moron. Is a suburban district on the Western railway, with 190 persons to the square mile. It was made a department so far back as 1630, and probably takes its name from one of Garay's followers. It has always been famous for the dryness of its air and the fertility of its soil. The town (see p. 89) was founded by José Escalada in 1730 and has now 5,000 inhabitants, being less than an hour from the city. The ratio of house-property in this department is prodigious, over

\$250 per inhabitant. Some of the quintas are very fine, with plantations of Eucalyptus. There are 9 schools, with 610 children. The church which was built in 1779 was dedicated to Our Lady of Good Journey, because this was then the first stage on the highroad to Peru: the present one is of recent construction. Moron is a favorite resort in the summer months, and Dr. Casullo says it is free from stagnant pools or malaria, well sheltered by plantations, and good for consumptive patients.

Navarro. Is a small south-western department, very heavily stocked with sheep (more than three to the acre). It was included in the frontier of 1779, being inside the Salado, and made into a department in 1815. It has long been famous for rich pastures, and its progress dates from 1840, when three Irishmen from North America started here as sheep-farmers. Among the estancias are those of Carthy, Casey, Gahan, Kenny, Lynch, Maguire, Maxwell, Ham, Dillon, Lawler and Norris. Besides the great lagoon of Navarro there are many streams, tributary to the Salado. The department has 6 bridges, and 10 schools with 430 children. The town stands on the site of Fort Navarro, built by Capt. Betbezé in 1779, close to the lagoon. A church was built to St. Lawrence in 1838, but the town has not made great progress, having at present only 2,300 inhabitants; it was very unhealthy, as Dr. Castaño says,—down to the year 1881, the streets being in winter full of stagnant pools and the lagoon often drying up in summer, and exhaling malaria. Diphtheria and typhoid fever made great ravages; but in 1881 the streets were drained, and a breakwater was made to keep the lagoon full of water in summer. Pulmonary disease is, however, still very common. The nearest

railway station is Zapiola, on the Saladillo line, by which the journey to town is made in 5 hours.

Necochea. Is a vast, thinly peopled territory beyond the River Quequen, along the Atlantic seaboard, with only two persons to the square mile. It was a part of the Loberia country, conquered by Rosas in his expedition of 1833, but recaptured by the Indians after his fall in 1852. It has a coast line of 50 miles from the mouth of the Quequen to the Cristiano Muerto 'arroyo'; the former river is navigable 40 miles. The lands afford excellent pastures and have been occupied about 30 years. The department was formed in 1865, and is owned by 40 large proprietors, the Alzagas, Anchorenas, Casares, Cobos, Diaz-Velez, Ezezas, Herreras, Iraolas, Laras. Oliveras, Torres. Udaquiolas, Velas, and others, who take little heed of the condition of their people. These live in mud huts, the ratio of house-property being only \$26 per inhabitant. The Diaz-Velez estate covers 350 square miles, that of Nepomuceno Fernandez 300, and the Olivera estancia at Paso Otero in the Quequen is famous for prize cattle. In this vast territory of 3,000 square miles there is but one chapel, at the town of Necochea. There are 4 schools, with 200 children. The town (see p. 87) is called sometimes Necochea, sometimes Quequen, but the latter is properly a suburb on the N. bank of the Quequen. Although founded in 1877 it has already 3,500 souls, and promises to outstrip Mar del Plata as a bathing-place; but it is 90 miles further, the journey from Buenos Ayres taking 15 hours by rail.

Olabarria. Is a high, rolling country, beyond the Sierras of Azul, with 3 inhabitants to the square mile; it is in some parts 1,000 feet over sea-level, watered by streams from the Sierras, and the camps are equally

good for pasture or tillage. The department was formed in 1865, but was often over-run by Indians until Colonel Alsina made the frontier of 1877. A colony of Russians arrived here, to whom the Government of Buenos Ayres made a free grant of 240 square miles in 1,200 farm-lots of 120 acres. In 1884 the colony counted 2,800 souls, occupying 954 farms, producing 21,000 tons of wheat, and having besides schools a chapel built of stone to St. Michael. At present the department has nearly 200,000 acres under crops, the Russian colony representing probably one-half. There are, moreover, 3,000,000 head of stock, between cattle, sheep and horses. The property of the department is valued at 22 millions currency, say £1,500,000 stg., all created since the arrival of the Russians, 14 years ago. Immense tracts of lands are owned by the Aguilars, Alvarez, Meabes, Olazabals, Otamendis, Pereyras, Saavedras, Vegas, etc, whose people live mostly in mud huts, as they did 200 years ago. House-property is only \$33 per head. This department is half the size of the kingdom of Belgium. There are 13 schools, with 730 children. The town of Olabarria (see p. 83) was marked out in 1879, and has made great progress since the opening of the G. S. railway (in 1884) to Bahia Blanca, counting at present 2,400 inhabitants: it is 10 hours from Buenos Ayres, and 10 from Bahia Blanca. A few miles north of the town is the penitentiary of Sierra Chica, where quarries are worked by convicts. The climate of Olavarria is very healthy, but not good for weak lungs, being subject to sudden changes of temperature.

Patagones. Is a vast territory between the rivers Negro and Colorado and washed by the Atlantic, with only one inhabitant to the square mile. When General

Rosas conquered this country in 1833 he found the ruins of many old Spanish estancias along the N. bank of the Negro as high as Choel-Choel, 280 miles, which had fallen into the hands of the Indians. After his fall, in 1852, the Indians recovered this territory. The first European settlers, in 1866, were the Kincaids, Zeller, Frazer, Bucklands and a few other intrepid men, who had to hold their ground at tremendous odds, and with sleepless vigilance, against the Indians. The principal land-owners are Luro, Bergara, Carbajal, Agapito, Belloza, Isidro, Jayme and Pezoa on the Colorado: Hansen, Mulhall, Buckland, Sassenberg and Piedrabuena on the seaboard, and Kincaid, Mulhall, Bertonelli, Rodriguez and Winter on the Rio Negro (see pp. 192 and 195). The town of Carmen (see p. 190) has a church, schools and 70 shops, on the N. bank of Rio Negro. It was originally on the S. bank, where Capt. Biedma built a fort in 1778, but was removed on account of floods. The department has 5 schools, with 240 children.

Peguajó. Is a new department on the western frontier, with less than two inhabitants per square mile, including some of the territories formerly belonging to Nueve de Julio and much Indian country annexed by Colonel Alsina in 1877. Among the estancias are those of Drysdale, Campell, Carabassa, Lausen, Bellocq, Maggi, Canessa, Wright, Bouquet and Martin. The department was formed in 1889, when a village was founded on the site of Fort Mellizas. It is a station on the Western railway (see p. 91), 10 hours from Buenos Ayres.

Pergamino. Is a populous and progressive department which reaches to the frontier of Santa Fé, with 20 persons to the square mile. It was occupied by the Spaniards in the last century, but was allowed to re-

lapse into the power of the Indians after the fall of Rosas. The first settler was John Doyle, who was killed by run-away soldiers after the battle of Cepeda, in 1859. There are at present two million head of stock, and the area under crops reaches 150,000 acres. Among the estancias are those of Allen, Bacon, Brady, Bett, Byrne, Dillon, Duffy, Fitzsimon, Fox, Gregory, Hale, Hastings, Heath, Hogan, Jacobs, McDermot, Mooney, Nicholson, O'Toole, Ryan and Street. The lands are high, but well watered by the Fontezuela and other streams and the lagoons of Cardoso. There are 9 schools, with 1,180 children. The town of Pergamino (see p. 116) was established as a stage on the highroad to Peru early in the 18th century, and a church built to Our Lady of Mercy in 1779. It was besieged by Indians so late as 1864, and made little progress till the opening of the railway, in 1883, since which its population has doubled. It has a church, free library, steam-mills, hotels, 170 shops and 8,000 inhabitants. The hospital has 70 beds. Bronchitis and diphtheria are common. It is 2 hours by rail from San Nicolas, and 8 from Buenos Ayres. Several lines cross here.

Pila. Is a wild, low-lying department beyond the Salado, with two inhabitants to the square mile. It was conquered by Rauch in 1826, but subsequently over-run by Indians. It is the property of 25 wealthy Argentines, and teems with flocks and herds, but is in a most abandoned condition, the poor gauchos living in mud huts. The value of house property is only \$16 per head. The Anchorena estancia runs 50 miles in a straight line to the Vecino. The other proprietors are the Agueros, Casalins, Cascos, Dorados, Gallos, Girados, Harilaos, Ibañez, Lopez, Miguens, Senillosas, Stegmans

and Torres. The estancia called Poronguitos, near the Salado, was established by the late Mr. Stegman in 1833, and took a prize for wool at Paris in 1867. The department has 2 schools with 110 children. It is between the stations of Taillade on the Dolores section, and Chas on the Las Flores section, of the G. Southern railway, and only 5 hours from Buenos Ayres.

Pilar. Is a small agricultural district, with 30 inhabitants to the square mile, between the rivers Conchas and Luxan. The camps are low and fertile, and were covered, 30 years ago, with Irish sheepfarms. Here were the Dalys, Dillons, Egans, Youngs, Nolans etc. not one of whom remains, the whole department being now under wheat and linseed, and mostly in the hands of Italians. There are 10 schools, with 530 children. The town of Pilar (see p. 99) is a station on the Pacific railway and also connected by Lacroze's rural tramway with the city. The department includes also the hamlet of Escobar on the Rosario line (see p. 77).

Pringles. Is a vast, southern department, between Curumalan and Tres Arroyos, with less than two inhabitants to the square mile. It was formerly a part of Tres Arroyos, all which territory fell into the hands of Indians after the overthrow of Rosas, and was held by them undisputed until 1865, when some bold Englishmen settled on the Sauce Grande. There are 30 or 40 native estancias of vast extent, where the poor gauchos live in mud huts. In this territory of 4,000 sq. miles there is one chapel, at the town of Pringles. Very little care is paid to the condition of the people, but the department possesses two millions head of stock. The wealth is assessed at 12 millions currency or £800,000 stg., and yet the ratio of house-property is only \$23, or thirty shillings, per inhabitant. The

town of Pringles was founded in 1883, on the old Indian camping-ground of Pilla-Huincó, and has sprung into some importance since the opening of the Tres Arroyos and Bahia Blanca section of the G. Southern railway. It is midway between the station of Tres Arroyos and that of Sauce Corto on the Curumulan section, and has 2,400 inhabitants. There are 3 schools, with 170 children. It may be reached in 24 hours from Buenos Ayres.

Puan. Is a new, frontier department of the south-west, of vast extent, having one inhabitant to the square mile, and was taken from the Indians by Col. Alsina in 1877. It has a great number of 'arroyos' and lagoons, lying west of the Curumulan range of hills. The department was formed in 1886, south of Alsina and North of Bahia Blanca, from which latter it is separated by the Sauce Chico. The stock exceeds one million head, and assessed property exceeds 6 millions currency. There are two schools, with 80 children. The village of Puan, on the site of Alsina's fort, has 1,000 inhabitants, and will be a station on the proposed frontier-railway from Trenquelauquen to Bahia Blanca, via Bernasconi. It is 15 miles W. of Arroyo Corto station on the Great Southern railway, which brings it within 20 hours of Buenos Ayres, the distance being 360 miles.

Pueyrredon. Is a department on the south coast, taking in Cape Corrientes, and was conquered by Col. Rauch in 1826, but at times over-run by Indians, forming as it did a part of Loberia until 1880, when the department was formed. There are large estancias, belonging to Barragan, Islas, Peralta Ramos, Saenz Valiente, Vivot, Camet, Zubiaurre and others. The lands are heavily stocked. In this department is the

famous Laguna de los Padres, 10 miles NW. of the bathing-place Mar del Plata: the lake covers 1,300 acres, and has on one side thickets, in the midst of which are said to exist some remains of the Jesuit chapel of F. Strobel, built in 1747, as also fruit trees planted by the Fathers. This flourishing mission was destroyed in 1756 by the Grand Cacique Cangapol, who carried fire and sword to the gates of Buenos Ayres in consequence of the wanton massacre of a tribe of friendly Indians at Chascomus by a Spanish officer. The famous Father Falkner spent some years with the Indians of this coast, and mentions the annual "parliament of seals" at Cape Corrientes, which is still held. The cliffs along the coast have millions of parrots, and the sea is alive with shoals of porpoises. Agriculture is making progress, the potatoes grown here being specially good. The department has 6 schools, with 360 children. The town of Mar del Plata (see p. 86) stands on the site of a saladero of Patricio Peralta, established in 1870: it was begun in 1886, when the G. S. railway made a branch line hither, and has now 5,000 inhabitants, irrespective of visitors, of whom there are 10,000 every season. Good hotels at reasonable charges are sorely needed. Sanitary matters likewise call for reform. The beach is, moreover, dangerous for bathing. Many people, however, go merely to enjoy the delightful atmosphere, others to play roulette.

Quilmes. Is a charming suburban district, with 50,000 acres under crops and 70 persons to the square mile. Agriculture of an improved kind was introduced in 1840 by the late John Clark, who greatly advanced this neighborhood. The model-farms of Wilfred Latham and Benavente were long famous for their Rambouillet sheep, as also John Davidson's estancia of Santo Do-

mingo, but all these are now under tillage. The town of Quilmes (see p. 95) has a fine church, free library, 170 shops and 8,000 inhabitants. There are 10 schools with 980 children. A Protestant chapel has been built by Mr. Clark and other neighbors. Many English merchants reside here, the place being only half-an-hour from Buenos Ayres. Two miles further, at Espeleta, is the Highland Scot Canning Co. (see p. 95).

Ramallo. Is a small northern department, with 16 persons to the square mile, on the banks of the Paraná, between San Pedro and San Nicolas. It was within the frontier of 1744, but made no progress till the Irish sheep-farmers came, in 1850. It was made a department in 1865, and the finest estancia is that of Llavallol at Las Hermanas, managed by Mr. Kenyon. Among others are those of Booth, Brown, Cullen, Doyle, Cloughessy, Fahey, Hanly, Robbins, Pitt etc. Sheep are steadily making way for tillage. The department has 7 schools, with 280 children. The town of Ramallo (see p. 78) was founded in 1874 at the confluence of the Hermanas stream with the Paraná: it has a church, free library, 50 shops and 3,500 souls. It is 5 hours by rail from Buenos Ayres, 2 from Rosario, and some of the river steamers call here.

Ranchos. Is a swampy department N. of the Salado, with 12 persons to the square mile. No part of it is 100 feet over sea-level. Although the camps are mostly inferior sheep-farming here first attained development in 1830—35, under Peter Sheridan, Henry Harratt and John Hannah; Sheridan's estancia now belongs to Lawrie, Hannah's to David Shennan (see p. 82). Among others are those of Gibbings, Cowan, Glennon, Hunt, Pettigrew, Thorp and Purvis. The lands are heavily stocked (three sheep to the acre). Shennan's and

Lawrie's estancias are famous for their thorough-bred horses, and the former took a prize for wool at Paris. There is a double avenue of gum-trees, 1500 yards long, at Shennan's, which has beautiful gardens and plantations. The department has 8 schools, with 570 children. The town of Ranchos (see p. 81), although more than 100 years old, has barely 2,000 inhabitants. It is 3 hours from Buenos Ayres. It takes its name from a group of Indian huts found here by Captain Betbezé in 1779.

Rauch. Is an extensive southern department, between Las Flores and Tandil, with 5 inhabitants to the square mile. It is watered by the Gualichu, Langueyú, Mostazas and other streams from the Tandil Sierras, and has fine pastures, carrying as yet only one sheep to the acre. The department is called after a brave German officer, employed by Rivadavia in 1826; he conquered 15,200 sq. miles of Indian territory, but was murdered by his soldiers. The frontier established by him ran from Cape Corrientes to Azul, and then to Bragado and Rojas. It is undulating country, the height over sea-level from 105 to 610 feet, and is owned by 30 wealthy families in Buenos Ayres, the Alzagas, Basualdos, Casalins, Chiclanas, Echeverrias, Gonsalez, Lanus, Letamendis, Medranos, Peñas, Roldans, Udaquiolas, Velas and Velez, whose properties are valued at 10 millions currency. The poor gauchos live in mud huts, the ratio of house-property being only \$29 per inhabitant. There are 10 schools, with 540 children. The town of Rauch, founded in 1873 is 20 miles N. of the Sierras of Tandil; it has a church, 100 shops and 2,000 inhabitants, but is unhealthy. Dr. Aveyra says,—“Stagnant pools cause constant typhoid fever.” It is the midway station on the new

section of the G. S. railway from Las Flores to Tandil (see p. 82), and is 10 hours from Buenos Ayres.

Rodriguez. Is a small western district, between the Conchas and Luxan rivers. It was within the frontier of 1744. In 1840 it became a favorite sheep-farming department, and a few years ago belonged to Garraghans, Carrys, O'Reillys, Prendergasts, Whelans, etc., but the plough is fast supplanting sheep (see p. 89). The town of Rodriguez was marked out in 1864, and contains at present 2,500 souls. There are 4 schools, with 240 children. It is a station on the Western railway, 2 hours from Buenos Ayres.

Rojas. Is a high, rolling, frontier department, which reaches the borders of Santa Fé, with 8 inhabitants per square mile. The camps are better suited for cattle than sheep. Irish and Scotch sheep-farmers began to settle here in 1860, and are now very numerous, including Ballasty, Boggins, Anderson, Cary, Hughes, Geraghty, Geoghegan, Lawler, Geddes, McNeill, Moffatt, Mullady, Murphy, Brown, Burke, Fox, Connor, Tormey, Tobin, Warner, Quinan, etc. The people are prosperous and well housed. The department has 8 schools, with 470 children. The town of Rojas stands on the site of a fort built by Captain Betbezé in 1779, to protect the highroad to Peru. A church was built to St. Francis in 1801, but the place made no progress till the Irish farmers came. Many of the public improvements are due to the late James Ballasty. It has a free library, hospital, racing club, hotel, steam-mills, 90 shops and 5 000 inhabitants. It is a station on the Central Argentine branch-railway from Pergamino to Junin, which places it within 10 hours of B. Ayres.

Saladillo. Is a large and flourishing department of the south-west with 8 inhabitants per square mile, lying

on the far side of the Salado and constantly subject to floods. It is also watered by the Saladillo and Flores rivers, the former of which drains a portion of the lagoon of Lobos and falls into the Salado. It was within Rauch's frontier of 1826, which ran from Azul to Bragado, but was over-run by Indians after the fall of Rosas. The first settlers arrived in 1864, and among present estancieros are Belson, Burke, Butler, Cooke, Connor, Cormack, Daly, Dennehy, Dixon, Elliff, Magrath, Roberts and McLoughlin. Their properties are, however, small compared to those of Unzué, Acosta, Atucha, Carranza, Castro and other millionaires of Buenos Ayres, who own great tracts of land, and whose people, as a rule, live in mud huts. The ratio of house-property is \$27 per inhabitant. Before Alsina's expedition of 1877 the farthest limit of the province was Fort Ballimanca, on Unzué's estancia. The camps are heavily stocked, sheep alone being over two to the acre. The department has 13 schools, with 780 children. The town of Saladillo (see p. 93) is terminus of the S.W. branch of the Western railway, 5 hours from Buenos Ayres.

Salto. Is a small and heavily stocked north-western department, with 11 inhabitants per square mile. It consists of high, rolling camps, taken from the Indians in 1822 by Col. Pueyrredon. Irish farmers began to settle in 1860, and among the estancieros of to-day are, Allen, Armstrong, Bell, Brennan, Brown, Doyle, Egan, Gaynor, Hogan, Hyland, Hyor, Kenny, Mac Donough, Murphy, Murray, Quinn, Riddell, Rock, Ballasty, Keating, Ledwith etc. The largest property is that of Dorrego, covering 150 squares miles. The department has 9 schools, with 590 children. The people are prosperous and well housed, the ratio of

house-property being \$118 per head. The town of Salto was founded in 1806, and a chapel built to St. Paul; its population is now 4,000. The Sisters of St. Joseph have an orphanage, and the Passionist Fathers attend to the Irish residents. There are steam-mills and 120 shops. Omnibuses convey passengers to the station of Arrecifes on the Pergamino line of railway, which brings Salto within 8 hours of Buenos Ayres.

San Antonio de Areco. Is a small, northern department with 17 persons to the square mile. It was one of the six departments of 1744, and has fine camps, watered by the Areco river, carrying $2\frac{1}{2}$ sheep to the acre. It has been for 50 years a favorite haunt of Irish sheep-farmers, and among the present estancieros are Brennan Daly, Dogherty, Dooner, Duggan, Gardner, Hogan, Kelly, Mooney, Mulligan, Morgan, O'Connell, O'Donnell, Cunningham, O'Neill and Scally. The department has 8 schools, with 560 children. The town of San Antonio (see p. 115) was founded by Captain Areco in 1725, and took his name; an invasion of Indians occurred soon after, whereupon the villagers vowed to build a church to St. Anthony if they should survive. It was built in 1731, and stood until 1869, when the present one took its place. San Antonio is only 3 hours from Buenos Ayres, via Luxan. In 1860 it was a journey of two days by mail-coach. Rev. Thomas Mullady is Irish chaplain.

San Fernando. Is one of the northern suburbs, at the point where the Paraná debouches into the River Plate. It contains a great number of costly residences and quintas. In the 18th century the Indians had a village here, called Aranzazú, in which took refuge the inhabitants of Conchas on the occasion of a great flood, in 1806. The Viceroy Sobremonte then ordered the

name to be changed to San Fernando, in honor of the King of Spain's son Ferdinand. It is only 45 minutes from the city (see p. 76). There are 7 schools, with 640 children.

San Isidro. Is another northern suburb. In the 17th century it was thickly wooded and went by the name of Monte Grande, but in 1713 Domingo Ascasuso began to clear the land and dedicated a chapel to St. Isidore, patron of wheat-growers. In 1719 he ceded the necessary land to build the village. It is only half-an-hour from town (see p. 75). There are 7 schools, with 840 children.

San Martin. Is a small agricultural department, watered by the Conchas, with 150 inhabitants per sq. mile. It is traversed by the Pacific railway and the line to Rosario: on the former is the battle-field of Caseros (see p. 98). There are 6 schools, with 480 children. The town of San Martin (see p. 77) was founded in 1825, under the name of Santos Lugares, and a chapel was built, which gave place in 1873 to the present handsome church, erected by the Basque milkmen, whose farms occupy most of the district. Mr. Duhamel's nursery, begun 40 years ago, is worth a visit. San Martin is 40 minutes from Buenos Ayres; very good train service.

San Nicolas. Is a small department which meets the Santa Fé frontier at Arroyo del Medio. It has 100 inhabitants per square mile, and is too heavily stocked, carrying 4 sheep to the acre. It was one of the 10 departments of 1779. Among the estancias are those of Bent, O'Farrell, Hayes, Hammond, Hogan, Lynch, Pearson, Roth, Savage, Summers and Wegg. There are 12 schools, with 1,770 children. The town of San Nicolas (see p. 79) is the second in the province, its

population having more than trebled since the census of 1869. It has 2 churches, a free library, convent-school, tramway, local newspapers, bands of music, steam-mills, a hospital with 64 beds, frozen-meat factory, 280 shops, 19,000 inhabitants, and is a port of call for ocean-steamers. It is 5 hours by rail from Buenos Ayres and 2 from Rosario.

San Pedro. Is a northern department on the Paraná, long famous for sheep-farming, the camps being high and generally good. The first Irish farmers settled here in 1856, and in 30 years afterwards the value of land had increased 15-fold. Among the estancias are those of Harrington, Duggan, Brennan, Dogherty, Doyle, Fortune, Clancy, Kehoe, Lennon, McDonald, Reardon, Stegman, O'Connor, Wheeler, Wynne and Young. The department has 7 schools, with 650 children. The people are prosperous and well-housed, the ratio of house-property being \$118 per inhabitant. The town of San Pedro (see p. 78) was little more than a village down to 1870, but is now a thriving place, with free library, steam-mills, newspaper, 130 shops and 6,000 souls. River steamers touch here. San Pedro is 4 hours by rail from Buenos Ayres, and 3 from Rosario. Rev. M. Flannery is Irish chaplain.

San Vicente. Is a small, southern department, lying so low that no part is 100 feet over sea-level. It was taken from the Indians in 1779 by Captain Betbezé. Some of the early farms for refining sheep were established here in 1830—35, and in later years many Scotch and Danish settlers came. Among the estancias are those of Bell, Brown, Buchanan, Daly, Fawkes, Ferguson, Glew, Jordan, Kenny, Longstaff, McFarquhar, Magaw, Nelson, Roche, Robson, Simons, Smith, Wallace, Wilkie, Williams and McGuinness. There are more

than two sheep to the acre: population 17 to the square mile. The department has 8 schools, with 480 children. The town of San Vicente (see p. 81) is a kind of Sleepy Hollow, although only an hour from Buenos Ayres.

Suarez Is a new department, of nearly 4,000 square miles, along the N.E. slopes of Sierra Ventana, and includes the Curumalan hills, some of which attain a height of 1,400 feet. There are only 2 inhabitants per square mile. The lands are more suited for cattle than sheep. There is no church or chapel in this vast territory, but there are 3 schools, with 210 children. Curumalan (see p. 83) is 15 hours by rail from Buenos Ayres. Agriculture is progressing, the area under plough being nearly 50,000 acres. The village of Suarez at Sauce Corto station has 1,200 inhabitants.

Suipacha. Is a small western department, annexed by Colonel Pueyrredon in 1822. The lands are low, watered by the Leones and other streams, and much valued by Irish sheep-farmers. Among the estancias are those of Allen, Austin, Ballasty, Bannon, Brennan, Casey, Clavin, Dalton, Daly, Flanagan, Gallagher, Hammond, Kearney, Keating, Keen, Kelly, Mackern, Maguire, Morrough, Murray, Stafford, Walsh, etc. The department was formed in 1865, out of the western part of that of Mercedes: it has 3 schools, with 150 children. The town of Suipacha was marked out in 1879: it has a church, 40 shops and 1,000 inhabitants: it is 4 hours by rail from Buenos Ayres.

Tandil. Is a hilly, southern department, with 6 persons to the square mile: the elevation ranges from 280 to 1,500 feet over sea-level. Rauch conquered half this territory in 1826, Rosas the rest in 1833, but the Indians recovered most of it in 1853. The camps are

good for sheep and cattle, and tillage is making progress; they are watered by streams from the Sierras. Immense tracts are owned by the Anchorenas, Aranas, Casares, Cordobas, Girados, Gomez, Ibarras, Iraolas, Lopez, Machados, Miguens, Ponces, Velas, Valientes, Uriarte, etc., whose poor gauchos live in mud huts. The ratio of house-property is only \$36 per inhabitant, while the wealth of the department is assessed at 20 millions currency. There are two millions head of stock. Among English settlers are Burnett, Butler, Coony, Crebbis, Eyler, Gebbie, Goodfellow, Harrow, Hinde, James, Lawrie, Leonard, MacAusland and Mac Kinley. The department has 8 schools, with 530 children. The town of Tandil (see p. 87) has a church, free library, steam-mills, a hospital of 24 beds, newspaper, band of music, 150 shops and 6,000 inhabitants: it is 12 hours from Buenos Ayres. Annual rainfall 39 inches; hottest monthly range 74, coldest 46 Fahr.

Tapalquen. Is a wild country, the elevation rising in places to 630 feet over sea-level: it has nearly three persons to the square mile, and the lands carry two sheep per acre. The Indians recovered it after Rosas's fall, and no estancieros ventured here till 1865. The chief proprietors are: Balcarce, Blayer, Casares, Jurado, Lezama, Peña, Pereyra, Planes, Silva, Posse, etc., whose people are wretchedly housed. The ratio of house-property is only \$20 per inhabitant; the department is valued at 8 millions, having more than two millions head of stock. There are 3 schools with 180 children. The town of Tapalquen, founded by Rosas in 1839, formerly stood 10 miles further south, on the Silva estancia, where the charred ruins may yet be seen of the houses burnt by the Indians in 1855. For greater security the new town, in 1863, was built at Fort

Estomba, on the Balcarce estancia, close to the river Tapalquen, which takes its name from a Cacique who owned this territory. It has a church, 60 shops and 1,000 inhabitants, and is only 10 hours from Buenos Ayres by way of Cacharí, to which station coaches ply daily.

Tordillo. Is a low, swampy, southern district, annexed by Pueyrredon in 1818, with a coast line of 20 miles on the bay of Samborombon. The forest of Tordillo covers a large tract of country inland, almost to Dolores (see p. 86). The elevation over sea-level nowhere reaches 40 feet. The whole country is the property of a few wealthy families, such as Anchorena, Alday, Arauco, Boer, Cordoba, Madrid, Diaz, Ramirez, San Roman, Vallejo, etc. Nothing can be more deplorable than the condition of the poor gauchos, in their mud huts, house-property averaging only \$18 per inhabitant. The Anchorena estate covers 250 sq. miles. The department has two schools, with 50 children. There is no church or chapel. The hamlet of Tordillo is 4 miles from the Parravicini station, on the Dolores section of the G. S. railway, which places it within 7 hours of Buenos Ayres.

Trenquelaquen. Is a new frontier department of the western camps, taken from the Indians by Col. Alsina in 1877. In some parts it is wooded. The first settler, W. McClymont, and his foreman Purvis were killed by Indians in May 1883. The department was formed in 1886, and has one inhabitant to the square mile. Among the estancias are those of Brown, Cambaceres, Durañona, Gironde, Ham, Jaureguy, Lacoste and Pereda. There are two schools, with 120 children. The town of Trenquelaquen, with 2,000 inhabitants is terminus of the Western railway (see p. 91) 278 miles W. of

Buenos Ayres and 210 N. of Bahia Blanca. A line is proposed, to connect with the latter seaport.

Tres Arroyos. Is a wild country, which includes the Sierra Pilla-Huincó, and takes its name from 3 parallel streams. It was conquered by Rosas in 1833, but abandoned to the Indians from 1853 till 1865. It is watered by the Quequen and other streams, and has good pastures. There are 3 inhabitants to the square mile. The estates of Aldao, Anchorena, Baigorria, Cabral, Chiclana, Chaves, Duran, Fernandez, Gallardo, Garcia, Lastra, Letamendi, Madero, Miguens, Miró, Ochoa, Ovejero, Olabarria, Pereyra, Uriburu, Vela, Zubiaurre, etc., cover vast tracts. The gauchos live in mud huts. There are 4 schools, with 160 children. The town of Tres Arroyos (see p. 88) is 96 miles from Bahia Blanca, 360 from Buenos Ayres, and contains 2000 inhabitants. It stands at a place formerly called Tres Horquetas, where the 3 streams unite, the river being navigable from here to the Atlantic, a distance of 45 miles. It has a church, hotel and several shops, and is 18 hours from Buenos Ayres.

Tuyú. Is a low, swampy territory, with a coast-line of 35 miles from Montes Grandes to Mar Chiquita. The coast is lined with sand-hills, the interior consists mostly of woods and lagoons. Montes Grandes, estancia of the Alzaga family, is famous for its breed of Creole horses. The department belongs to Alzaga, Anchorena, Herrera, Lastra, Leloir, Peña, Serrantes, Trelles, Villegas and Zubiaurre, whose gauchos live in mud huts: the ratio of house-property is only \$17 per inhabitant. There is no church or chapel. There are 4 schools, with 90 children. Rosas formed the department in 1839, and its name is an Indian word signifying swamp. There is no town or village, but coaches ply weekly

to Ajó and Dolores, and the journey to town may be made in 12 hours. A branch railway is proposed from Dolores to Ajó, which will pass through this department, the distance from Dolores to Ajó being only 56 miles, but difficult owing to swamps.

Vecino. Is a swampy, southern department, between Dolores and Pila, with 3 inhabitants to the square mile. It was taken from the Indians in 1826 by Rauch, and is in a very backward condition, the people living in mud huts. There are 6 schools, with 240 children, but no church or chapel. Immense estates are owned by Agüero, Cepeda, Figueroa, Garcia, Iturralde, Lara, Maldonado, Newton, Ocampo, Paravicini, Pereyra, Rodriguez, Pinedo, Puyol, Velasquez, etc. The ratio of house-property is only \$16 per head. At the Velasquez station, 25 miles S. of Dolores, on the Tandil section of railway, it is proposed to build a town and call it Guido, which will be within 8 hours of Buenos Ayres (see p. 86).

Zarate. Is a small northern department on the Paraná, which was included in the frontier of 1744. The Jesuits had an establishment at Las Palmas, that gave its name to this branch of the Paraná. The lands are high, well watered and good for either sheep or tillage. The Irish farmers were numerous 30 years ago, but now only Fox, Maxwell, Murray and a few others remain. The lands are being converted into Italian grain-farms, more than 30,000 acres being under plough. The town of Zarate (see p. 78) was founded in 1801: it has a naval arsenal, paper-mill, dynamite factory, distillery, frozen-meat factory and other industries. Dr. Moure says, "Zarate overlooks swampy ground, but is very healthy, except that infant tetanus is very common". It is a station on the Rosario railway, and is also con-

nected with Buenos Ayres by Lacroze's rural tramway: by the former Buenos Ayres may be reached in three hours. It is a port of call for the river steamers.

SANTA FÉ

This is the 4th province of Argentina in point of importance. Its limits are: N. the 28th parallel of S. Lat.; S. the Arroyo del Medio, which forms the frontier with Buenos Ayres; E. the river Paraná for a length of 280 miles, and West the provinces of Córdoba and Santiago. It comprises 9 departments,*⁾ the population of which, according to the census of 1887, was as follows:—

	Sq. miles.	Population.	Do. per sq. mile.
Santa Fé.....	16,000	23,100	1½
San Javier.....	7,740	14,200	2
Colonies.....	11,500	39,500	3
San José.....	1,850	8,300	4½
Iriondo.....	2,170	17,300	8
San Lorenzo....	2,000	23,600	12
Rosario.....	640	59,300	90
Lopez.....	5,500	14,100	2½
San Geronimo...	3,560	21,000	6
TOTAL..	50,960	220,400	4½

*⁾ According to a law recently passed the province is divided into 16 departments, but this division is not yet understood.

The following table shews the population of the various departments and their chief towns:—

DEPARTMENT LOPEZ	
Melincue.....	460
Constitucion.....	460
Teodolina.....	490
Venado Tuerto.....	210
Rural districts.....	12,510
Total.....	14,130

DEPARTMENT SAN LORENZO	
San Lorenzo.....	1,850
Jesus Maria.....	980
Candelaria.....	1,750
Carcaraña.....	1,080
Rural districts.....	17,920
Total.....	23,580

DEPARTMENT IRIONDO	
Cañada Gomez.....	2,360
Armstrong.....	830
Tortugas.....	330
Bustínza.....	400
Rural districts.....	13,920
Total.....	17,840

DEPARTMENT SAN GERÓNIMO	
Coronda.....	2,260
Gaboto.....	730
Galvez.....	650
Irigoyen.....	420
Rural districts.....	16,940
Total.....	21,000

DEPARTMENT SAN JAVIER	
Reconquista.....	1,500
Ocampo.....	1,460
Romang.....	740
San Vicente.....	220
Rural districts.....	10,290
Total.....	14,210

DEPARTMENT SAN JOSÉ	
Helvecia.....	1,060
San José.....	580
Santa Rosa.....	410
Cayastà.....	160
Rural districts.....	6,070
Total.....	8,280

DEPARTMENT COLONIAS	
Esperanza.....	2,650
San Carlos.....	1,510
Rafaela.....	1,520
San Agustín.....	600
Lehmann.....	540
Humboldt.....	440
Santo Tomé.....	690
Felicia.....	1,090
Providencia.....	660
Pilar.....	680
Rural districts.....	29,070
Total.....	39,450

DEPARTMENT ROSARIO	
Rosario.....	50,910
Arroyo Seco.....	1,330
Sauce.....	470
Rural districts.....	6,540
Total.....	59,250

DEPARTMENT SANTA FÉ	
Santa Fé.....	14,210
San Justo.....	530
Emilia.....	230
Rural districts.....	8,110
Total.....	23,080

Among the principal landed proprietors are:—Armstrong, Runciman, Drabble, Kemmis, Dickson, Fea, Krell, Brown, Murphy, Mason, Hall, McNally, Bell, Barnett, Crawford, Bayne, Grennon, Hogan, Maguire, Mackey, O'Connor, Scallan, Peacock, Braim and Sword.

The total area is distributed as follows:—

	Sq. miles.		Acres.
Under tillage.....	3,440	=	2,200,000
» pasture	32,680		20,900,000
» forest.....	14,840		9,500,000
TOTAL... ..	50,960	=	32,600,000

In the south the lands are high, undulating, and covered with rich pastures, the ordinary elevation being 130 to 190 feet over sea-level; in the north it is mostly forest, unless where the colonists have made clearing for agriculture, with frequent swamps in the vicinity of the Paraná, Saladillo-Dulce or Salado.

No part of the Republic possesses a greater combination of advantages. Its position along the banks of the Paraná, accessible to vessels of 18 feet draught, gives it easy outlet for its products, the lands being equally suited for grazing or tillage. It suffers neither drought nor inundation, for its rivers, Salado, Carcañal, Saladillo, Pavon, etc., run through deep channels, and good water is, moreover, found by digging, at a depth of 20 feet. It has a forest area of 15,000 square miles, abounding in various kinds of timber. The level nature of the country particularly favours the construction of railways, and the climate is so healthy that colonists from the north or the south of Europe find it equally agreeable and favourable to life and industry. There have been two drawbacks, the locusts, which at times destroyed part of the crops, and the "matreros,"

or out-laws from justice, but the former have become less frequent in recent years, and the latter have receded before the plough.

The population at various dates was:

Year.	Population.	Annual increase.
1825	16,400	—
1857	41,300	800
1869	89,100	4,000
1887	220,400	7,300

The present population (1892) is supposed to reach 300,000 souls. The census of 1887 shewed the population composed thus:—

Argentines	96,200
Europeans	84,200
Children of Europeans	40,000
TOTAL	220,400

The increase of population is now estimated at 17,000 yearly, viz. 15,000 immigrants and 2,000 excess of births over deaths.

Santa Fé dates its prosperity from the foundation of the first agricultural colony in 1856 by Aaron Castellanos. These colonies, meantime, made little headway until 1864, since which date their growth has been as follows:—

Year.	No. of Colonies.	No. of settlers.	Acres tilled.	Acres under wheat.	Wheat crop tons.
1864	4	2,780	12,500	10,000	2,000
1880	51	40,800	310,000	201,000	34,000
1884	85	68,900	540,000	383,000	98,000
1887	122	110,000	1,025,000	550,000	140,000
1891	249	180,000	1,750,000	1,320,000	450,000

The area under colonies in 1891 was 7,000,000 acres, viz;—

	Acres.
Under wheat	1,320,000
» malze	150,000
» linseed	55,000
» alfa	52,000
» sugar	21,000
» sundries	152,000
Tillage	<u>1,750,000</u>
Pasture	<u>5,250,000</u>
TOTAL	7,000,000

Such has been the increase of wheat-farming, of late, that 8 new flour-mills were put up in 1891. Mr. Stæssel's at Esperanza colony can turn out 250 sacks of flour daily.

The total value of the crops in 1891 was estimated at 64 millions currency, which at the rate of exchange then current was equal to \$16,000,000 gold £3,200,000 sterling. The value of the colonists' possessions was as follows:—

Year.	\$ gold.	£ sterling.	£ per head.
1865	2,100,000	= 420,000	151
1871	7,650,000	1,530,000	90
1884	41,900,000	8,300,000	120
1891	66,200,000	13,200,000	73

The colonists all began without capital, and have created by their industry about 13 millions sterling of wealth, in 30 years. Their possessions may be set down, in 1891, as follows:—

	\$ gold.	£ sterling.
7,000,000 acres . . .	28,000,000	= 5,550,000
Houses and fences.	10,000,000	2,000,000
Cattle	10,200,000	2,050,000
Sundries	18,000,000	3,600,000
TOTAL	66,200,000	= 13,200,000

The wealth of the province was as follows:—

	1871. \$ gold.	1891. \$ gold.
Land.....	25,000,000	45,200,000
Cattle.....	8,000,000	23,000,000
Railways.....	2,000,000	45,000,000
Houses.....	12,500,000	28,000,000
Sundries.....	16,000,000	47,000,000
TOTAL....	63,500,000	188,200,000

The amount in 1891 was equal to £37,000,000 stg., of which 40 per cent was held by colonists. The holders of landed property (excluding house-property in cities) in 1890 were as follows:—

Department.	Owners.	Area, acres.	Average, acres.
Santa Fé.....	2,473	2,300,000	92
Colonias.....	9,253	5,700,000	62
San Geronimo...	1,762	2,250,000	125
San José.....	1,428	1,200,000	85
San Javier.....	3,261	5,050,000	150
Rosario.....	684	420,000	610
Lopez.....	2,295	3,550,000	155
Irlondo.....	2,146	1,400,000	650
San Lorenzo...	2,060	1,290,000	630
TOTAL....	25,362	23,160,000	91

Public lands, mostly in the Chaco, covered about 11,200 square miles or 7,000,000 acres.

The landed value was approximately as follows:—

	Sq. miles.	\$ gold.
Agricultural.....	3,440	8,800,000
Pastoral.....	32,680	32,700,000
Forest.....	14,800	3,700,000
TOTAL.....	50,960	45,200,000

Pastoral industry is also in a flourishing condition, having trebled in less than 30 years, viz:—

	1864.	1891.
Cows	700,000	2,330,000
Horses	140,000	525,000
Sheep	800,000	2,920,000

The earnings of the people may be summed up thus:—

	\$ gold.
Agricultural products	16,000,000
Pastoral products	10,500,000
Various occupations	13,500,000
TOTAL	<u>40,000,000</u>

There are 4,832 houses of business with an aggregate capital of \$49,900,000 currency, say £3,500,000 sterling. The foreign trade of the province shewed as follows:—

Year.	Imports, \$ gold.	Exports, \$ gold.	Total, \$ gold.
1865	3,100,000	4,100,000	7,200,000
1871	10,800,000	6,200,000	17,000,000
1880	12,500,000	13,600,000	26,100,000
1890	21,000,000	17,100,000	38,100,000

The first railway, from Rosario to Cordoba, was begun in 1863, and in June 1892 the province possessed 1,505 miles in traffic, representing an outlay of £9,200,000 sterling (see p. 23).

Educational returns were as follows:—

Year.	School-children.	Ratio to population.	Expenditure \$ gold.
1863	2,006	2·9	10,100
1872	4,208	3·5	22,400
1882	6,664	3·5	56,500
1891	9,300	3·1	250,000

The ratio of school-children to population is very low, namely 3 per cent. The first free library was opened at Rosario in 1872, and now there are 8 in the province, containing 11,000 volumes. There are usually

a dozen newspapers, and the oldest now existing is the *Capital* of Rosario, founded in 1866. There are German and Italian papers published in the colonies.

The State-bank was started in 1874 with a capital of £400,000 sterling, which was raised to £1,000,000 sterling in 1883 by means of a Santa Fé loan negotiated in London. The Government held £940,000 of the stock, the public £60,000, and the result of the bank was very disastrous. There are branches of the London and River Plate and other foreign banks as well as of the new National Bank.

The revenue of the province shewed thus:—

	1883.	1890.	
	\$ gold.	\$ currency.	\$ gold.
Property-tax...	160,000	1,600,000	= 400,000
Licenses	200,000	600,000	150,000
Stamps.	150,000	500,000	125,000
Sundries	105,000	180,000	45,000
TOTAL...	615,000	2,880,000	= 720,000

The above was exclusive of bank-profits, which can hardly be taken into account.

The expenditure was as follows:—

	1883.	1890.	
	\$ gold.	\$ currency.	\$ gold.
Int. on debt.....	199,000	4,700,000	= 1,170,000
Police	240,000	790,000	195,000
Schools	60,000	1,000,000	250,000
Law-courts	66,000	220,000	55,000
Sundries	122,000	360,000	90,000
TOTAL.....	687,000	7,070,000	= 1,760,000

Minister Cafferata states the Santa Fé debt (June 1892) as follows:—

	\$ gold.	£ sterling.
Loan of 1883	6,370,000	= 1,260,000
» » 1888	9,880,000	1,960,000
Railway loans	4,400,000	880,000
Internal	1,220,000	240,000
Treasury bills etc.	3,080,000	610,000
TOTAL	24,950,000	= 4,950,000

Paper debts are reduced to gold in the above table at \$300 = \$100. The above amount is equal at the same rate to 75 millions currency or 25 times the annual revenue.

DEPARTMENTS.

Lopez was formed in 1884 out of a portion of that of Rosario, lying along the frontier of Buenos Ayres for 200 miles from the bank of the Paraná to the Cordoba frontier. The best lands are those between the Arroyo del Medio and Pavon rivers. The department comprises 5,500 square miles, and the land averages \$30,000 currency or \$10,000 gold per square league: that is to say £200 per square mile. There are several colonies, which have in the aggregate 250,000 acres under crops. The first was San Urbano, near Melincué, founded in 1872; the second Teodolina, founded 40 miles south of the preceding by Diego Alvear, in 1875. The principal town is *Constitucion*, formerly called Piedras, on the bank of the Paraná, the terminus of the Santa Fé Southern railway, which passes through Melincué, en route for Carlota. Melincué is a town of 1,500 souls, on the borders of a salt lake, which was formerly considered the point of junction of the provinces of Buenos Ayres, Santa Fé and Cordoba, but the Federal Court has now drawn the Santa Fé

frontier 70 miles further west, and 40 miles further south. Melincué was often besieged by Indians down to 1870. Venado Tuerto is a village 30 miles west of Melincué. This department also includes the stations of Orellanos, Rufino and Alberdi on the Pacific Railway.

San Lorenzo was likewise a portion of the Rosario department, until 1883, and includes some of the finest lands in the province, namely all the country south of the Carcaraña and north of Lopez. The lands are mostly high, and watered by the Carcaraña, Saladillo and Saladas: they touch the province of Cordoba at Cruz Alta. Area 2,000 square miles: average value of land £240 per square mile. There are a dozen colonies, which have under tillage 310,000 acres. The first were Roldan and Carcaraña, founded by the Central Argentine Co. under the direction of Mr. W. Perkins, Jesus Maria by José M. Cullen, and Candelaria by Carlos Casado, all in 1870: after these came Iriondo, founded in 1876, Benedetti, Urquiza and others. The chief town is *San Lorenzo* a place of antiquity with only 1,900 inhabitants: it is on the Paraná bank, 15 miles above Rosario, and has nothing of interest except the convent of San Carlos, built by King Charles III. for Franciscan friars, on land ceded for the purpose by Felipe Aldao, in 1791. It is so spacious that in 1844 Mansilla quartered 4,000 men within its walls. This is a favorite port for shipping wheat, and is provided with grain-elevators (see p. 124).

Iriondo was a portion of San Geronimo department until 1884: it lies along the north bank of the Carcaraña, as far west as the Tortugas river, which is the Cordovese frontier. It is, after San Lorenzo the most thickly-peopled department, having 8 persons to the square mile. The lands are fertile, watered by the

Tortugas and Carcaraña. The average value of land is \$36,000 currency per square league, or £240 per square mile. There are various colonies, which have an aggregate of 320,000 acres under tillage. The first were those of Cañada Gomez, founded by the Central Argentine Co., and Germania by Mr. Nordenholz in 1870, which were followed by Bustinza in 1874 and Santa Theresa in 1876, these latter being exclusively Italian. Chief town *Cañada Gomez*, with 2400 inhabitants, an important station on the Central Argentine railway, with a good hotel, steam-mills and large granaries. In the vicinity are extensive grain-farms, belonging to Krell, Hope, Heyland, West etc. This department also includes Carcaraña, a thriving town of 1500 souls, with a famous cheese-factory, and a station on the Central Argentine railway (see p. 118). In this department is the famous estancia of Las Rosas. where Mr. Kemmis breeds horses, some of which have sold for as much as £2,500 to £3,000 sterling each.

San Geronimo forms a parallelogram, between the Paraná and the Tortugas north of Iriondo. The lands in the north-east are traversed by the Colastiné, a tributary of the Paraná: they are very fertile and have been taken up largely for colonies in late years. the population having trebled since 1882. There are more than a dozen colonies, which have altogether 200,000 acres under crops. The first was Corondina founded by Governor Oroño, in 1867. Two others were established in 1873, those of Gessler and Oroño, which took their founders' names, the settlers being Italians and Swiss. Another Italian colony was founded, under the name of San Martin in 1874, 30 miles west of Corondina. The crops of this department in 1891 were valued at 8 millions currency or £400,000 sterling. Chief town

Coronda, which is a port on the Paraná, 70 miles above Rosario, with 2 300 inhabitants, church, schools, hotels, steam-mills etc. This department includes Cabot's Corner at the mouth of the Carcaraña (see p. 150),

Colonias is a large department north of San Geronimo and south of Río Salado, extending westward to the frontier of Córdoba. It comprises about 100 colonies, and formed a portion of the department of Santa Fe until 1884. It is watered by the Salado, Conchas and San Antonio, and was until late years, for the most part, covered with virgin forests. *Esperanza* colony, founded in 1856, was the first agricultural settlement of the kind in the River Plate: the settlers were mostly Swiss or Germans, with a mixture of French and Italians, and received farm-lots of 80 acres each. In 1858 San Geronimo was founded, with a batch of Swiss Catholics, and in 1859 San Carlos, composed mostly of Italians: this last was founded by Beck and Herzog of Basle, who also established Humboldt, on the banks of the Salado, in 1868. Tunas was likewise founded in 1868, the condition in most of these colonies being that the settlers were to pay 8 shillings, in some case 10 shillings, an acre for the land, as soon as convenient. Frank, however, established his colony in 1870 on small farm-lots given gratis, keeping alternate lots, which he sold afterwards at good prices to his own colonists. At the same time other colonies were planted too far in the Chaco, the Indians murdering some of the Grütli colonists, and nearly all those of Sunchales. The latter settlement was situated not far from the present Lehmann colony, which is one of the most prosperous agricultural centres (see p. 125) in the province. The hundred colonies now existing have the same number of towns or villages. *Esperanza* is the finest town in

the department, with public buildings, steam-mills, Catholic and Protestant churches and schools, banks, distilleries, tramways, printing-offices, hospital, hotels, granaries, and 3,000 inhabitants. The mills can turn out 100 tons of flour daily. San Carlos is also a thriving town, and has 1,600 inhabitants, with churches, schools, steam-mills, factories, granaries, etc. All these colonies are connected by railway with Santa Fé and Rosario. The crop of this department in 1891 was valued at 31 millions currency or £1,600,000 sterling. The area of improved land held by the colonists is 2,900,000 acres, and that actually under crops 1,050,000 acres, most of the rest being fallow or pasture. From San Carlos in the south to Providencia in the north the colonies have a continuous line of 60 miles of wheat-fields, the breadth in some places being 40 miles. This department is supposed to contain at present 100,000 inhabitants.

San José comprises the southern part of the peninsula formed by the Saladillo-Amargo and the Paraná. It is a swampy, thickly-wooded country, with high lands here and there, all admirably suited for pasture or agriculture. The average value is \$15,000 currency per square league or £100 per square mile. There are 4 thriving colonies, which have altogether 40,000 acres under crops. This territory was the seat of one of the most flourishing Jesuit missions in the 18th century, and the fertility of the soil, as well as the abundance of wood and water, showed how well the Fathers had selected the sites for their missions. The tribes converted in this part of the Gran Chaco were the Timbó, Quiloaza, and Chaná, who became docile and industrious pupils of the Jesuits, producing the best kinds of cotton and tobacco in South America,

besides every description of European or native fruit. The missions fell speedily to ruin after the expulsion of the Fathers, in 1767, for when Azara visited Cayatá in 1795, he found but 67 inhabitants in a place that had been one of the best settlements on the Paraná. The immense church built by the Jesuits at Calchines exists still. During almost a century this department remained in the hands of the fiercest Indians, until Don Pascual Rosas effected a settlement here in 1861, being followed some years later by Count Tessières de Bertrand. Chief town of the department is *Helvecia*, with 800 inhabitants: it is 50 miles N.N.E. of Santa Fé, and overlooks the Paraná in front of Hernandarias, which is midway between the towns of Paraná and La Paz. It was founded by Dr. Romang, of Esperanza colony, in 1865. By decree of 1884 this place has been made capital of this department. *Cayastá*, with 300 inhabitants, is 3 miles S. of Helvecia, and still preserves remains of the Jesuits. Near the church are many fine trees of cotton grown wild, and groves of orange and lemon trees; the inhabitants cultivate also plums and apricots of excellent quality. About 2 miles from the village, on the slope of a wooded hill, is the settlement of Conde, established in 1866 by Count Tessières de Bertrand. The colonists from Helvecia and Conde attend mass on Sundays at Cayastá, and 30 Protestant families have a chapel at Helvecia. *Santa Rosa*, with 1,100 inhabitants, is another old Jesuit mission, 25 miles N. of Santa Fé, overlooking the Paraná, and surrounded by woods. It was restored by Pascual Rosas in 1861. Besides the old church, we still see the orchards of the Jesuits, this place producing oranges, lemons, limes, peaches, apricots, apples, pears, figs, pomegranates, quinces, cherries, guayabos,

walnuts, bananas, grapes, plums, etc., of the finest flavour. San Jose, with 1,200 inhabitants may be regarded as a suburb of Santa Fé, from which city it is separated by an arm of Lake Guadalupe. It was founded in 1824, and is perhaps the only colony in which Europeans do not form the chief element. The village is poor, compared with the prosperous condition of the inhabitants. San José supplies oranges and firewood to the city of Santa Fé, two miles distant.

San Javier is north of San José, occupying all the northern part of the same peninsula, and is bisected by the river San Javier, the lands on the E. bank of which are swampy and subject to inundation. There is a number of colonies, covering 3,000 square miles, of which area nearly one-fourth is under tillage. All are on the W. bank of the San Javier, the country between that river and the Paraná being often flooded by the latter: the nearest of these colonies is about 12 miles from the Paraná. The first of all the Chaco colonies was that of Helvetia, founded by Dr. Romang in 1865 with a frontage of 12 miles on the San Javier, 50 miles north of Santa Fé, the settlers being Swiss and Germans from Esperanza to whom the founder sold 100-acre farms for \$50 gold, say two shillings per acre. After some trouble with Indians the colony prospered rapidly, partly through tillage, partly by felling timber, which they floated down to Santa Fé. It occupies the site of an old Jesuit mission, where cotton still grows wild. The second Chaco colony was the California, founded in 1866 by a group of 12 North American families, the site being 130 miles north of Santa Fé city, and abreast of the port of La Paz on the river Paraná: the colonists numbered 62 souls and were armed with Kentucky rifles, the Indians giving

them much trouble for some years. They had farms with an aggregate of 1,400 acres under tillage, and orchards, besides farm-stock; but most of them afterwards removed to Alexandra or Helvecia, selling their farms to Italians and Swiss. The Alexandra colony was founded by Messrs. Thomson, Bonar & Co., of London, in 1870, on a site of 22 square leagues ceded by Government between the rivers Saladillo-Dulce and San Javier. It is 46 leagues N. of Santa Fé, almost abreast of the port of Esquina on the Paraná, from which it is accessible by steamer on an arm of the San Javier. The colony was marked out in 1870 under the direction of Mr. Weguelin, who was killed at the outset by the Indians. The founders sold farms of 100 acres at \$200 cash or \$300 on credit, and gave advances of \$250 worth of cattle and seeds to poor settlers, charging only 10 per cent. interest. One-third of the colony is good land, the rest swampy. Messrs. Thomson, Bonar & Co., sent out from England everything that could be of use, including steamboats, lighters, tramway, traction-engine, steam-mill, patent reapers, etc. The colony has recently been sold to a joint-stock company. Reconquista colony, in front of Goya on the Paraná, was founded by Col. Obligado in 1872. The first settlers were woodcutters, but the colony grew rapidly in importance. It has now steam-mills, tramway, church, school and all the latest machinery and improvements, the area under tillage being very large. This colony is the terminus of the principal Chaco railway from Santa Fé (see p. 149). Most of the department is thickly wooded, and water is also abundant, the Rey, San Javier and Saladillo rivers moreover offering cheap and easy freight for products. Steamboats can ascend the San Javier 160 miles, almost parallel with the Paraná. Ten miles

further west runs likewise parallel the Saladillo-Dulce, which has a course of 165 miles from Romang colony to Lake Guadalupe. Again, 10 miles west of the last-mentioned river is the Saladillo-Amargo, also running parallel for nearly 180 miles till its junction with the Dulce. Chief town *San Javier*, populaion 1,000; it was a famous Jesuit mission in the last tcentury, the church and gardens remaining, but in ruins. It is 90 miles N. of Santa Fé, on the W. bank of the San Javier, at the head of a "riacho" or channel which communicates with the Paraná. The distance to La Paz is little over 20 miles. and there is a small steamer for passengers and mails to and from that port; a regular trade in lumber and other products is also maintained by means of sailing-vessels. The crops of this department in 1891 were valued at \$3,700,000 currency or £190,000 sterling.

Santa Fé. This is the largest department in the province, and in 1887 had less than two inhabitants to the square mile. It comprises what was until recently considered Chaco territory, and has now a number of colonies, with 500 square miles under tillage, the value of crops in 1891. having been \$3,000 000 currency or £150,000 sterling. The first colonies in this part of the Chaco were Emilia and San Justo, founded by Governor Cabal in 1868-69 on the bank of the Salado, in a wild, picturesque, thickly wooded country. They are respectively 40 and 70 miles north of Santa Fé city, and the first 120 settlers received free-farm lots of 80 acres each. At first the felling of timber was the principal industry, but now agriculture is advanced, and some tobacco is grown. A few miles east of San Justo is Hale's estate of Almagro, which is traversed by the railway to Reconquista, and 70 miles further

north is Espin, a station on the same railway, a colony founded by McLean, Griffin, Johnson and others of the California colony, who bought 170 square miles of land from Government at £16 per square mile or sixpence an acre. - At a distance of 124 miles by rail northward from Santa Fé city, on the banks of the Calchaquí stream, is the vast property of San Cristobal, formerly Murrieta's, since sold to the Santa Fé Land Co.: it comprises about 1,100 sq. miles or 700,000 acres, the locality being marked upon some maps as Cabeza del Toba. The Company have 19,000 head of horned cattle and some flocks of sheep. The estancia house and buildings are fine and commodious, being within easy distance of San Cristobal station, on the new line of railway from Rosario to Tucuman. In the northern part of the lands Mr. Benitz, who is a tenant of the Company, has a large estancia with 8,000 head of cattle, between the Calchaquí and the Salado. Nearly abreast of Bella Vista, on the Paraná, is a chain of colonies, the first of which is Ocampo, founded in 1878. It has an area of 200,000 acres, with a port on the Paraná. called Planchada, which is 6 miles from Bella Vista. A railway of 20 miles (40-inch gauge) has been constructed at a cost of £64,000 sterling and connects the port with the village of Ocampo, on high ground inland. Here there are steam saw-mills and sugar mills, church, school, bank, library, plaza, electric light, distillery, shops, etc., the colony having 3,200 settlers, for the most part Swiss and Italians. The fenced area is 7,400 acres, of which 2,000 under sugar. There are 650 acres under wheat, which gave last year 390 tons, equal to 24 bushels an acre, or double the Santa Fé average. About 5 miles N. of Ocampo is the Taquarendi colony, property of Messrs. Zorrilla & Co., with chapel

and sugar-mill, producing 2,000 tons sugar yearly. Still going northward about 5 miles we meet the colonies of Obligado and Toscas, similar to the preceding. From here a ride of 44 miles, through lands of extreme fertility and richly wooded, brings us to the Florencia colony, founded in 1885 and sold three years later by its founder, Langworthy, to a joint-stock company. It covers 200,000 acres, with a frontage of 15 miles on the Paraná, and has 50,000 acres fenced or more or less under cultivation. A railway of 20 miles (40-inch gauge), saw-mills, tannery and various other buildings are supposed to represent an outlay of £150,000 stg. The village of Florencia stands on a slope overlooking the Tapanegá stream: from here the railway runs down to the Paraná, much of the land being swampy. The colony is mostly Italian, counting 1,200 souls, among whom 110 are British. All these colonies have ports on the Paraná, and will be connected with Santa Fé city by railway as soon as the line which now reaches Reconquista be prolonged to Resistencia, in front of the city of Corrientes. The usual terms on which lands are given to settlers in these colonies are to sell them 60-acre lots for \$500 currency or £33 sterling, say 11 shillings per acre, giving them their own time for repayment. The climate is hot, but not intolerably so, nor unhealthy. The chief town of the department is *Santa Fé*, which is also the capital of the province and one of the oldest cities in the River Plate. It stands on the north-east bank of the Salado, at its junction with the Paraná, and was founded by Juan de Garay in 1573. It has been for some time declining, the census of 1881 showing a fall of 3 per cent. since 1869. It occupies 100 cuadradas or 406 acres, but the elevation over the river is not sufficient to prevent

periodical inundations, and the Rio Salado is; moreover, gradually consuming the bluff. The city presents such a striking contrast to the bustle and commerce of Rosario that it is called "Sleepy Hollow". Here reside the Governor, Bishop, Legislature, and other chief authorities. There are 4 churches—the cathedral, the Jesuits' church, and those of St. Francis and St. Dominic. Plaza Mayo, as the principal square is called, has most of the best buildings—viz., the cathedral, bishop's palace, Cabildo, and Jesuits' college. There are 4 other squares, called San Martin, Coloma, Progreso and Interior. On the outskirts of the city is the enormous infantry barrack, where General Estanislao Lopez for some years kept prisoner the gallant General Paz. The market is large and well supplied, all kinds of food being cheap, thanks to the colonies. The consumption of meat averages 25 cows and 3 sheep daily, but this can hardly be for the city alone, as it would exceed $1\frac{1}{2}$ lb. meat per inhabitant. There are various charitable societies, Italian, Spanish, and cosmopolitan, the latter including St. Vincent de Paul's. Among steam-factories are a foundry, a macaroni-mill, an oil-factory, and some for making tiles. The municipal revenue exceeds \$240,000 per annum, and it is proposed to pave the streets, the sand being found inconvenient. Santa Fé is 90 miles N. of Rosario, and steamers, which sail nearly every day, make the journey in 9 hours. A steam ferry-boat plies across the river to the city of Paraná.

Rosario is a very small department: the lands are excellent, being watered by numerous streams which fall into the Paraná. There are 50,000 acres under tillage, including many market gardens in the vicinity of the city of Rosario. The crops in 1891 were valued

at \$2,000,000 currency or £100,000 sterling. Chief town *Rosario*, population 51,000 in 1887 and now supposed to reach 80,000 souls: it is the second city of the republic, coming next after Buenos Ayres in trade and population. It was founded in 1725 by Don Francisco Godoy, who established here a number of reduced Calchaqui Indians, and the parish was established in 1731, with the Rev. Ambrosio Alzogaray as its first rector, the church being dedicated to Our Lady of the Rosary. It was here that General Belgrano enrolled the first National Guards in the War of Independence, in 1813, and at the same time adopted the blue and white colours for the Argentine flag, because they were the colours of Our Lady. In the epoch of Rosas this place was so obscure a village that it was not mentioned in Sir W. Parish's description (1850) of this province. It may be said to date from 1854, when General Urquiza made it the port of the 11 inland provinces, imposing differential duties, by law of July 1857, on any European vessels that should break bulk at Buenos Ayres *en route*. Since then the trade and population has risen as follows:—

Years.	Imports \$ gold.	Exports \$ gold.	Tons entries.	Population.
1854	2,350,000	1,460,000	8,000	4,300
1866—76	4,280,000	2,390,000	229,000	21,000
1890	15,790,000	16,000,000	750,000	80,000

Rosario has grown more rapidly than either Buenos Ayres or Liverpool, its commerce multiplying 8-fold, its population 18-fold in 36 years. It compares with other ports thus:—

	Commerce per inhab. \$ gold.	Tonnage entries per inhab.
Rosario.....	400	10
Buenos Ayres....	300	5
London.....	260	2
Liverpool.....	1,800	10
New York.....	450	4
San Francisco....	410	4

In 1860 the goods traffic between Rosario and the provinces employed 3,300 carts and 6,200 mules, which carried 13,000 tons yearly, the passenger traffic averaging 2,000 persons between arrivals and departures. In 1890 the Central Argentine railway carried 400,000 passengers and 600,000 tons of merchandize. The city stands 65 feet over the river, and is built in chess-board fashion, like Buenos Ayres. It covers about 500 cuadras, or 2,000 acres, in the form of a triangle, the base resting on the river. The principal church is in the great square, and there are 3 others, besides 2 chapels for the Protestant residents, English and American. The gas-works are near the river-side, and supply 6,100 lights, of which 450 are street-lamps; the pipes are over 10 miles. All the European Powers and American States have consuls or agents at Rosario. There are also German, Swiss, Italian, French and Spanish beneficent societies for the relief of distressed compatriots. The Anglo German Infirmary is a great credit of the city. 289 patients of different nationalities, principally English, were received in the year ending 30th June 1892. There is also a Sailors Home, a very beneficent institution. There are 4 good hotels. The tramways carry 500,000 passengers yearly, having been introduced in 1878. The city hospital receives 400 patients yearly, of whom 10 per cent. die under treatment. The Sisters of Charity have an orphanage in which 40 children are brought

up. Near the terminus of the Central Argentine Railway stands the new granary, one of the most remarkable buildings in the province; it can hold 250,000 bushels, and receive, weigh and put on board ship 2,000 bushels an hour: it is 8 stories high, and has 160-horse steam power; the cellars are 30 feet deep, and communicate on one side with the wharves on the Paraná, and on the other with the railway waggons. From Rosario the traveller can proceed by steamer 2,300 miles up the rivers to Matto Grosso; by train he can go to Tucuman, 600 miles north, or to Mendoza, 550 miles westward. Rosario is 190 miles by railway from Buenos Ayres, the journey being made in 7 hours (see p. 76.)

C O R D O B A

This is the second province in order of population and importance, coming next after Buenos Ayres. It is the heart of the Republic, having Santa Fé on the east, Rioja on the west, Santiago on the north, and the pampas of Buenos Ayres on the south; its area is 67,660 sq. miles, and it comprises 24 departments:—

	Sq. miles.	Population.		Real estate.
		1869.	1890.	Value in 1888 \$
Anejos.....	2,200	12,600	18,200	2,460,000
Calamuchita.....	2,000	9,200	10,100	810,000
Cordoba.....	300	34,500	65,700	18,630,000
Cruz del Exe....	2,630	12,300	18,900	1,210,000
Frayle Muerto...	4,140	5,100	10,500	9,870,000
Ischilin.....	1,140	13,500	11,900	900,000
Minas.....	1,550	8,100	8,100	490,000
Pocho.....	600	6,200	7,200	400,000
Punilla.....	1,550	6,800	7,700	870,000
Río Cuarto.....	5,420	10,900	22,700	21,140,000
Río Primero.....	2,700	14,900	21,800	2,070,000
Río Seco.....	9,800	4,900	6,400	1,720,000
Río Segundo....	1,350	11,300	15,000	2,190,000
Río Tercero....	1,910	5,300	7,400	710,000
San Alberto....	1,350	10,100	12,900	410,000
San Justo.....	6,600	5,200	13,400	3,990,000
San Javier.....	1,700	13,100	12,200	760,000
Sobremonte.....	3,150	6,100	6,800	300,000
Totoral.....	1,560	6,900	10,400	1,550,000
Tulumba.....	2,090	7,100	13,300	1,450,000
Villa Nueva....	2,000	6,600	10,500	1,790,000
Marcos Juarez...	2,820	—	9,100	—
Juarez Celman...	4,840	—	4,700	—
Roca.....	4,260	—	2,700	—
TOTAL.....	67,660	210,700	327,600	73,720,000

The Sierras constitute the great physical feature, and form 3 distinct chains:

1. Sierra de Cordoba, 30 miles W. of the capital, which runs 200 miles from Cruz del Exe in the north, to Chajan in the south, and covers an area of 4,500 sq. miles.

2. Sierra de Pocho, 10 miles W. of the preceding, with which it runs parallel for 100 miles, in the northern portion, covering about 1,200 square miles.

3. Sierra de Ischilin, north of the city of Cordoba, which extends in a straight line due north till reaching the Salinas desert; area, 2,300 square miles.

Numerous streams descend from the Sierras to irrigate the adjacent country, but those of magnitude all take their rise in the first-mentioned chain. Rio Primero rises above Saldan and flows through the city of Cordoba, fertilizing a delightful zone of gardens in the suburbs, and after a course of 100 miles is lost in Mar Chiquita, a vast lagoon in the Gran Chaco on the side of Santa Fé; it is not navigable, but subject to destructive inundations. Rio Segundo rises near Malagueño, flows parallel with the Primero, and is likewise lost in the Chiquita swamps; it is wide and generally shallow, and is crossed by the Central Argentine Railway about 25 miles south-east of Cordoba. Rio Tercero has a course of 300 miles, and flows through Villa Nueva, Frayle Muerto and Cañada Gomez, falling into the Paraná near San Lorenzo; it changes its name on entering the province of Santa Fé at Cruz Alta, being afterwards known as the Carcarañal; the ordinary width is 100 to 150 feet, with a current of 2 miles an hour, and it could easily be made navigable for steamers of 30-inch draught as high as Villa Nueva, the only obstacle being "toscas" below Cruz Alta. Rio Cuarto has its source near Santa Catalina, waters the second town in the province, and is apparently lost in swamps south of Messrs. Fielden's estancia, but re-appears some miles further east under the name of Saladillo, which falls into the Tercero before reaching Cruz Alta. The lagoon of Mar Chiquita, already mentioned, is in the N.E. corner of the province, receiving many streams, but having no outlet. The salt lake of Porongos, some miles further north, is of a similar character, on the confines of Santiago del Estero.

This being one of the largest provinces in the Republic, inferior only to Buenos Ayres and Catamarca,

has a great variety of soil and aspect. In many places there are thick woods of chañar, algarrobo, quebracho, etc., but the southern portion is a bare, level pampa, like that of Buenos Ayres; the vegetable loam varies from 10 to 20 inches in depth, and produces grain or fruits without much labour. The climate is temperate, but very dry, owing to the great distance inland and the elevation over sea-level, which latter averages 1,400 feet. There is a rainy season beginning in March, and another in September, the driest time being mid-winter (June), when fogs are common. Humboldt says, by way of explanation, that the sea-vapours in winter dissolve into rain near the coast, and come inland in summer to the mountain heights. Meteorological observations at the city of Cordoba give the following results:—

Quarter ending	Fahr.	Quarter ending	Fahr.
March	70	September	54
June	54	December	67

The annual mean temperature is 61°, being the same as Bahia Blanca, and 2 degrees less than Buenos Ayres. The extremes are, 107 degrees in January, and 18 in June. Atmospheric pressure averages 724, or 37 degrees less than Buenos Ayres, and 1 less than Tucuman. Rainfall 31 inches, being 3 less than Buenos Ayres; some months no rain falls; the maximum month shews 6½ inches.

The population at various dates shewed thus:—

Date.	Population.	Annual increase.
1779	44,050	—
1826	90,000	980
1857	137,100	1,500
1869	210,500	6,100
1890	327,600	5,600

Pastoral pursuits occupy the largest number of the population, and cover an area of 24,000 square miles, held by 2,970 estancieros; the flocks and herds are said to have increased as follows:—

	1864.	1890.
Cows	900,000	1,298,000
Sheep.	700,000	1,386,000
Horses.	250,000	256,000

There are also 370,000 goats, including some Angora half-breeds.

Agriculture covers an area of 590,000 acres or 900 square miles, being less than 2 acres per inhabitant: there are 340,000 acres under wheat and maize, which produce 100,000 tons of grain yearly: the rest are chiefly under alfa or meadow. It is said that the first persons who taught the Cordobese agriculture were English or Irish soldiers and sailors taken prisoners in Captain MacNamara's assault upon Colonia, in 1765, whose descendants are found among the Todds, Sarsfields, Carrolls, Butlers, etc., of the first families in the interior. The province is rich in fruits, such as apple, pear, peach, cherry, plum, damson, fig, quince, walnut, grapes, and the nopal, from which last are made brandy and molasses. Cordobese ladies are famous for making preserves and "membrillo". Since the introduction of Italian colonists the production and use of vegetables have increased, but before the opening of the Central Argentine Railway (1869) it was customary to cook every dish with rice, even potatoes being unknown, or at least unused in the hotels.

The landed value of the province is approximately as follows:—

	Sq. miles.	Value \$ gold.
Agricultural	1,000	5,000,000
Pastoral	45,000	31,500,000
Mountain.....	21,600	3,500,000
TOTAL.....	67,600	40,000,000

The wealth of the province has trebled since 1870. shewing approximately as follows:—

	1870. \$ gold.	1891. \$ gold.
Lands.....	18,000,000	40,000,000
Cattle.....	11,000,000	19,500,000
Houses.....	15,000,000	29,000,000
Railways	6,000,000	55,500,000
Sundries.....	17,000,000	48,000,000
TOTAL.....	67,000,000	192,000,000

The earnings of the population may be estimated as follows:—

	\$ gold.
Pastoral products.....	9,500,000
Agricultural do.	6,800,000
Mining do.	200,000
Transport service.....	3,300,000
Sundry occupations.....	13,900,000
TOTAL.....	33,700,000

There are said to be 50 agricultural colonies, the most remarkable being those of Tortugas, Villa Maria, Carlota, Sampacho and Caroya, composed mainly of Italian, French and German settlers: the total population of the colonies is about 15,000 souls.

Education has progressed as follows:—

Year.	School-children.	Do. per 1,000 pop.
1872	1,560	7
1884	7,380	23
1891	12,600	38

This is still a very low ratio of school-children to population. The expenditure last year on schools was \$380,000 currency or £20,000 sterling say \$30 currency per pupil.

The estimates of revenue and expenditure were as follows:—

	1883 \$ currency.	1890 \$ currency.
Revenue.	810,000	2,006,000
Expenditure . . .	810,000	8,160,000

The items for 1890 were made up thus:—

	Revenue \$ currency.
Property-tax	760,000
Lands	200,000
Licenses and stamps.	400,000
Sundries.	646,000
TOTAL.	<u>2,006,000</u>

This is, of course, exclusive of 2,500,000 dollars supposed bank-profits.

The expenditure (reducing the interest on debt to its equivalent in currency) is as follows:—

	\$ currency.
Interest on debt.	6,200,000
Police	510,000
Schools	370,000
Tribunals	190,000
Sundries.	890,000
TOTAL.	<u>8,160,000</u>

By suspending the service of the debt (£410,000 sterling per annum) the expenditure is brought within the probable receipts. The debt is made up thus:—

	£ sterling.		\$ currency.
Loans in Europe	3,700,000	=	55,500,000
Internal gold			15,100,000
Do. currency			32,800,000
TOTAL			103,400,000

But this is not all. The municipal loan of Cordoba is £800,000 or \$12,100,000 currency, thus bringing up the total to \$115,500,000 or \$350 currency per inhabitant, as compared with \$430 per head in Santa Fé.

The Free Bank established here in 1887 had a capital of £2,750,000 stg., obtained by loans in London and Paris: its issue was \$15,200,000 gold or £3,000,000 sterling. In August 1889 the bank was pumped dry, having lent out \$58,900,000. The clandestine issues of paper-money by Juarez Celman were connected with this bank.

DEPARTMENTS

Anejos includes properly two departments near the city of Cordoba. The northern comprises Calera, Zeballos, San Vicente and Cañas. An English hotel was built at Calera, which is delightfully situated in the mountains, about 12 miles N.W. from the city, but it was not supported. A railway was even proposed, with the hope of making this "sanatorium" known in Europe, as consumptive patients find speedy benefit from the air of the Sierras. The southern portion of *Anejos* takes in Molinos, Alta Gracia, Garay, Lagunilla, San Antonio, San Cosme and San Isidro, between the slopes of the Sierra and the Rio Segundo. The lower districts are watered by the Primero, and comprise some good cattle-farms; the upper are mostly wooded.

except where brought under tillage. The department extends as far north as Ascochingas, where Miguel Agüero has a model-farm with the best machinery. The Jesuits had a fine establishment at Alta Gracia.

Calamuchita is watered by the Segundo and Tercero, and includes a part of the Sierras, with the table-land of Lutis. It comprises the well-known copper mines of Tio, Minotauro and Tacuarú, with their establishments for refining the metal. Wooded hills and fertile valleys render it one of the most charming districts in the province. Population, 6 to the square mile. The late Dr. Gordon had a numerous collection of mineral and geological samples from this and the adjoining departments. The local authorities for Calamuchita, including the judge of mines, reside at Soconcho, the principal village, 70 miles south of Cordoba.

Cordoba includes the city and suburbs within a radius of 10 miles. Before the opening of the railway, in 1870, Cordoba preserved the same mediaval features as at its foundation by Luis Cabrera in 1573. It is 7 years older than Buenos Ayres, and was for two centuries the head-quarters of the Jesuits, the centre of learning and civilization, and the only place east of the Andes which had a printing-press. No monument, street, or square perpetuates the name of the founder, who was one of the few high-minded "Conquistadores," and was unjustly put to death by his successor, Figueroa.*) The city suffered so repeatedly from the inundations of the Primero, that at last a breakwater

*) Don Gonzalo de Abreu Figueroa, who succeeded Cabrera as Governor of Tucuman, in 1574, on vague accusations caused Cabrera to be beheaded at Santiago del Estero the same year. Hernando de Lerma, in 1580, put to death Figueroa.

was built by Governor Peredo, in 1671, which still exists. By moonlight the Plaza looks picturesque, with its cathedral of Oriental architecture and Moorish *cabildo*. There are 10 minor churches, some attached to convents, others erected by pious persons. The ceiling of carved wood in the Jesuit church attests the skill and taste of the architect. It is put together without a nail or screw, and richly gilt with the first gold brought from Perú; the trunks of cedar from which it was made were brought down on rollers from Tucuman by Indian neophytes, who took $2\frac{1}{2}$ years in the task; in the nave are medallion-pictures of St. Ignatius, St. Francis Xavier, and other saints of the order. Next to this church is the University, established (1613) forty years after the foundation of the city, having been erected and endowed at the cost of Don Fernando Trejo de Sanabria, the first Creole bishop in S. America, who then held the See of Tucuman, and devoted all his private fortune to the purpose, amounting to a sum of 43,000 silver dollars. This grand old structure seems to defy the ravages of time, and is built on four sides of a quadrangle, on the north side of which is the Academic Hall, where degrees are conferred. So massive is the building that the walls vary from 4 to 6 feet in thickness. The valuable library, which the Jesuits had collected at such labour, and including many works printed by themselves in the Quichua, Guarani, Lulé, Aymará and other tongues, was scattered at the suppression, and the remnants constitute the bulk of the State Library at Buenos Ayres. Grocers and confectioners used the Jesuit books as wrapping-paper for more than 40 years, and the late Dr. Gordon, Her Majesty's Vice-Consul, saved many valuable works by buying them from huxters. After the expulsion, in

1767, the University fell into obscurity, maintaining only some classes of civil and canon law, ethics, logic, metaphysics, etc., down to 1870, when Pres. Sarmiento brought out from Germany some learned professors of modern science, named Doering, Lorentz, Hieronymus, and others who are still engaged (except Dr. Lorentz, deceased) in their respective classes of geology, botany, zoology, etc., as well as modern languages. There is a fine chemical laboratory, and the University is well supplied in every respect. The Bull for conferring degrees bears the signature of Gregory XV., A.D. 1621, and is countersigned by Philip III. of Spain. According to the historian, Dean Funes, the classes for which this University was famous were Latin and philosophy. The Dominican convent is a structure of antiquity, and in the adjoining church is a statue to St. Francis Solano, in which he is represented with a violin, his skill in music having assisted him in converting the Moxos, Chiquitos, and other tribes; in the sacristy is a portrait of Fray Correa, who died about 30 years ago and whose name is held in the most profound veneration by all classes in Cordoba. The Carmelite orphanage, founded by Bishop San Alberto, in 1780, is another noble monument of clerical munificence, the said prelate having devoted his fortune to this endowment for orphan girls; the children are under the care of Carmelite nuns, and make beautiful laces and needle-work: visitors are shown the dormitories, which are models of neatness. The glory of Cordoba, after the decline of its University, was its Alameda, or public walk, a quadrangle with an artificial lake of 4 acres in the centre, surrounded by stately trees; it was laid out by Viceroy Sobremonte in 1806, but a tornado, which visited the city in 1880, tore up the noble trees from their roots, and made

desolate a scene once so lovely. Close by are the baths, which are worthy of the Moors, and have no rival in these countries. In summer the heat is intense the thermometer marking in January as high as 107° Fahr. in the shade, when most of the families retire to quintas in the Sierras. Heart disease has long been more prevalent in Cordoba than elsewhere, which some physicians ascribed to the frequency of revolutions, others to the want of vegetables, others to the sedentary habits of the people. Cordoba is the residence of the Governor, bishop, legislature and other authorities, and is the third city in the Republic, having 55,000 inhabitants. It is forbidden to gallop in the streets. The best hotels (4) are the Paz in Calle Ancha, and Paris in the principal square. There are 2 daily papers published. The National Observatory stands on a site of 16 acres, nearly a mile S.W. of the principal square, the site being 112 feet higher than the city. It was instituted by Pres. Sarmiento, who engaged Professor Benjamin Gould of Cambridge U. S. for the purpose in 1869. The foundations were laid in October 1870, and the first telescope was mounted July 4th 1871. The building is in the form of a cross, 100 feet from east to west and 75 from north to south, the extremities terminating in domes, 18 feet high and 18 feet diameter. The geographical position of the meridian circle is 4° 16' 48.2" W. of Greenwich and 31° 25' 15.5" S. Lat, at an altitude of 1,446 feet above the mean tide level of the River Plate in front of Buenos Ayres. Among the instruments are two equatorial telescopes of 12 inches aperture, a meridian circle with 5 inch glass and 30 inch circle, a portable equatorial of 5 inch aperture, photometer, chronometers etc. The total outlay, for building and instruments was only £6,000 sterling. The

work accomplished during 14 years of Dr. Gould's direction and 6 years under his successor, Dr. John M. Thome (who had been Dr. Gould's assistant from the outset), has been classified by astronomers as "comparable in amount and in several respects superior in accuracy to the corresponding data for the northern heavens". Dr. Gould has left an enduring work in the Uranometria Argentina, which comprises 14 maps, giving the brightness and position of every star visible to the naked eye, from the south pole to 10 degrees north of the equator, similar to Argelander's Uranometria of the northern hemisphere. He found that in the clear sky of Cordoba stars even of the 7th magnitude could be seen, and his maps contain 8,198 stars, as compared with Argelander's 3,256 in the northern heavens. It was after Dr. Gould's retirement, in 1885, that Vol. XIV. of the general catalogue was published, containing 145,000 observations, and by the end of 1891 no fewer than 1,030,000 observations had been made of 325,000 stars. Seven volumes have passed through the press since Dr. Thome took charge in 1885. The Royal Astronomical Society has declared the work done at Cordoba to be unrivalled, and the American Academy of Science has awarded the gold medal for it. The pleasantest excursion from Cordoba is to Cosquin, 35 miles distant, which may be reached in 3 hours by railway (see p. 135). After skirting the Rio Primero for some length we run through mountains where the scenery changes every moment. We pass close to the San Roque reservoir, 2,000 feet over sea-level, closed in by mountains on three sides and on the fourth by a wall 100 feet thick: small steamers cross it at intervals, for it forms a large lake. Cosquin is a town of 250 houses and two good hotels, and in the summer

months is much frequented by families from Cordoba and Buenos Ayres. It has long been considered a sanatorium for all pulmonary complaints. The Rio Primero forms a horse-shoe round it. Looking southward you see the Sierra Achiras, and northward is another Sierra, of which the Sugar Loaf and other peaks rise to 4,000 feet. In the season excursions are made every-day on horseback or in carriage to the Quebradas and other picturesque spots in the vicinity. Cosquin is 2,400 feet over sea-level, surrounded by the most delightful scenery: the temperature is mild in winter and cool in summer, and numbers of people have been cured of dyspepsia, phthisis and other ailments after a brief residence. Dr. Lopez believes that it was founded in the time of the Incas by a colony from Peru, the name in Quichua language signifying "little Cuzco". Another delightful trip may be made to Alta Gracia, via Rio Segundo, the journey taking 4 hours by rail (see p. 122). It is in the midst of superb scenery, and the purity of the air and water, as well as special qualities of the cows' milk, are found to have marvelous effect in curing weak digestion or similar complaints, as also pulmonary affections. Horses may be hired for 6 pence (50 cents) a day, and a morning ride through hills covered with timber, forests festooned with mistletoe and redolent with perfumes, to the music of countless waterfalls, is a thing never to be forgotten. The river Anasacate abounds in sarsaparilla. Excursions are made to the artificial lake made by the Jesuits, in the hills. The hotel charge is \$4 paper, say 5 shillings a day, but a party would find it easy to get lodgings, paying only \$1 daily for board, that is 50 cents (sixpence) to the cook, and 50 cents for food, mutton and kid being cheap and good. Saldan,

the residence of Mr. Allende, is on the banks of the Primero, at the foot of the Sierras, and has a walnut tree, under shade of which, it is said, 300 horsemen could saddle their horses. At some of the above-named places the geologist or sportsman may find convenient head-quarters. No one should leave Cordoba without visiting the Pueblito, or Indian village, the inhabitants of which are Christians, but of indigenous blood; they are the lineal descendants of the Indians who owned this valley before Cabrera founded Cordoba. The steam saw-mills, gas-works, etc., are also worth seeing. There are trains daily to Rosario, 246 miles, in 10 hours; to Tucuman, 340 miles, in 20 hours; to Mendoza, 480 miles, in 30 hours.

Cruz del Exe comprises the valleys on the N.W. side of the Punilla range, which produce a variety of fruits and some wheat. The village which gives name to the department is 100 miles N.W. of Cordoba, by a mountain path, only practicable for mules, and is memorable as the scene of the murder of the gallant Colonel Liniers, who so bravely defended Buenos Ayres against the British in 1806-7. This valley enjoys a mild climate and fertile soil, being watered by the Soto, Higuera, and other streams from the Sierras. The Jesuits had an establishment at Candelaria, in the midst of rich marble quarries, the ruins of which remain. There are lead and silver mines at Guayco, profitably worked for many years by Messrs. Roque Frères, who obtained \$100 per ton of mineral. The hamlets of San Marcos, Higuera, and Pichana are inhabited by descendants of the Calchaquies, mixed in later years with European blood. From Cruz del Exe to Dean Funes station on the Great Northern Railway is 40 miles, through a hilly country, rich in minerals.

Frayle Muerto takes its name from a friar having been murdered here. It suffered from Indian forays down to 1870, and this explains the ruin of the Anglo-Scotch colony founded here in 1868, which counted 123 persons, of whom only two or three remain. Agriculture has, however, made much progress, the statistics for 1890 shewing 80,000 acres under wheat and 120,000 under alfa; crops 20,000 tons of wheat and 120,000 of alfa. In 1870 President Sarmiento changed the name of the town from *Frayle Muerto* to *Bell Ville*, in honor of Mr. Bell, the first settler, and it has since grown into importance, being one of the principal stations on the Central Argentine Railway, with a population of 4,000 souls. It is built on the Rio Tercero, and is 5 hours by rail from Rosario, and the same from Cordoba. This department also includes 3 wretched hamlets, Ballesteros, Saladillo and Cruz Alta, which were often sacked by Indians down to 1875.

Ischilin is a hilly, picturesque country, between Cruz del Exe and the Great Northern Railway. Population 4 to the square mile. It was very flourishing under the Jesuits, who had a fine estate at Santa Catalina, the admiration of travellers long after the expulsion. There are many cattle-farms, and the villages of Quilino, Rio Pinto, Copacabana, Manzanas and San Pedro have a numerous and healthy population, showing by the census an extraordinary number of persons over 100 years. Each has a little chapel. The hill ranges from here to Cruz del Exe appear rich in minerals, but an English company, which brought out Ransome & Simm's crushing machinery, in 1871, could not obtain quite an ounce of gold per ton of quartz, which would not pay working. The town of Ischilin is 20 miles W.

of Avellaneda station on the Great Northern Railway, by which Cordoba can be reached in 6 hours.

Minas and *Pocho* were formerly included in the single department of Minas, forming a table-land, 3,300 feet over sea-level, between the Sierra del Pocho and the Salinas desert of Rioja, and abounding in marble, copper and lead, the richest districts being those which form the new department of Minas. The mines which have given best returns are the Ojo-de-Agua of Messrs. Roque, the Argentina of Manuel Lastra, the Santa Barbara near Higuera, the Mendez near Taminga, on the road to Cordoba. There are quartz-crushing establishments at San Carlos and Ojo-de-Agua. The Sierra that runs northward is called Guasa-pampa, containing the extinct volcanoes of Yerba Buena, Agua Tala, Cienaga, and Salsacate, which have an average height of 3,300 feet. The inhabitants say that rumbling noises are often heard, but none of them have ever seen smoke or other sign of eruption. The climate is delightful. The villages at the foot of the Sierras have chapels, and are on the western slope of the Pocho range. The judge of mines and justice of the peace reside at Pocho, which is 60 miles W. of Cordoba, accessible by a good coach road.

Punilla lies north-east of Pocho, and comprises the beautiful valley, sometimes called Dolores, between the Cosquin and Punilla ranges. Orchards and small farms cover the mountain sides, which glitter with talc and abound in parrots. There is an estancia belonging to the family of the late Dr. Gordon, near San Roque, with the remains of a mill said to have belonged to the Jesuits. San Antonio, the chief town of the department, is sometimes called Punilla, about 20 miles N.W. of Cordoba, and has church and schools. There

are chapels at the villages of Dolores, San Francisco, San Roque, and Monte. A picturesque route over the Sierra of Cosquin leads to Cordoba, practicable only for mules, very steep, and commanding fine scenery.

Rio Cuarto includes all the country southward from the Sierras till reaching the Rio Quinto, which is the boundary with San Luis, and is mostly level pampa. The Indians used to career freely over it, three or four times a year, till the Rio Quinto frontier was improved, in 1874, under General Ivanoski; before that time they often besieged Rio Cuarto, and sacked the outskirts, while the women and others of the townfolk remained for days shut up in the church. Messrs. Fielden of Manchester had a large estancia south of Cabrera station, since sold in lots, and about 20 miles northward, was the Angora goat farm of Messrs. Barker and Kaulen, bought in 1883 by Messrs. McKenzie and Wylie. This estancia is now devoted to horned cattle and covers 360 square miles, of which 10,000 acres are walled-in. A few leagues distant is another large estate, belonging to Mr. Winterbotham. The chief town of the department is *Rio Cuarto*, on the river of same name; it was formerly called Concepcion, and has 14,000 inhabitants, being the second town in the province. By the census of 1869 there were 133 women to 100 men, but since the opening of the railway the disparity has diminished. Its position renders it one of the chief strategic points in the Republic. The suburbs are irrigated by canals drawn from the Rio Cuarto, which rises in the Sierras above Achiras, and is ultimately lost in swamps in the pampas. The Franciscans have a convent, which sends missionaries among the Indians, and the friars have several times succeeded in recovering captives from the Ranqueles, and restoring

them to their families, many years after they had been mourned for as dead. One of these friars, Father Buoncompagni, belonging to a noble family of Bologna, is favourably known all over these regions. Rio Cuarto is by rail 394 miles from Rosario,

Rio Primero comprises the country lying between the city of Cordoba and the salt lakes of Porongos and Mar Chiquita in the N.E. portion of the province, near the frontiers of Santiago del Estero and Santa Fé. It was formerly known as Santa Rosa, which name still remains to its chief town. It is wholly devoted to the farming of horned cattle, possessing good pastures watered by the Rio Primero. The salt lakes alluded to are close one to another, together covering more than 3,000 square miles. The town of Santa Rosa, with 2,000 inhabitants, is built on the Rio Primero, 60 miles N.E. of Cordoba.

Rio Seco is a northern department, touching the frontier of Catamarca, and deriving its name from the aridity of its soil. Nevertheless, there are some good pastures. The chief town is *Rio Seco*, population 500, on the river of same name, in the lowlands.

Rio Segundo takes its name from the river which waters its rich pastures, and extends to the limits of Santa Fé. It is very populous, having 13 persons to the square mile, who divide their attention between cattle-farming and tillage. The chief town, sometimes called Rosario, sometimes Rio Segundo, stands on the S. bank of that river, 50 miles E.S.E. of Cordoba, and was on the old coach-road from Santa Fé city to Cordoba. It is chiefly remarkable for an English brewery which produces excellent beer. There is a branch railway from here to Alta Gracia, in the Sierras.

Rio Tercero was formerly called Upper Tercero, taking in all the districts on the slopes of the Sierras contiguous to this river, and also the lowlands extending S.E. to Villa Nueva. At Yucat the Central Argentine Railway Co. has works for cutting timber, used for fuel. There is no town of any importance in this department: the station of Laguna Larga is 2 hours from Córdoba and 8 from Rosario.

San Alberto, formerly included in San Javier, comprises a hilly country on the western slopes of the lower part of the Sierra de Córdoba, which part is sometimes distinguished as the Sierra de Achiras, extending as far as the limits of San Luis. This includes the plain of San Pedro, the Nono table-land, and several populous, highly cultivated valleys of charming scenery, especially Chaquinchuna, Ambul. and Panaolma. The chief town is *San Pedro*, with 1,100 inhabitants, on the Arroyo de Cañada; it is 1,700 feet over sea-level, about 50 miles S.W. of Córdoba, the intervening Sierra rising in some places to 7,700 feet.

San Justo, formerly El Tío, was in the department of Rio Segundo, lying along the river of that name as far as Lake Porongos, and is mostly given to cattle-farming, having excellent pastures. The chief town is *El Tío*, built on the Rio Segundo, close to the lake, and formerly called Fort Concepcion, as it formed a principal post for the protection of the Sunchales route, against the Chaco Indians. It is 90 miles E. of Córdoba.

San Javier adjoins San Alberto and takes its name from an antique village in the Sierras at a height of 2,700 feet over sea-level. The chief town is *Dolores* in the Cañada valley, in front of San Pedro, from which only the stream separates it; population 2,200 souls; distance from Córdoba 50 miles S.W.

Sobremonte, formerly included in Rio Seco, comprises the country eastward of the Quilino or Ischilin mountains as far as Lake Porongos and the limits of Santiago del Estero. The hilly parts are covered with forests of chañar and other thorny trees; the lowlands have rich pastures for horned cattle. The only district of the W. side of the Sierra which belongs to this department is that surrounding the village of Caminiaga. The chief town is *Chanar*, population 400, with a fine church of St. Francis; the outskirks are well tilled, and have perennial water-supply in the streams from the Sierra. It was a post-town on the old road from Cordoba to Santiago del Estero, and stands 2,400 feet over sea-level. It is 90 miles N. of Cordoba and 15 E. of San José station on the Great Northern Railway; the journey to Cordoba can be made in 7 hours. The department is called after the Viceroy who fled from Buenos Ayres when Beresford approached that city, but who did so much for the advancement of Cordoba.

Totoral was formerly included in the department of Tulumba, and comprises some fine valleys and lowlands on the east side of Sierra Ischilin, traversed by the Great Northern Railway. The district of Sinsacate is admirably cultivated, and the air is so good that consumptive patients speedily regain health and comparative strength. If proper hotels were built at Sinsacate and Tanticuche, and people in Europe advised of the marvellous effect of the Sierras. these places would become the Sanatorium of nations for tubercular patients. In this department are the remains of two fine establishments of the Jesuits, Santa Catalina and Jesus Maria; also the estate of Caroya, area 500 square miles, with a massive building, which is the seat of an Ita-

lian colony, who complain bitterly of the treatment shown them by the Cordobese Government. The chief town is *Totoral*, with 1,000 inhabitants, 60 miles N. of Cordoba; 140 women to 100 men; journey to Cordoba 4 hours, the nearest station being Jesus Maria.

Tulumba comprises a hilly country, entirely devoted to cattle-farming, there not being sufficient water to irrigate for agriculture. It lies north of Totoral, along the Sierras, the points of which here seldom exceed 3,000 feet. The chief town, formerly called Tulumba, is *San José*, a station on the Great Northern Railway, with 300 inhabitants, being the northernmost town in this province, close to the great Salinas desert. It is 8 hours by rail from Cordoba, and has a manufacture of rugs, which are much used in the provinces.

Villa Nueva was formerly called Tercero Abajo. Population 8 to the square mile, the inhabitants giving their attention to cattle, and previously to 1874 used to suffer Indian forays regularly three times a year. The pastures are better for cattle than sheep, but the soil would be excellent for agriculture if irrigated. The men are listless and apathetic, the women industrious, making soap, candles and preserves of fruit. This department includes the important station of Villa Maria, junction of the Central Argentine and Andine railways, which suffers much from want of good water. The chief town is *Villa Nueva*, 2 miles west of Villa Maria, a thriving place on the Rio Tercero, with 3,000 inhabitants; it exports \$300,000 worth of hides, etc., yearly, and has 30 large houses of business. The town was founded in 1814, and looks poor, as the houses are mostly of sun-dried bricks, with straw roof. When the Tercero rises, in flood seasons, it does some damage; a new iron bridge has been put up connecting the town

with Villa Maria. The latter place is 4 hours from Cordoba, 6 from Rosario.

Marcos Juarez, Roca and *Juarez Celman* are three new departments formed out of districts that formerly belonged to Rio Cuarto.

SAN LUIS

This province holds the 11th rank in the Confederation (see p. 65) and is, with the exception of Catamarca, the thinnest populated of the provinces, having only $2\frac{1}{2}$ inhabitants per square mile. The surface is wild, mountainous, and woody in the north, bare pampa in the south, and being situated between the 32nd and 35th parallels of S. latitude, the province enjoys a delightful climate. On the north the Salinas desert separates it from Rioja, on the east the Sierra Estanzuela forms its boundary with Cordoba, on the west the Desaguadero river marks the limit with Mendoza, and on the south the 35th degree of latitude on the side of the desert. It was part of the Spanish province of Cuyo, but separated from Mendoza in 1820, at the same time as San Juan. The Cuyo province was a dependency of Chile during 217 years, until transferred in 1776 to the Vice-royalty of Buenos Ayres. No province has suffered so terribly as San Luis from the combined ravages of civil wars and Indian forays, which have neutralized all the advantages of climate, soil and

geographical position. A new epoch is now opening, with the security of the frontier and construction of railways, which will turn to account this fine territory, so well suited to fatten cattle for the markets of Chile or the Buenos Ayres seaboard. The province is so poorly supplied with water that it is not adapted for agriculture, the crops depending almost wholly on rainfall, which is, however, in general sufficient, averaging 22 inches yearly. Some months there is none, and the maximum is $4\frac{1}{2}$ inches in any month. Atmospheric pressure is low, ranging from 676 to 709, with an annual average of 694, or 66 less than in Buenos Ayres.

The chief physical feature is the Sierra de San Luis, running northward from the capital, parallel with the great Sierra of Cordoba for 100 miles, till reaching the frontier of Rioja. The highest peaks are San Francisco, Pancauta, Monigote, and Tomalastá, ranging from 5,000 feet upwards, the last reaching 7,200 feet over sea-level. Volcanic agencies are visible at Tomalasta and elsewhere, and an earthquake in 1849 shook down some houses in the city of San Luis. Wood and pasture abound in the valleys and on the slopes of the Sierra.

Rio Quinto, the only river of any importance, takes its rise in Sierra Pancauta at a height of 6,600 feet, and is swollen by many streams from Carolina and Cañada Honda. Descending E.S.E. to the plain, it cuts its way through a rich stratum of soil, and is a clear rapid river of 300 feet wide where crossed by the highway to Mendoza, the elevation here being 2,300 feet over sea-level. Its bed of sand and pebbles glitters with an abundance of mica, and the valley is narrow and picturesque, well wooded on both sides. The rapidity of its course is due to its great incline, which

averages 12 feet per mile, the elevation over sea-level not exceeding 1,750 feet at the town of Rio Quinto, 48 miles from the Mendoza post-house above mentioned. Below this town, however, the pampa begins, and the river lazily drags its course over a sandy bed, past Fort Sarmiento, till it is lost in the Amarga swamps, after a course of 300 miles. The only lake in this province is the Bebedeiro, already described in the route to Mendoza (p. 103).

Among the places best suited for agricultural colonies are (1) along the Rosario, in the Cañada del Morro, where irrigation is easy, and there are few or no inhabitants; (2) the Varela valley, with a river and advantages similar to the last; (3) Plumerito, south-east of Varela valley, where the soil is excellent; (4) the camps of Pantanillo, or Punilla; (5) the district which lies S.E. of Morro, watered by mountain streams.

The early history of the province is full of interest. The original inhabitants were known as Comechingones and Michilengues, branches of the great Quichua family, as the names of Tomalasta, etc., indicate; but they are not supposed to have been at any time subject to the Incas. The first Spanish conqueror was Martin Loyola, nephew of the founder of the Jesuits, who, having married the Princess Clara Beatrice Coya, only daughter and heiress of Sayri-Tupac, last of the Incas, was made Governor and Captain-General of Chile, and in 1597 founded the city of San Luis.

The people of the province are usually called Puntanos, because Loyola called the site of his fort Deer Point, Punta de Venados. They are of mixed blood, the Quichua predominating, although they speak Spanish. The men are healthy, robust and well-formed, and supplied the best cavalry regiments in the War of

Independence. The women are handsome, virtuous and industrious. Nevertheless, the province will not soon recover from the odium caused by the massacre of 1819, when the Spanish officers who had been taken prisoners at Maypu, while detained as captives, were put to death by the citizens.

Estimates of population shew as follows:

Year.	Population.	Annual increase.
1825	25,000	—
1857	37,600	400
1869	53,300	1,300
1891	99,100	2,100

The preponderance of females is not surpassed in any other part of the Republic, the census of 1869 showing 113 women to 100 men.

The province comprises 8 departments, as follows:—

	Square miles.	Population,	
		1880.	1891.
San Luis.....	8,600	10,000	20,500
Saladillo.....	1,700	7,000	6,700
S. Francisco.....	3,400	10,000	12,400
Morro.....	10,300	13,000	24,600
Renca.....	1,200	9,000	10,200
Santa Barbara.....	1,400	9,000	8,300
Piedra Blanca.....	1,100	10,000	8,400
Nogoli.....	2,500	8,000	8,000
TOTAL.....	30,200	76,000	99,100

Public wealth has more than doubled since 1870. shewing approximately as follows:—

	1870 \$ gold.	1890 \$ gold.
Lands.....	6,000,000	10,000,000
Cattle.....	2,000,000	4,000,000
Houses.....	4,000,000	6,000,000
Railways.....	—	8,000,000
Sundries.....	4,000,000	9,000,000
TOTAL....	16,000,000	37,000,000

The landed property of the province may be estimated thus:—

	Sq. miles.	Value \$ gold.
Agricultural.	200	1,000,000
Pastoral.	20,000	8,000,000
Waste.	10,000	1,000,000
TOTAL.	30,200	10,000,000

There are about 90,000 acres under crops, one-third wheat, one-third maize, and the rest alfa, fruit, etc., the product in 1890 being worth \$1,000,000 currency or £50,000 sterling. The average tillage area is hardly one acre per inhabitant.

Down to the year 1880 there was little or no increase of flocks and herds, owing to repeated Indian forays, but in the last 10 years of freedom from Indians the increase of stock has been nearly 100 per cent. The returns for 1888 shewed 480,000 cows, 110,000 horses and 240,000 sheep.

The earnings of the people are approximately as follows:—

	\$ gold.
Pastoral products.	1,800,000
Agricultural »	1,000,000
Mining »	100,000
Transport service.	500,000
Sundry occupations.	3,700,000
TOTAL.	7,100,000

Public instruction is neglected, shewing the following decline:—

	Schools.	Pupils
1889	112	6,930
1891	101	5,860

The expenditure on schools last year was \$85,000 currency or £5,000 sterling.

There are 180 miles of railway representing a cost of £1,500,000 sterling.

One of the ill-started Free Banks was established in this province in 1887, with a capital of \$600,000 gold or £120,000 sterling.

The estimates of revenue and expenditure were:—

	1884 \$ currency.	1891 \$ currency.
Revenue.....	207,000	220,000
Expenditure.....	207,000	620,000

The revenue of 1891 according to Governor Videla was as follows:—

	\$ currency.
Property-tax.....	100,000
Sundries.....	120,000
TOTAL.....	<u>220,000</u>

The expenditure (reducing gold at 200 per cent premium) was as follows:—

	\$ currency.
Service of debt.....	290,000
Public offices.....	330,000
TOTAL...	<u>620,000</u>

Even excluding the service of debt there would be a deficit of \$110,000. The debt is made up thus:—

	£ sterling.	\$ currency.
Foreign loan	150,000	= 2,300,000
Internal debt.....		2,500,000
TOTAL...		<u>4,800,000</u>

The debt is equal to \$50 currency per inhabitant.

DEPARTMENTS

San Luis comprises all the territory between the Sierra, the Desaguadero and the Rio Quinto: water is scarce, but there is plenty of wood. The district of

Chorrillos is at the foot of Cerro la Punta, beautifully cultivated and adorned with plantations; the little river which irrigates it serves also to water the city and outskirts. Chalanta comprises the southern plain, with wooded intervals, terminating in salt plains. Desaguadero includes the lands from Sierra Varela to Lake Bebedeiro, with a zone of cultivated farms in the vicinity of Chosmes and Alto Pencoso; the inhabitants of the latter place have made reservoirs in the side of the Sierra to catch the rain-water. So scant are the pastures in some places that the cattle depend less on grass than on the leaves of the trees for their support. Chief town, *San Luis*, capital of the province, with 8,000 inhabitants, was founded in 1597, and served for nearly two centuries merely as a fortified outpost against the Indians. In 1788 Molina mentions it as an obscure village, and about 25 years later it was beginning to prosper, when the War of Independence took its best men to fight for the emancipation of Chile and Peru. Of the few gallant soldiers who survived was Colonel Pringles (son of one of MacNamara's men), who was shot, in 1831, by General Quiroga. The city and province were ravaged during the civil wars of 1831-1865, which kept the people so poor that down to 1874 the best houses in the principal square were of sun-dried bricks and thatched roof. The city has, however, progressed since the opening of the railway to the Andes (1880), being one of the principal stations on the line from Buenos Ayres to Mendoza. Nothing can be more picturesque than the situation of San Luis, on a plateau 2,502 feet over sea-level, commanding a view of the whole province, and taking in the snow-peaks of the Andes (one of which is said to be Aconcagua), 200 miles distant. Immediately over the city is the final

point of the Sierra San Luis, which has an elevation of 4,550 feet. The geographical position is 33° 26' S. lat. and 66° 15' W. of Greenwich. The municipal division consists of 4 wards, and the schools are attended by 600 children, more than 50 per cent of the inhabitants being able to read and write. Two weekly papers are published. It is probably due to the civil wars that the city has 132 women to 100 men. However squalid the appearance of the place, wherein reside Governor, Ministers, Chambers, etc., the outskirts are charming, watered by the Chorrillos stream, and producing a variety of fruits, vegetables and poplars. The sub-stratum is rock or sand, with a layer of 30 to 40 inches of soil, in which grapes and oranges thrive. San Luis is 374 miles by rail from Rosario, 310 from Cordoba, and 490 from Buenos Ayres (see p. 103), the latter journey being done in 24 hours.

Saladillo, officially called *Pringles*, takes in a wild country on the S.E. side of the Sierras, with only 1 inhabitant to the square mile. It terminates eastward at the picturesque mountain of Morro, the surface being undulating, covered with pasture. It derives its name from a brackish stream that falls into the Rio Quinto, and embraces 5 districts: Trapiche, which has some mills for quartz-crushing and a village where there is a hat-factory; Totoral, well known for its cattle-farms; Rosario, which gives name to a spur connecting the San Luis Sierra with the system of El Morro; San Ignacio, an old military position in the Rio Quinto valley. Chief town, *Saladillo*, which has a chapel and only 200 inhabitants, including the local authorities, who are wholly devoted to cattle-farming.

Morro, officially called *Pedernera*, is the largest department in the province, with a scanty population of

two to the square mile. It lies between Saladillo and the Cordoba frontier, and is well known to sportsmen for guanacoës, ostriches and other large game. The northern part, towards Renca, is watered by the Rio Quinto, the southern loses itself in the pampas. In the time of the Dictator Rosas there were large cattle-farms along the Rio Quinto 50 miles southward; but the Indians reduced the country to a wilderness after the fall of Rosas, and when President Avellaneda opened the railway to Rio Quinto, in 1875, beef was scarce in this department. Since then some improvement is observed. Some agriculture is practised near Cuchato, a village of 400 souls, in the northern district. The departmental authorities occupy an elevated position at the village of San José del Morro, 3,430 feet over sea-level. Chief town Villa Mercedes, on the Rio Quinto, was founded in 1856 on the Indian frontier, and contains 7,000 inhabitants. It is one of the great railway centres of the republic (see p. 102).

Renca, officially called *Chacabuco*, comprises the prettiest and most fertile valley in the Republic, that of Concaron, which has the Sierra of Cordoba on the east, that of San Luis on the west, and is watered by a number of streams that descend on either side, imparting fertility to the numerous grain-farms and orchards as they descend towards the Rio Quinto. It is the most populous department in the province, supporting 3 inhabitants to the square mile. The villages of Estanzuela, Manantial, Santa Rosa and Larca are remarkable for neatness and the affluence of their inhabitants, the first two being pastoral. The last two raise considerable quantities of wheat, maize, alfa, etc., and are famous for fruits. Dolores is a town of some importance, with 800 inhabitants, and exports wool, wheat

and other products. The school is attended by 150 children. Chief town, *Renca*, with 1,500 inhabitants, a place of much trade, and reputed to have the best wool in the province, besides carrying on much traffic in grain. It is pleasantly situated, has a good church, schools with 200 children, club, free library and local authorities. It enjoys a delightful climate, and the people are most attentive and civil to travellers. The town is surrounded with orchards.

Santa Barbara, officially called *San Martín*, comprises the country west of *Renca* and south of *Saladillo*. It is mountainous and rich in minerals, containing the famous *Carolina* mines, as well as *Cañada Honda* and *Cerros Blancos*, both well known for gold-washings. Two of the *Carolina* gold-mines have been repeatedly worked at intervals. Some of the works have demanded much labour, Messrs. Schmidt, for example, having sunk a shaft 36 inches diameter to a depth of 240 feet. The locality of *Carolina* is delightful as regards climate, and an Englishman who was suffering from lung disease writes of it as follows: "Carolina is the climate that suits me best, the temperature is so agreeable. It ranges between 60° and 70° during the day, and after sunset remains warm for a long time, the bare rocks giving out the heat which they received in the day from the sun. I am just 4,903 feet above the sea, right at the foot of *Tomalasta*, which peak is the highest in the *Sierra* (7,260 feet). There is not a tree or bush, except a few poplars, close to the house in which I write. Meat, butter, cheese, milk and potatoes are cheap, as the valley has a number of irrigated farms which are cultivated by women, the men hiding anywhere to escape military service. But for this the country would be more secure, and these valleys would

produce on a much larger scale." The villages of Carmen and San Lorenzo have chapels and schools. They are on the N.E. slope of the Sierra. Chief town, *Santa Barbara*, with 500 inhabitants, church, local authorities, and a school of 80 children. is at the entrance of the defile of same name; the inhabitants live by cattle-farming.

Piedra Blanca, officially called *Junin*, occupies the N. end of the Sierra San Luis, and touches the frontiers of Cordoba, Rioja and San Juan. It was formerly called *Lomitas*, and sometimes *Quines*; it skirts the Chaquinchuna hills, and includes the Cañada valley, famous for its maize, wheat, alfa and orchards. The eastern slopes are well wooded and watered, and display luxuriant vegetation. Small quantities of gold have been found in the Quines river. The people are industrious and in easy circumstances. Chief town, *Piedra Blanca*, with 900 inhabitants, a school, and the local authorities, situated 70 miles N. of San Luis city.

San Francisco, officially called *Ayacucho*, comprises a vast plain S. of Piedra Blanca, between Sierra San Luis and the range known as Quijadas, in many places studded with timber. There are good cattle-farms at the foot of the Saladas hill-range, and several grain-farms at Rio Seco, near the foot of Sierra San Luis. The climate is so mild as to be particularly favourable to agriculture. Chief town, *San Francisco*, with 2,000 inhabitants, at an elevation of 2,600 feet, on a little river of the same name. The rich gold and copper mines, 10 miles S. of this town, are accessible to waggons.

Nogoli, officially called *Belgrano*, is a mountainous district, between the Gigante and Socoscora hill-ranges, well wooded, and irrigated by streams from the Sierra

Pancanta. The inhabitants devote themselves to cattle-farming, but have also large enclosures or *alfares* of artificial grass, famous for fat beeves. The Travesia valley, as the name indicates, is a salt deposit, apparently the bed of a river in olden time. The Gigante mountain has superb marble. Chief town, *Nogoli*, with 400 inhabitants, chapel, school and local authorities, was a post-town on the old high-road from San Luis to San Juan, now little used. It has excellent *alfares*, well irrigated.

M E N D O Z A

This province holds the 10th rank in the Confederation, and is situated along the foot of the Andes, its north boundary being an imaginary line from the peak of Aconcagua to the San Juan river, at 32° 30' S. lat.; eastward the same river, which takes the name of Desaguadero, separates this province from San Luis, and southward the 35th parallel marks the limit on the side of the Indian country or Federal territory of the Pampas.

It takes its name from the governor of Chile, Garcia de Mendoza, in 1559, who sent Captain Pedro Castillo with 100 cavalry over the Andes to annex the Cuyo territory. The native Guarpes, unlike the warlike Calchaquies of Catamarca, were of a patient, industrious disposition, advanced in agriculture, and quite willing to submit to the conquerors on condition of being left

undisturbed to cultivate their fields. The Cuyo province, including Mendoza, San Juan and San Luis, was by royal decree in 1776 transferred from Chile to the Vice-royalty of Buenos Ayres. It was one of the 14 provinces that signed the Declaration of Independence at Tucuman in 1816, and 4 years later was dismembered, San Juan and San Luis becoming distinct provinces, as was foreshadowed by the fact of these sending their own deputies to Tucuman. The civil wars of 1821-32, and 1853-65, inflicted irreparable damage on these provinces, to which in Mendoza was added the earthquake of 1861, which engulfed 12,000 of the most enlightened and enterprising of its people. Nevertheless, the province is steadily recovering from past calamities, thanks to its advantageous geographical position, and to the influx of enterprising Chilians, who form one-tenth of the population. There are 17 departments, viz:—

	Sq. miles.	Population.
Mendoza.....	14	20,000
Heras.....	3,350	7,000
Rosario.....	5,400	4,000
San Vicente.....	290	11,000
Guaymallen.....	260	16,000
San Martin.....	444	13,000
Tupungato.....	2,180	3,500
Luxan.....	980	10,000
Maypú.....	295	9,500
Tunuyan.....	680	4,000
Chacabuco.....	2,600	3,500
Junin.....	180	13,000
La Paz.....	3,200	6,000
Rivadavia.....	710	13,000
San Carlos.....	3,260	7,000
San Rafael.....	22,000	9,000
Beltran.....	18,000	1,200
TOTAL.....	63,843	150,700

The boundaries of the last two departments are perhaps not clearly defined, the areas given above being taken from Latzina's geography. The generally accepted area of the province is only 50,000 square miles.

Population has risen as follows:—

Year.	Population.	Annual increase.
1857	47,500	—
1869	65,400	1,500
1883	99,000	2,400
1891	151,000	6,500

Few countries enjoy a more delightful climate, the meteorological observations comparing with Buenos Ayres and Cordoba as follows (Fahrenheit):—

	Mendoza.	Bs. Ayres.	Cordoba.	San Luis.
Annual medium.....	60	63	61	62
Highest register.....	94	100	106	101
Lowest »	32	28	18	26

The extreme range is only 62 degrees, compared with 72 in Buenos Ayres, 75 in San Luis, and 88 in Cordoba. The rainfall averages but 8 inches, which is less than one-fourth of that of Buenos Ayres, and the dryness of the climate is found very beneficial to consumptive patients. Goitre prevails in some districts, caused by the use of mountain water.

Public wealth has more than doubled in 21 years, shewing approximately as follows:—

	1870 \$ gold.	1891 \$ gold.
Lands.....	15,000,000	26,000,000
Cattle.....	1,500,000	2,000,000
Houses.....	7,500,000	11,000,000
Railways.....	—	13,000,000
Sundries.....	8,000,000	17,000,000
TOTAL....	32,000,000	69,000,000

The landed property may be estimated thus:—

	Sq. miles.	Value, \$ gold.
Vineyards, grain-farms, etc..	500	18,000,000
Pastoral.....	30,000	6,500,000
Vaste	33,300	1,500,000
TOTAL.....	63,800	26,000,000

There are about 300,000 acres under cultivation, of which only one-tenth under grain, the rest consisting of Alfares or meadows and vineyards, viz:—

	Acres.	Product, \$ gold.
Alfa.....	150,000	1,000,000
Grain.....	30,000	300,000
Vineyards.....	40,000	2,000,000
Sundries.....	80,000	1,100,000
TOTAL.....	300,000	4,400,000

The wealth and products of this province could be easily doubled, by extending the system of irrigation which the inhabitants received from their Guarpe predecessors. The Zanjón, or canal, made by the Cacique Guaymallen, and still bearing his name, is drawn from the river of Mendoza, near Luxan, traverses the city, and irrigates a vast belt of vineyards, gardens, and plantations, on its way to the Tunuyan river; this latter is connected by another canal, 40 miles long, with the Desaguadero on the side of San Luis, and this extensive water system conveys fertility through a region of 1,000 square leagues or 10,000 square miles.

The number of cattle (see p. 9) is small, the inhabitants caring less to breed cows or sheep than to fatten animals for the Chilian markets. Wheat averages 20 fanegas per cuadra, or 32 bushels per acre, being only grown in lands irrigated, this being 4 times the crop usual in Santa Fé. Maize is equally prolific, never giving less than 100-fold, and sometimes double that amount.

Wine growing is rapidly superseding every other industry in the province: the area under vineyards in 1890 was only 22,500 acres, but is now estimated (July 1892) over 35,000 acres.

An estimate for making a vineyard of 50 acres is as follows:—

	\$ currency.	£ sterling.
50 acres of land.....	12,000	= 720
80,000 plants.....	8,000	480
Posts and wire.....	12,000	720
Labor, 3 years.....	14,400	860
Manager and sundries, 3 years	6,000	360
Interest on \$50,000, 3 years..	9,000	540
TOTAL..	61,400	= 3,680

The cost is therefore \$1,228 currency or £73 sterling to make an acre of vineyard. The yield it is said would be as follows, for a vineyard of 50 acres:—

	Tons grapes.	Value \$ currency.
3rd year.....	25	2,500
4th »	100	10,000
5th »	200	20,000
6th »	300	30,000
4 years.....	625	62,500

Working expenses after the 3rd year would not exceed \$7,000 currency, and the vintage after the 5th would be worth \$30,000, thus leaving a net product of \$23,000 per annum or 35 per cent on the capital cost of the vineyard. The above calculation, which is rather flattering, supposes a fairly good year, and no locusts.

The principal wine-growing districts and their distance from Mendoza are:—

	Miles.		Miles.		Miles.
Heras.....	3	Maypú.....	12	Junín.....	30
Guaymallen....	3	Luxán.....	12	Rivadavia..	36
San Vicente ...	3	San Martín..	25	San Rafael..	130

Among the largest vineyards are those of:—

Owner	Department.	Acres.	Ordinary yield tons grapes.
Benegas.....	San Vicente....	620	1,800
Barraquero . . .	»	500	1,500
Delavalle.	Luxan.	500	1,500
Civit	Maypú	450	1,400
Paulovsky	Guaymallen.	370	1,100

It takes about 20 lbs. of grapes to make a gallon of wine, and the cost of producing a "bordalesa" of 40 gallons is as follows:

	\$ currency.
800 lbs. grapes...	42
Cask.....	10
TOTAL.....	52

The cost of elaboration is covered by the value of alcohol made from the skins and lees. An acre of vineyard of those lately planted with French vines has usually 1,600 plants and produces 3 tons of grapes or 4 lbs. per plant, the yield of wine then averaging 300 gallons per acre. But, the old vineyards have only 800 plants to the acre, and produce two tons of grapes. The export of wine, by railway, is now about 1,600,000 gallons or 40,000 "bordalesas" yearly, against 230,000 gallons in 1883.

Dried fruits, especially "orejones," or preserved peaches, are largely exported, on mule-back, to Chile. Flax, silk and tobacco are cultivated with success. The first silkworms were introduced by Mr. Andrew Thorn-dyke, in 1839, to the number of 874, and in less than 6 years they had increased to 2 millions. The first tobacco was planted in 1820 by a Spanish soldier, brought prisoner from Maypú, who was afterwards rewarded with a gold medal and a life-pension. Poplars

grow vigorously all over the province, often passing 100 feet; they were first introduced in 1810, by Juan Cobos, a Spanish settler. The walnut-tree has likewise been introduced from Chile, and is cultivated for its fruit. The mulberry is indebted to Juan Godoy, who first planted it in 1835. With a soil of such fertility and a climate so favoured this province will some day attract European settlers in preference to the Mississippi valley. The system of irrigation can be indefinitely extended by utilizing the streams that descend from the Andes to form the rivers Negro and Colorado, which flow across the Pampas to the Atlantic seaboard.

Mineral wealth is supposed to be varied and inexhaustible, but there is really not much certainty on the subject. The mines in best repute are the Paramillo, on the Uspallata route, 70 miles W. of Mendoza, from which the Spaniards took large quantities of silver in the eighteenth century; they are nearly 10,000 feet above sea-level, the Paramillo forming a species of lower range of Andes, on this side of the Uspallata valley. Copper is said to exist at various places in the south, near Nevado and Payen, where some Chilians have established themselves on the slopes of the Cordillera, and cultivate patches of ground overlooking the river Chalilefú and the Pampas. The Nevado is an extinct volcano, with lava on its sides, and sometimes a light smoke on its summit; the Indians say that a bellowing noise is heard at intervals. About 30 miles S. of San Rafael, on the Planchon route, is a spring which gives 40 per cent. of pure petroleum. Samples supposed to be coal have often been reported in this southern district. The most useful minerals are marble, pumicestone, flint, quartz, agate, amethyst, cornelian and sapphire, and of these there is an abundance.

The earnings of the people are approximately as follows:—

	\$ gold.
Agricultural products.	4,400,000
Pastoral products.	1,100,000
Mining	100,000
Transport service.	800,000
Sundries.	<u>6,600,000</u>
TOTAL.	13,000,000

Education has been losing ground, the authorities having closed 43 schools in 1891: there are at present 92 schools with 240 teachers and 6,880 enrolled children, the average attendance being 5,010: the expenditure last year was \$270,000 currency or £20,000 stg. Two or three newspapers are published at Mendoza.

Estimates of revenue and expenditure were as follows:—

	1884 \$ currency.	1890 \$ currency.
Revenue	170,000	470,000
Expenditure	203,000	1,520,000

Expenditure has increased seven-fold in 6 years, chiefly owing to foreign loans. The revenue in 1890 was as follows:—

	\$ currency.
Property-tax.	240,000
Sundries	<u>230,000</u>
TOTAL.	470,000

The Government counted also on \$550,000 of bank-profits, but the bank was in so sad a condition in 1890 that it was unable to meet the current coupon of £35,000 on the foreign loan, by means of which it had been created. The expenditure was estimated as follows:—

	\$ currency.
Int. on debt.....	915,000
Police.....	225,000
Sundries	380,000
TOTAL.....	1,520,000

By abandoning the service of debt the expenditure would be reduced to \$605,000, or \$130,000 over revenue.

The debt of Mendoza is made up thus:—

	£ sterling.	\$ currency.
Paris loan.....	970,000 =	14,700,000
Local debts.....		600,000
TOTAL...		15,300,000

This is a trifle over \$100 currency per inhabitant.

One of the unfortunate Free Banks of 1887 was started at Mendoza with a capital of £600,000 sterling, taken from the above Paris loan. It had an issue of \$3,000,000, and was soon pumped dry. In 1890 it suspended payment of the coupons of the said loan.

In this province there are 260 miles of railway, representing a cost of £2,500,000 sterling.

DEPARTMENTS

Mendoza comprises the city and suburbs, with the districts of Chimba, Godoy, Plumerillo, Panqueja, Zapallar, Algarrobal, all of which are occupied by an agricultural population, also the country that intervenes to the Chilian frontier beyond Uspallata. On the eastern side it includes the villages of Tortugas, Gomez, Pedregal, and Rodeo del Medio, surrounded by smiling farms, irrigated from the river of Mendoza. South-east are the districts of Cruz de Piedra Villa Seca and Desagüe, likewise agricultural. The copper-mines of Villa Vicencio on the Uspallata route, 50 miles N.W.

of Mendoza, were worked until 1861; the mineral waters are supposed to have much virtue. The baths at Inca's Bridge, 99 miles from Mendoza, are much frequented in summer for their valuable thermal qualities, and may be reached in 13 hours. There is also a famous spring called Borbollon, 10 miles north-east of Mendoza, with a temperature of 83° Fahrenheit all the year round, from which flows a stream that waters the Carpinteria und Jocoli districts. The favourite bathing-place, however, of the Mendocinos is Challao, in the mountains, north-west of the city. Chief town, *Mendoza*, with 20,000 inhabitants, delightfully situated at the foot of the Andes. It was founded in 1559 by Captain Castillo, and destroyed by earthquake on March 20, 1861. The new city is built close to its ill-fated predecessor. Captain Head and other travellers were greatly struck with the beauty of Mendoza, the courtesy of the people, and the winning manners of the young ladies. The old city covered 48 cuabras or 200 acres, and had 7 churches, 3 convents, and a charming Alameda. The earthquake occurred on Ash Wednesday after sunset, when the churches were filled with worshippers, and in an instant the city was destroyed; not even the streets were traceable; nothing remained but some trees of the Alameda and an aisle of one of the churches. About 13,000 persons perished, not more than 1,600 escaping. Fires continued for eight days, and brigands plundered the place, heedless of the cries of sufferers under the ruins. Domingo Oro and some others were dug out alive. The shock was felt at Buenos Ayres, 654 miles distant, the pendulums of some clocks being observed to stop for a few moments. The approaches to Mendoza are beautiful and striking: fields, gardens, vineyards, rows of poplars and other

trees attest the industry of the people. Its geographical position has made it the highway to Chile, the traffic over which has increased greatly by the opening of the new railways: the Andine, from San Luis, was completed in July 1884, and Clark's Pacific line places Mendoza within 36 hours of Buenos Aires. There is also a line to San Juan, time 6 hours. Mendoza is the residence of Governor, Chambers, Federal Judges, and has schools attended by 800 children. It has telegraph to Chile and Buenos Ayres. From Mendoza the journey across the Andes may be made to Santa Rosa, in Chile, 183 miles, in 4 days (see p. 107), between the 1st November and 1st May, at which latter date the Cordillera is considered closed by the snows. The new city covers 200 cuadradas or blocks, and stands a mile nearer to the mountains than the old one. Wide streets give a good effect, and the San Martin boulevard is crowded with carriages on Sunday evenings. On this boulevard are the Gymnasium and baths. Mendoza has 3 daily papers. There are about 300 British residents, many employed in the railways. Dr. Cotton is spoken of as British vice-consul.

Guaymallen, *Heras* and *San Vicente* are suburbs of Mendoza, abounding in fertile farms and vineyards, in the midst of the most delightful scenery.

Maypú is an agricultural department, watered from the Zanjón of Guaymallen, and includes the pleasant district of San Nicolas, with numerous country-houses to which the Mendoza people repair in summer.

Luxan, the richest grazing department in the province, is about 15 miles S. of Mendoza, on both banks of the river of that name. The town of Luxan, with 5,000 inhabitants, is much frequented in the hot season on account of its mild temperature and excellent baths.

These are known as the baths of Lulunta. The soil of Luxan is suitable for vines and olives: there are 8 large olive-plantations. The roads are shaded by lofty trees, and the country has a charming appearance. Land sells at £50 an acre or \$3,000 currency per cuadra. Luxan has good hotels, and is the second town in the province.

San Carlos lies along the slope of the Andes, between the Tunuyan and Diamante rivers: it includes half the Uco valley, and is luxuriantly watered and well cultivated, possessing a numerous population and considerable trade with Chile. It takes its name from a fort built by the Spaniards in the last century, near the foot of the Portillo Pass, which is open from November to March, but travellers prefer the Uspallata (for Portillo Pass; see p. 113). The fort and village of San Carlos are 74 miles S. of Mendoza, on the south bank of the Tunuyan. A small settlement of Chilean immigrants, called Chilecito, is 6 miles S.W. of San Carlos. Marble of various descriptions is found in the spurs of the Andes, and bituminous deposits exist in the low grounds.

San Martin comprises a charming belt of country, well-tilled and with many fine vineyards, east of San Vicente and Luxan. The traveller passes along good roads, lined with poplars, through the hamlets of Riojita, Isla, Retamo, Independencia, Caseros, Santa Rosa, Mallea and Dormida, inhabited by a thriving population, the lands being irrigated by canals from the Mendoza and Tunuyan rivers.

Rosario skirts the lagoons of Huanacache, which form a semi-circle from the river of Mendoza to the head-waters of the Desaguadero, on the San Juan frontier. The inhabitants are descendants of the original Guarpe Indians, and avail themselves of the pe-

riodical overflow of these lakes to raise abundant crops, while they also devote much attention to fishing, and make weirs for the purpose. They have, moreover, a few herds of cattle, which subsist on the aquatic plants of the lagoons. Wells, a few feet deep, supply good drinking-water anywhere.

San Rafael until recently included all the southern portion of the province as far as the Rio Grande (otherwise Colorado), in the Neuquen territory, but the department has now been cut in two, the northern part preserving its old name. Fort San Rafael, 130 miles south of Mendoza city is surrounded with well-tilled farms. Cattle may be driven across to Chile by the Planchon or the Bariloche pass, which are open nearly all the year.

Beltran comprises all the southern part of the ancient department of San Rafael. It has an area of 18,000 square miles, but only 1,200 inhabitants.

Tunuyan is a new department, north of San Carlos and west of the Tunuyan river. It was formerly included in the department of San Carlos, and is not thickly populated, having only 6 inhabitants per square mile. The western part is mountainous, the east level; the principal industry is fattening cattle for the Chilean market. Melocoton is one of the largest farming establishments in the Republic, employing many hands in agriculture and rearing cattle. The village of Tunuyan, on the left bank of the river of that name, is 50 miles south of Mendoza, and is seat of the local authorities.

Rosario occupies the N.E. portion of the province, touching the frontiers of San Juan and San Luis, and is very sparsely populated, having less than one inhabitant per square mile. The country is flat, and mostly dedicated to raising cattle. The village of Rosario is 25 miles north-east of Mendoza city.

Tupungato occupies the slopes of the Andes southward from Mendoza as far as San Carlos. It is very hilly, but has good pastures, in which cattle are fattened. This department exports 3,000 fat cattle yearly to Chile. Land is worth \$600 per cuadra, or £10 per acre. The village of Tupungato is 40 miles south of Mendoza.

Chacabuco is a new department, formed out of a portion of that of San Martin, and traversed by G.W. Railway, the chief town, Santa Rosa, being a station on that line (see p. 104) after leaving La Paz. The country is flat, and in places thickly wooded. The inhabitants are wholly devoted to pastoral pursuits.

Rivadavia is another new department, west of Chacabuco and east of the Tunuyan river. The lands are fertile, being irrigated by 5 canals drawn from the Tunuyan river, and vineyards are springing up around. There are also meadows for fattening cattle. The chief town, Rivadavia, has 2,000 inhabitants, and is 6 miles south of the G. W. railway, the corresponding station being 30 miles from Mendoza.

Junin is a small department between Chacabuco and Maypú, on the north side of the Tunuyan river. It is traversed by the G. W. Railway, the stations of Rivadavia and Alto Verde being in this department. The surface is level, the soil rich and well cultivated, many new vineyards being laid out.

La Paz lies along the W. bank of the Desaguadero, which is the frontier with San Luis, and is irrigated from that river and the Tunuyan, containing rich pastures. The districts of Chacrita, Barrial, and Ramadita are wooded, and, moreover, support much cattle. La Paz is 565 miles from Buenos Ayres, by the Pacific railway (see p. 104), the journey taking 30 hours.

SAN JUAN

This province holds the 9th rank in the Confederation. It formed the northern part of the old province of Cuyo, and seceded from the jurisdiction of Mendoza in 1820, since which time it has been remarkable for the frequency of its revolutions, the advanced state of public instruction, the cleverness of its writers and legislators, and the unhappy end of many successive Governors, who have been shot. It extends along the foot of the Andes, its southern boundary being 32° 30' S. latitude, and its northern the 30th parallel. Eastward it is separated from Rioja by the Llanos desert. It may be said to consist of three great valleys, Tulan, Jachal, and Fertil.

This was the southernmost portion of the vast empire of the Incas, who had constructed "tambillos," or huts of refuge, in the passes of the Cordillera, which the Spanish conquerors repaired, in order to keep the territory in easier subjection to the Governor of Chile. The original inhabitants were the Guarpes, of whom Father Ovalle (A. D. 1640) has left some interesting particulars. They resembled the Quichua race, and their language had much in common with what was spoken at Tucuman, but nowise resembled that of the Araucans or Chilian tribes, who were, moreover, of greater stature and more warlike. They were, nevertheless, muscular, and so fleet of foot as to run down

vicuñas and guanacoës, springing from rock to rock with the agility of goats, and being very dexterous in using the bow. Having a taste for agriculture, they raised large crops of maize, and so skilful were they in plaiting straw and osiers, that they made water-tight boats of such frail material—an art which has come down to their descendants, the fishing population of the Guanacache lagoons.

At the time of the conquest, in 1561, the Guarpes were a numerous race, but made no resistance. They were compelled to do task service for their masters, the 3 Spanish adventurers, Castillo, Jofré, and Mallea, reducing thousands of them to a mitigated form of slavery. The race began to diminish sensibly, and as the exactions of the conquerors increased, the Guarpes were twice driven to revolt, and twice attacked the fortified settlement where the city of San Juan now stands. The Indians of Jachal preserved their liberties. On the occasion of the second revolt, in 1570, Governor Quiroga, of Chile, sent a reinforcement of Spaniards, under Gonzales Rios, who intermarried with the natives, and for 200 years following there were no troubles, the inhabitants devoting themselves to agriculture. The struggle for independence found prompt echo in San Juan, the people of this province forming the backbone of General San Martin's army for the emancipation of Chile. The army crossed the Andes by the Paños Pass in January 1817, and a fortnight later won the battle of Chacabuco. The San Juaninos earned such reputation for valour in the war, that they became afterwards as turbulent as their ancestors had been pacific.

More than half the province is a dreary desert, some of which might be converted into fertile prairies or

"alfares" by irrigation. The only river of any note is the San Juan, which rises in the Patos Pass and goes by that name till its confluence with the Castaño, 50 miles W. of San Juan city, after which it is called Rio San Juan, passes through the city and suburbs, and after a course of 300 miles falls into the Huanacache lagoons; it afterwards flows southward from the lagoons, and is called the Desaguadero, as it forms the frontier between Mendoza and San Juan. The San Juan has an ordinary width of 80 yards, and during the summer months the melting of the snows gives it such a volume of water that it is navigable from Cautete to the Huanacache lagoons. An inundation occurred in December 1833, which devastated 10,000 acres of arable land and even threatened the city, whereupon a dyke was constructed, causing the floods to cover the opposite bank. The lagoons already mentioned are fed not only by the San Juan but also by the Mendoza river, and are quite salt, except in summer, when their level is much heightened and the water becomes almost potable. The proposed canal to connect the San Juan and Mendoza rivers—say 70 miles long—would not cost more than \$700,000, and would convert 350,000 cuadras, or $1\frac{1}{2}$ million acres, of desert into productive land.

San Juan may be termed the Argentine Switzerland, for, besides the Andes, there are various lofty ranges, the Jachal, Tontal, Castaño, etc., which vary in height from 6,900 to 13,200 feet over sea-level, this last being the elevation of Tontal, all running parallel with the Andes.

The climate is good, and for 9 months agreeable, but the heat from December to March is very great. The mean annual temperature is 66° Fahrenheit or

3 degrees higher than Buenos Ayres: the lowest register 33, against 28 in Buenos Ayres. Rainfall averages 6 inches, there being none from April to October. Atmospheric pressure varies from 683 to 722 degrees, annual average 708 or 53 less than at Buenos Ayres.

The province comprises 15 departments, viz:—

	Population.	Sq. miles.
San Juan.....	15,000	20
Desamparados.....	6,900	60
Trinidad.....	7,000	40
Concepcion.....	7,700	50
Santa Lucia.....	5,700	70
Pozitos.....	5,900	260
Albardon.....	5,100	2,460
Angaco.....	6,700	2,400
Caucete.....	10,000	3,900
Valle Fertil.....	3,400	6,250
Jachal.....	17,600	9,000
Iglesia.....	3,400	5,300
Calingasta.....	4,500	6,500
Huanacache.....	2,100	2,500
TOTAL.....	101,000	38,810

The increase of population was checked for many years, down to 1864, by civil war. Estimates shew as follows since that date:—

Year.	Population.	Annual increase.
1864	48,000	—
1869	60,500	2,500
1883	91,000	2,200
1891	101,000	1,200

Most of the province is very sparsely inhabited; an area of 500 square miles near the city of San Juan has 48,000 souls, or 96 to the square mile, while the rest of the province has little more than one.

Public wealth has more than doubled since 1870, the values shewing approximately thus:—

	1870. \$ gold.	1891. \$ gold.
Lands	12,000,000	26,000,000
Cattle	1,500,000	2,000,000
Houses	5,500,000	8,000,000
Railways	—	4,000,000
Sundries	6,000,000	13,000,000
TOTAL	25,000,000	53,000,000

The value of landed property was set down officially in 1888 at \$39,350,000 gold, but does not exceed \$26,300,000, as follows:—

	Sq. miles.	Assessed in 1888. \$ gold.	Actnal value. \$ gold.	\$ gold per sq. mile.
Meadows	500	16,600,000	11,100,000	22,200
Arable	900	4,200,000	2,800,000	4,700
Vineyards	30	10,600,000	7,100,000	237,000
Forest	1,300	2,250,000	1,500,000	1,150
Pasture	33,700	5,700,000	3,800,000	115
TOTAL	36,430	39,350,000	26,300,000	—

Property has notably increased in value since the opening of the railway from Mendoza to San Juan, which places this city and province in contact with Buenos Ayres. Much greater progress might be made if the people took more interest in canals for irrigation, instead of wasting so much time and energy in mining ventures. The supply of cattle is small, and the inhabitants merely fatten animals for home consumption and the Chilian markets; the total number of cows, sheep and horses is only 231,000, against 210,000 in 1864, showing no sensible increase. The people have always been more inclined to agriculture, for we find that in the middle of the 18th century San Juan exported to Chile considerable quantities of grain and wine. Grapes, oranges, and peaches thrive admirably, but the fig and olive have deteriorated. The earnings of the people may be summed up thus:—

	\$ gold.
Agricultural products. . . .	2,800,000
Pastoral do.	800,000
Mining do.	200,000
Transport service	200,000
Sundries.	4,800,000
TOTAL.	<u>8,800,000</u>

The cultivation of vineyards is spreading rapidly, as in Mendoza, the white wines of San Juan bearing a resemblance to those of Malaga. The official return for 1892 shews that there are 22,000 acres under vines.

The exports of wine in 1891 were as follows:—

	Gallons.
Marengo.	740,000
Devoto.	220,000
Ligoule	145,000
Castro	145,000
Various	750,000
TOTAL.	<u>2,000,000</u>

Local consumption was supposed to reach 20 gallons per inhabitant, say 2,000,000 gallons, thus bringing up the total vintage to 4,000,000 gallons. Land under vines seems to have the same value as in Mendoza, from £60 to 80 sterling an acre or \$1,200 to 1,600 gold per cuadra.

There are in the province 14 gold and 22 silver and lead mines, which are worked at intervals, as well as 5 establishments for crushing silver quartz and 2 for gold. In good years they produce \$200,000. The best known mines are at Tontal, Jachal, Guayagas, San Pedro, Iglesia, Marayes, Morado, Guachi, Gualilan and Huerta. The Anglo-Argentine Company's works are at Gualilan. The Tontal mines are reputed the richest, situate 100 miles S.E. of San Juan city. It is stated that the silver mines of the province cover an area of

10,000 square miles. Coal has been found at Marayes, and iron in several places, as well as marble, which is very abundant.

Educational returns shew a decline in late years, viz:—

	1889.	1891.
Schools.....	90	75
Pupil. on roll.....	9,117	8,384
Average attendance....	7,575	5,511

The sum spent on schools in 1891 was \$172,000 currency or about £10,000 sterling.

Estimates of revenue and expenditure were:—

	1881. \$ currency.	1890. \$ currency.
Revenue.....	185,000	486,000
Expenditure...	213,000	910,000

The Government in 1890 counted also on \$280,000 of bank-profits, but as the Government then owed the bank \$1,130,000 the position requires no further comment. The receipts for 1890 were estimated thus:—

	\$ currency.
Property-tax.....	110,000
Licenses.....	100,000
Sundries.....	276,000
TOTAL.....	486,000

The expenditure, always supposing the service of foreign debt, was estimated thus:—

	\$ currency.
Service of debt....	410,000
Schools.....	155,000
Police.....	120,000
Sundries.....	225,000
TOTAL.....	910,000

By suspending the service of debt the expenditure would be reduced to \$500,000, or a trifle over the revenue.

The debt is made up as follows:—

	£ sterling.	\$ currency.
London loan.....	400,000	= 6,000,000
Bank over-draft.....		1,130,000
Local debts.....		600,000
TOTAL.....		<u>7,730,000</u>

This is equal to \$77 per inhabitant.

One of the unfortunate Free Banks was established at San Juan in 1888, by means of a London loan issued by Cohen & Sons for £400,000 sterling; the capital of the bank was \$2,400,000, issue \$1,100,000. The Government, as shen above, has drawn freely, up to half the capital of the bank. There is also a debt of \$150,000 to the National Bank, now in liquidation, for public works, besides internal loans and obligations amounting to \$450,000 currency. Thus the total debt is £520,000 or \$7,700,000 currency, that is \$77 per inhabitant.

DEPARTMENTS.

San Juan is strictly the urban district, but the suburbs of *Desamparados*, *Trinidad*, *Concepcion* and *Santa Lucia* may also be regarded as parts of the capital. The city was founded in 1561 by Captain Castillo, on the banks of the river which bears its name, and from its position on the northern extremity to the Cuyo territory it became known as San Juan de la Frontera. In 1776 it received a Deputy-Governor from Mendoza, to which jurisdiction it remained subject until 1820.

It stood originally at the place now called Pueblo Viejo, 4 miles north, and was removed on account of inundations. Canals or "acequias" run through the various blocks. Some of the buildings are fine, but the houses are mostly built of sun-dried bricks. Besides the cathedral, there are 3 other churches. Of the schools, 7 in number, that called after General Sarmiento is the most striking, with a Grecian façade; it holds 600 boys. There is also a school for mines, but with very few pupils. The Garden of Plants, under a German, is successful in acclimatizing many foreign trees. Besides the branch of the National Bank there is the Bank of Cuyo, with a paid capital of \$350,000, reserve fund \$33,000; chairman, Mr. Echegaray. A considerable trade is carried on with Chile, exporting cattle and dried fruit by the Patos and Uspallata passes. The traveller may make a pleasant excursion to Desamparados, passing along the Murallon, 1,000 feet in length, which protects the city from inundation; the same route will take him to the picturesque village of Zonda, where the citizens spend the summer months, the valley having a medium elevation of 3,300 feet and producing a variety of fruits in abundance. The districts of Santa Lucia, Chacritas, Rincon and Cercado are likewise famous for fruit, alfa and wheat; the yields are from 25 to 60-fold. Trinidad, on the road to Pozitos, is a suburb with gardens and country-houses, San Juan is the residence of Governor, Chambers, etc., and stands 95 miles N. of Mendoza (see p. 106). A new road was made in 1873 from San Juan to Cordoba, 350 miles, passing through Caucete and Guayagas, skirting the south point of the Sierra de Rioja, and crossing the Sierra de Cordoba near San Pedro: it is a difficult journey, and much of the way lies through desert.

Pozitos is a populous, well-cultivated department, forming a series of gardens, with rows of poplars between, and admirably irrigated. In the Acequion and Paramillo valleys are the hamlets of Durazno, Barros, Acequion, Pedernal and Montaña, surrounded with agriculture; the route leads to Uspallata. Eastward along the slopes of the Zonda are Carpinteria, Cañada Honda and Huanacache, the first useless from want of water, the others famous for vineyards and wheat. The Cerrillos and Cochagual are villages devoted to cattle-rearing. The village of Pozitos, 10 miles S. of San Juan city, was the scene of a battle in 1861; among the prisoners put to death was Governor Aberastain, whose predecessors, Benavides and Virasoro, had suffered the same fate.

Albardon is north of San Juan city and includes the mining districts of Billicum, Lajá and Dehesa where coal and silver are found. It is watered by the San Juan river.

Angaco is sometimes called Salvador, lying N.E. from San Juan, between the Billicum and Palo ranges. The lands are well cultivated, being watered by means of a canal, 20 miles in length, from the San Juan river to Punta del Monte. This is another instance of how much may be done in this province with a little enterprise. This department was a wilderness in which not enough food was raised to feed a family until in 1825, Dr. Salvador Carril, then Governor and afterwards Vice-President of the Republic, caused canals to be made, and turned the desert into a garden. San Isidro, with 1,200 inhabitants, is the most populous village, but the authorities reside at Angaco, which has church, school and 800 souls, 18 miles N.E. of San Juan city. The high-road to Valle Fertil and Rioja is devoid of

water for 120 miles after leaving Punta del Monte, passing over what the natives call a "travesia".

Caucete lies eastward, extending from the Sierra Palo to the lagoons of Huanacache and the Salinas desert on the side of Rioja. In 1825 a company was formed to cultivate a portion of this department, but civil war stopped any further steps till 1858, when the project was carried out. A canal was made, 13 feet in width and 6 in depth, with subsidiary water-courses, and the lands were divided into farms of 40 cuadradas or 170 acres each, which were sold at nominal prices on condition of cultivating. In a short time 15,000 acres were under tillage, the soil producing wheat, grapes and poplars in such profusion that the cultivators before long found themselves in affluence. The village of Caucete, 20 miles from San Juan, on the east bank of the Rio San Juan, is now the centre of a flourishing region of farms, which extends up the slopes of the Sierra de Palo, overlooking the high road from San Juan to San Luis. Three-fourths of the department are still a wilderness for want of capital to make canals. In the Sierra Guayaga, on the borders of Rioja, are some cattle-farms and a silver-mine.

Valle Fertil lies midway on the route from San Juan to Rioja; it is a fertile valley cut off from the rest of the province by a desert more than 100 miles long in the direction of San Juan, which is very trying to travellers. It is proposed to establish post-houses, at certain places where wood or pasture is found, for the whole distance from the south of the valley to San Juan city. The valley, which is studded with cattle-farms, extends 40 miles south from the village of Valle Fertil, which is the seat of the authorities, with church, school, and 500 inhabitants. On the eastern side of

the Sierra, looking towards Rioja, the country is more populous. The Sierra abounds in mineral deposits, especially about Huerta, where mines have been worked for many years. The coal-fields of Marayes are in this department. Wood for mining purposes abounds.

Jachal is the department of most importance after the capital, comprising an extensive valley in the north-west. The lower or southern part is arid, the upper well-watered, and numerous minor valleys converge into Jachal, each irrigated by a stream from the Andes. All these streams swell the Jachal to a goodly volume, and enable it to fertilize many miles of country. The town, which gives its name to the department, has 1,200 inhabitants, including the sub-delegate, the mining and police authorities, and carries on a brisk trade with Huasco and Coquimbo, over the Andes, sending much fat cattle thither and receiving on mule-back in exchange the ordinary European merchandise. On the other hand, it has but little trade with San Juan city, which lies 150 miles S.E., a desert of 40 miles intervening from Jachal valley to the San Juan river. The town is picturesque, surrounded by gardens, and has church and schools, besides smelting-works for crushing gold-quartz from the adjacent mines of Gualilan, a few miles southward. The mountainous country between the Jachal and Guandacol ranges has several mining districts, especially Pescado and Guachi. The pretty little valley of Mogna, watered by the Moquina river, is a picture of agricultural felicity, with its church, school and water-mills.

Iglesia is a new department, formed out of the southern part of the Jachal territory, and comprises the silver-mines of Antecristo and Gualilan, the gold-mines of Chilca, and several mineral springs.

Calingasta was formerly called San Martin; it lies south of Iglesia, along the Andes as far as the frontier of Mendoza, and includes the districts of Tontal, Castaño etc., where 21 mines of gold and silver are worked. The village of Calingasta is on a stream of the same name which falls into the river Patos.

Huanacache comprises all the southern portion of the province touching the frontiers of Mendoza and San Luis. The lagoons of Huanacache are 4 in number. It is a poor country, with less than one inhabitant per square mile. The village of Cochagual has a chapel and a school.

R I O J A .

This province ranks as the 13th, being comparatively of little importance. It lies south of Catamarca, along the eastern slope of the Andes, between the 28th and 32nd degrees of S. lat., and bounded east and south by the Salinas desert, which separates it from Cordoba, San Luis and San Juan. During 30 years the inhabitants, under General Peñaloza, alias the "Chacho," manfully resisted the tyranny of Rosas and Quiroga: they also held out against the Confederation initiated by General Mitre, after the battle of Pavon, until the "Chacho" was taken and shot in 1863. In the last

29 years of peace the province has made much progress, in spite of its remote position, want of roads, scarcity of money, smallness of population, and other obstacles. The bulk of the inhabitants come of a good fighting stock, for the aborigenes were Calchaquies, the same tribe as in Catamarca, who fought for their homes and mountains against the Spanish conquerors from 1590 to 1655, when they were finally subdued, and put under a Deputy-Governor, subject to the Governor of Tucuman.

The summits of the Andes have here an average height of 13,000 feet which is rivalled or surpassed by that of some peaks in the ancillary ranges; the Machaco, in the Sierra Famatina, for example, attains an elevation of 14,350 feet. Sierra de Rioja, sometimes called Velazco, has many peaks over 10,000 feet, and the ranges of Lagüe and Vinchina often exceed 8,000 feet. Notwithstanding these numerous Sierras there is but one river, a small one moreover, which goes by the name of the Bermejo, and is not to be confounded with the great river of same name in the Gran Chaco, with which it has no connection. It has its rise in the snows of the Bonete peak, and is of some volume in summer, during the melting of the snows; it traverses the Lagüe and other valleys, and is ultimately lost in the Huanacache lagoons on the San Juan frontier,

Estimates of population since 1855 shew:—

Year.	Population.	Annual increase.
1855	34,500	—
1869	48,700	1,000
1891	79,500	1,400

There are 16 departments, viz:—

	Sq. miles.	Population.
Rioja.....	3,800	11,000
Celman.....	2,200	3,500
Belgrano.....	2,210	3,500
Ocampo.....	1,400	3,500
San Martin.....	2,100	2,500
Roca.....	1,600	2,500
Rivadavia.....	1,500	5,000
Sarsfield.....	1,300	3,000
Independencia.....	1,800	3,000
Chilecito.....	3,100	10,000
Lavalle.....	4,100	5,000
Sarmiento.....	4,100	7,000
Famatina.....	2,000	6,000
San Blas.....	700	4,000
Barros.....	1,350	5,000
Arauco.....	2,100	5,000
TOTAL.....	35,360	79,500

The above is a new division of the province, which formerly comprised only 6 departments, viz:—

	Population.	
	1855.	1869.
Rioja.....	5,000	5,600
Famatina.....	8,600	10,700
Llanos.....	10,600	18,200
Guandacol.....	1,800	2,700
Vinchina.....	2,800	3,300
Arauco.....	5,700	8,200
TOTAL.....	34,500	48,700

The census of 1869 shewed 127 women to 100 men, and also that 16 per cent of the population under 14 years of age were orphans, which may be accounted for by the civil wars. It also shewed 5 persons living whose age ranged from 101 to 120 years.

Public wealth was approximately as follows:—

	1870. \$ gold.	1891. \$ gold.
Lands	4,200,000	5,800,000
Cattle	1,600,000	2,100,000
Houses	4,600,000	6,500,000
Railways	—	3,500,000
Sundries	3,600,000	5,800,000
TOTAL	14,000,000	23,700,000

Three-fourths of the province are a howling wilderness, and the value of lands is about as follows:—

	Sq. miles.	Value \$ gold.
Tillage	100	3,600,000
Pastoral	20,000	2,000,000
Waste	14,900	200,000
TOTAL	35,000	5,800,000

Agriculture is the principal occupation, and the annual value of the crops is shewn thus:—

	Acres.	Crop, value \$ gold.
Vineyards	15,000	1,000,000
Grain	26,000	300,000
Alfa etc.	19,000	400,000
TOTAL	60,000	1,700,000

Climate and soil are alike favourable to agriculture. Wherever irrigation is practicable the soil gives forth luxuriant crops, and as the farmers have nothing to fear from rain or frost, this branch of industry is secure and profitable. No other province in the Republic can compete with Rioja in the richness of its wines or the superior quality of its wheat. All kinds of fruit thrive amazingly; the olive-tree attains colossal dimensions, and yields a fine berry; the peach, orange, etc., are remarkable for their flavour. About 25 acres are under cotton, which is grown for home use, of a long and silky kind, equal to best Sea Island. The best olives are those of the Arauco valley, the best wines of Fa-

matina, the best oranges of the suburbs of the capital. According to De Moussy, the superior quality of the soil of Rioja is due to the shingle and gravel subsoil which imparts a better taste to wine, fruits, etc., than the rich, heavy loam of Buenos Ayres or Santa Fé. The Riojanos are patient and industrious, proving the best farmers in the upper provinces, but they lack capital for the construction of "represas" and dykes to save much of the water of the Sierras that at present runs to waste.

The earnings of the people are as follow:—

	\$ gold.
Pastoral products.....	600,000
Agricultural do.	1,700,000
Mining do.	100,000
Transport service	200,000
Sundries.....	<u>3,100,000</u>
TOTAL.....	5,700,000

So much fable surrounds the early history of the Rioja mines that the real facts are not clearly known. The Famatina mines cover an area of 720 square miles, the most famous bearing the names of Mexicana and Aragonese. It is said that some Mexican miners who happened to pass here in the 18th century were struck by the colour of the Famatina river, and followed its course upward to remote fastnesses, where they obtained in a few months mineral that yielded them a prodigious fortune; this Mexicana mine is 16,500 feet above sea-level, and is known to be still very rich. At this height the miner's life is not pleasant, for he is in the region of perpetual snow, and has to melt ice over his fire to procure water; his only companion is a dog. All food is frozen, and meat is kept for years. At first the rarefied air causes headaches, but the miner soon

grows accustomed to it; the strength and endurance of these men is incredible, bringing up sacks weighing 150 lbs. from great depths, and working 8 or 10 months in the year; it is not uncommon to find some who have thus toiled for 30 or 40 years. Some of the shafts have a perpendicular depth of 160 feet, and the ordinary yield is: copper, 15 to 18 per cent.; silver, 6 to 10 marks (\$54 to \$90) per ton; gold, $\frac{1}{2}$ ounce to 1 ounce (\$8 to \$16) per ton. This hardly does more than pay expenses. Veins vary from 2 to 7 feet in width. In some cases lucky miners have obtained 200 marks (\$1,800) per ton, or 600 marks to the *cajon*, which is the usual mining measure.

The copper-mines of San Pedro, for some time worked by Messrs. Galvan, are the richest of this metal; depth, 150 feet; average yield, 150 tons ore monthly, which produce about 24 tons of copper, the ore being smelted at the Escalera works. No country, except the United States, has such rich copper ore, the average of metal being only 12 per cent. in Australia, 7 per cent. in England, and 5 per cent. in France. The drawback is the cost of transport, the ore being carried on mule-back from the mines to the smelting-house, and the copper, in like manner, from Escalera to Chile or Cordoba. As an instance of labour and capital fruitlessly expended, there is a shaft near San Pedro which was sunk in 1855 to a depth of 500 feet and never gave an ounce of metal. On the other hand, some of the Esperanza shafts have given 20 ounces (\$320) of gold per ton. Another gold-mine, called Espino, at an elevation of 15,000 feet, was sunk only 70 feet, and in 3 months yielded \$30 000, whereupon the owner sold it for \$24,000; but it was destroyed by an avalanche a few months later.

Silver-mines at Ampallado, a few miles E. of Mexicana and San Pedro, have given in some cases 200 marks to the ton, which is from 6 to 8 times the ordinary yield of the famous Comstock mines; but owing to the extreme elevation, 15,300 feet, which renders them almost inaccessible, the working is too difficult to be remunerative. Nevertheless, Messrs. Parchappe & Almonacid are said to have worked some mines near Espino very successfully at a height exceeding 15,000 feet. Incredible as it may appear, the path to some of the Famatina mines is at times not more than 6 inches wide, along precipices overhanging an abyss of more than 1,000 feet, and this is the only way by which mules, miners and food can reach their destination. At the Tigre an Englishman has established himself in a place considered inaccessible, and obtained 3 ounces (\$48) gold per ton, the veins being unusually soft.

In all parts of Spanish America the fame of the Aragonese miners has lent a charm of romance to the Caldera mines in the eastern part of Famatina. Two natives of Aragon, in Spain, about the beginning of the present century had the good fortune to discover veins of silver in this locality, and, keeping the secret, continued working for some years, till one of them disposed of his share of metal and went home to Spain with a large fortune. Shortly afterwards, the War of Independence breaking out, and the fame of these mines getting abroad, the second Aragonese was seized by the natives and shot, with the hope of getting his treasures, which are undiscovered to this day. Meantime, the Caldera mines are so rich that the veins of silver cross each other like a spider's web, and Don Carlos Anjel had a branch of pure silver, weighing $7\frac{1}{2}$ ounces, from the Aragonese mine, so beautiful and elaborate that

no silversmith could improve it. Some estimates state that the Aragonese and other Caldera mines produce over 15,000 marks (\$135,000) per annum. Señor Fernandez alleges that in a few years he has extracted 30,000 marks of silver from one gallery, 100 feet long, in his Peregrina mine. A German named Friolan owns 30 mines in this neighbourhood.

Some of the old mills and smelting-works have fallen to ruin, but two new ones were erected in 1872-73 at Escalera, near San Pedro, and at Progreso near the Mexicana mines. The first, which is mostly used for copper, has 4 furnaces, and is 24 miles distant from the mine; the ore, as before mentioned, is conveyed on mules, the round trip taking from 4 to 6 days; it would require 1,500 mules and 150 drivers to convey as much ore as the furnaces could smelt in a day, but there are seldom 500 mules engaged; the ordinary price of a mule is from \$50 upwards. The Progreso works are nearer to Chilecito, and are chiefly used for silver. In many instances the "pilguineros" or miners who work for themselves have a rude system of amalgamation by kneading the silver with their feet, while others have a better system in casks, commonly called the American method. So great is the difficulty caused by want of roads that the journey on horseback from Chilecito to Progreso, a distance of 22 miles, cannot be done in one day.

The remains of ancient Indian works in parts of Famatina show that the copper-mines were in use long before the Spanish conquest, doubtless for the Incas, whose empire included Rioja, and who used bronze and copper no less than gold. It is believed that the Indians kept the knowledge of the best mines from the Spaniards, fearing that they should be compelled

to toil in them. The Aragonese are supposed to have worked from 1804 till 1817, and in the latter year a number of Rioja merchants commenced working with signal success, extracting large quantities of silver in 7 years ensuing. This aroused general attention in Buenos Ayres and in England, and in 1824 a company was formed, the works being entrusted to Mr. Pfortner von der Hollen, who was shot a few years later by General Quiroga. Several works were revived in 1875, and the branch railway from Recreo to Chumbicha, by bringing Rioja within 4 days of the port of Rosario and reducing freights in proportion, may stimulate this industry, in which thousands of Argentines place such expectations.

Education has declined of late years, the returns shewing:—

	1889.	1891.
Schools.....	90	54
Pupils on roll.....	5,984	2,773
Average attendance....	4,370	2,338

The expenditure on schools in 1891 was \$72,000 or about £4,000 sterling.

Estimates of revenue and expenditure were:—

	1884	1890
	\$ currency.	\$ currency.
Revenue.	105,000	432,000
Expenditure ...	151,000	1,380,000

Expenditure has grown 9-fold in six years, and is now three times the amount of revenue. The estimates of the latter in 1890 (excluding bank-profits) were:—

	\$ currency.
Lands	100,000
Property-tax	80,000
National subsidy.....	80,000
Sundries.....	172,000
TOTAL.....	<u>432,000</u>

It is more than doubtful that public lands produced any such sum as estimated above. The estimates for expenditure were (supposing the service of debt) as follows.—

	\$ currency.
Interest on debt.....	900,000
Schools.....	150,000
Police.....	110,000
Sundries.....	220,000
TOTAL.....	<u>1,380,000</u>

By suspending the service of debt the expenditure would be reduced to \$480,000 or \$48,000 over revenue. The debt was composed as follows:—

	£ sterling.	\$ currency.
Foreign loan.....	800,000	= 12,100,000
Bank overdrafts.....		2,265,000
Sundries.....		350,000
TOTAL.....		<u>14,715,000</u>

The Governor started a Free State Bank in 1888 with a capital of \$3,200,000 and an issue of \$1,040,000, by means a London loan of £800,000. In 1891 the Government had overdrawn as follows:—

	\$
In Bank of Rioja.....	1,930,000
» National Bank.....	335,000
» other accounts.....	350,000
TOTAL....	<u>2,615,000</u>

making the total debt of the province \$14,700,000 currency or \$184 per inhabitant.

DEPARTMENTS

The new divisions of the province are not yet well understood. The six old departments are the following:—

Rioja comprises the city, suburbs and some of the eastern slopes of the Sierra Velazco. The city, originally called All Saints, was founded by Velazco, Governor of Tucuman, November 1, 1591, and stands 1,780 feet above sea-level. The suburbs for 3 miles around are a zone of gardens, orange groves, vineyards, etc., many of which are cultivated by pure-blooded Indians. The white wine of Rioja is esteemed the best in the Republic. The slopes of the Velazco range are wooded, and numerous cattle-farms are maintained here, but the only water is obtained from wells. Rioja is the residence of the Governor, Legislature, etc., and has 6,000 inhabitants, including half a dozen Europeans.

Famatina is the most important section of the province, extending from Catamarca in the north to the limits of San Juan southward. The valley of Famatina lies between the Velazco and Nevado ranges, and is watered by numerous streams, producing an abundance of grain, olives, oranges, grapes, pomegranates, etc. The town of Chilecito, with 4000 inhabitants, is the centre of the mining industry, and a place of greater commercial importance than the city of Rioja; it is officially called Villa Argentina, standing 3,700 feet over sea-level, 40 miles W.N.W. of Rioja city. It has church, schools, telegraph-office and local authorities. This department includes also Nonogasta, famous for wine; Bichigasta, on the route of Vinchina; Campanas, a village of orchards; and Angulo, another agricultural hamlet, at the foot of Cerro Payman. The Aguadita Pass, 9,300 feet high, leads from the Famatina valley into that of Payman.

Llanos comprises a vast, wild and thinly-populated country, intersected by hill-ranges and valleys, where

wood and water abound. The inhabitants incurred a bad reputation from the atrocities committed by bandits during a long term of years, and travellers always went in large companies, well armed. A few scattered hamlets are met at long intervals, some devoted to cattle, others to agriculture. The western or upper Llanos have a justice of peace, who resides at Costa Alta, a village with 700 souls, chapel and school. Lower or eastern Llanos comprises the hamlets of Independencia, Belgrano and San Martin, which have some trade in hides, tallow, cheese and wool. Although the name "llanos" signifies plains, the country is by no means level.

Guandacol comprises some elevated valleys S.W. of Vinchina, and bordering on San Juan. Grain is cultivated at Hornillos and Paso del Medio, but the rest of the inhabitants are devoted to cattle, which they fatten for the markets of Huasco and Copiapó, in Chile. The people are of pure Indian blood, and spend a part of the year in hunting vicuñas, guanacoës and chinchillas. The authorities reside at Guandacol, a village with church, school and 1,400 inhabitants.

Vinchina comprises the valleys of Vinchina, Lagüe and Hermoso, which lie between the Nevado or Famatina range and the Andes, and are watered by the Bermejo stream before mentioned. All three valleys raise much fat cattle for the Chilian markets, and Vinchina is also well-known for fruits and grain. There are 3 villages with chapels and schools, Burros and Sanogasta on the west slope of the Nevado, and Lagüe at the foot of Cerro Leoncito.

Arauco comprises the north-eastern slopes of the Velazco, looking towards the Salinas desert of Catamarca. It is a well-watered valley, or series of valleys,

producing wine and fruit. The olive was introduced in 1822 by Governor Davila and has become a notable source of wealth to the inhabitants. The town of Concepcion, one of the best in the province, has church, schools and 2,000 inhabitants. This department contains the delightful valley of Mazan which has an area of 250 square miles. At Aminga the Gordillo vineyard produces a superior wine like that of the Rhine. Guanaco, hares and chinchillas abound. There is an excellent road from Mazan over the Sierra Ambato to the railway station of Chumbicha, province of Catamarca, by the Sybil's Pass, which takes its name from a legend attached to a remarkable cavern on the route.

C A T A M A R C A

This province ranks 12th in importance. It is bounded on the north by Salta, on the west by the Andes, on the south by Rioja, and on the east by Santiago and Tucuman. Nearly two-thirds of the territory, which is about the size of Great Britain, are salt deserts, mountain ranges or untracked forest, the inhabited portion not exceeding 27,000 square miles.

The fertile valleys inhabited by the Calchaquies were more populous before the Spanish conquest than at

present: they were well irrigated and in a high state of cultivation, the various tribes of Gualfin, Tinogasta, Andalgalá, and Fiambalá, branches of the Calchaquí family, being governed by their respective "curacas" or caciques, who paid homage to the Inca at Cuzco. Little remains now of this noble race except its language, the Quichua, which is spoken in the remoter districts, although Spanish is generally used at Catamarca and the other large towns. After the death of Atahualpa, the Spaniards counted on meeting with little opposition from the Calchaquí and other southern tribes of the Peruvian Empire, and Rojas penetrated without difficulty, in 1543, by the valley of Belen, over-running the country as far as the Sierra of Cordoba, where he was killed in a battle with the Comechingones. In 1550 a second expedition, under Nuñez de Prado, came to make a permanent establishment, building a town called Barco somewhere in the Belen valley, and meeting with a friendly reception from the natives. But when Aguirre attempted, in 1553, to reduce the inhabitants to slavery, distributing 56,000 among his followers, the whole Calchaquí nation rose up, burnt the town of Barco, and put to flight Aguirre, who then proceeded to found Santiago del Estero on the banks of Rio Dulce. Five years later Perez Zúrita founded Londres—so called on account of Philip II.'s marriage with Mary Tudor—near the ruins of Barco, and made a treaty of peace with the Indians; but his successor despising a policy of moderation, the Calchaquies again arose and exterminated the Spaniards. For 50 years they enjoyed freedom, until a cruel war was waged against them by Albornoz and his successors, which lasted 38 years, and ended in all but the destruction of this gallant people: 40,000 were sold for slaves,

11,000 exiled to Santiago and Santa Fé, and numbers put to the sword. Those who held out in the Quilmes fastnesses were reduced by hunger; most of them preferred to throw themselves from the precipices rather than surrender to their perfidious conquerors. Some of the survivors were removed to a settlement near Buenos Ayres, where their name is still preserved. In 1776 Catamarca was placed under the Intendente of Salta, remaining under that jurisdiction until the struggle for independence, when she sent her own deputies to the Congress of Tucuman, and finally declaring herself an independent province in 1819, with Nicholas Avellaneda for first Governor.

There are numerous mountain ranges, but not a single river of any importance; nevertheless, the streams which descend from the slopes of the Ambato, Alto and Ancaste ranges impart an amazing fertility to the valleys. Three of these streams deserve mention, the Santa Maria, Pachin, and Piedra Blanca, the last two uniting to form the Rio del Valle, which waters the valley in which the city of Catamarca is situate.

The mean annual temperature (see Appendix) is 68 Fahrenheit, which is higher than in any other part of the Republic, except Corrientes. Some of the departments suffer from intermittent fevers, others from ague, but travellers in general speak most favourably of the climate, people and scenery of Catamarca.

Estimates of population shewed thus:—

Year.	Population.	Annual increase.
1854	56,000	—
1869	80,000	1,600
1890	110,000	1,400

The province is divided into 15 departments, viz:—

	Sq. miles.	Population.
Catamarca.	360	10,000
Valle Viejo	180	8,000
Piedra Blanca	100	10,500
Ambato	960	5,800
Paclin.	260	3,200
Santa Rosa.	1,060	3,400
Alto	700	5,200
Ancasti.	1,000	5,900
La Paz	1,700	11,200
Capayan	2,700	10,400
Poman.	2,500	4,100
Andalgalá.	3,300	9,400
Santa María.	2,800	4,800
Belen.	6,300	6,700
Tinogasta.	12,300	11,400
TOTAL.	36,220	110,000

The above table, however, seems to exclude 40,000 square miles of mountain and desert, as the inhabitants claim for Catamarca an area of 77,300 square miles.

Public wealth has nearly doubled since 1870, shewing approximately as follows:—

	1870 \$ gold.	1891 \$ gold.
Lands.	7,000,000	10,000,000
Cattle.	3,000,000	3,000,000
Houses.	6,000,000	9,000,000
Railways.	—	7,500,000
Sundries.	5,000,000	10,000,000
TOTAL.	21,000,000	39,500,000

The value of lands may be summed up thus:—

	Sq. miles.	Value \$ gold.
Agricultural.	300	4,000,000
Pastoral.	33,000	5,000,000
Waste.	44,000	1,000,000
TOTAL.	77,300	10,000,000

In 1888 the area under crops was as follows:—

	Acres.	Product, \$ gold.
Alfa.	25,000	150,000
Grain.	13,000	150,000
Vines.	5,000	400,000
Sundries.	75,000	1,200,000
TOTAL.	118,000	1,900,000

The department of Andalgalá produces 300,000 gallons of wine, and the total vintage of the province averages 700,000 gallons. Among minor products are 250 tons of tobacco and 6,000 tons of fruit. Such is the abundance of fruit, that peach plantations are common property, and most of the fruits of tropical or temperate climates grow almost spontaneously, the chirimoya, or custard-apple, being preferred by most travellers to every other fruit on the face of the earth. Cochineal is collected in large quantities, and the inhabitants also cultivate saffron and aniseed.

The stock of cattle is small (see p. 9), numbering altogether 440,000 head, without counting 120,000 goats. Much business is, nevertheless, done in fattening cattle for the Chilian market, and hence the growing of Alfa or lucerne is extensive.

The earnings of the people shew approximately thus:—

	\$ gold.
Agricultural products.	1,900,000
Pastoral do.	1,200,000
Mining do.	350,000
Transport service.	450,000
Sundries.	4,900,000
TOTAL.	8,800,000

Although the province possesses more than 200 mines—gold at Santa Maria and Culampaja, silver at Ambato

and Tinogasta, and copper in the department of Andalgalá—the mining industry is confined to the last-mentioned, where Mr. Lafone's works of Pilciao, along with those of Pipanaco, turn out 800 tons of copper yearly (see Andalgalá), the total mining product of Catamarca, according to official statements, being \$355,000. It is confidently asserted that the copper of Andalgalá is equal in value to all the other annual products of mines in the Republic. White and red marble are found at many places in the Sierras.

The most striking feature in the province is the peak of Aconquija, 15,480 feet, crowned with perpetual snow. It has been frequently ascended, without loss of life, the only accessible side being the southern, which faces the town of Andalgalá. It is the outpost of the Aconquija range, some points of which are 14,000 feet high, running N.N.E. about 80 miles, and terminating at the delightful valley of Tafi, on the Tucuman frontier. Another lofty peak that looks down upon Andalgalá is the Ambato, 10,900 feet, about 20 miles westward of Aconquija. Still further west is the Culampaja range, the highest summit of which reaches 13,200 feet. This is sometimes called the Sierra Belen. In the southern part of the province are 3 ranges, the Ambato, Alto and Ancaste, the first of which attains 13,000 feet, the other two being much lower and well wooded. The forests of Ancaste and Capayan are the most extensive of Catamarca, covering altogether 350 square miles, or 240,000 acres, the timber being mostly cedar, quebracho, algarrobo, walnut, lapacho and poplar. There are several deserts, but the largest is that of Salinas, which covers 4,000 square miles, while that of Pozuelos is a salty waste of 400 square miles.

Public instruction has lost ground in late years, viz:—

	1889.	1891.
Schools.....	55	35
Pupils on roll.....	4,906	2,839
Average attendance....	2,435	2,328

This province has 180 miles of railway, which represent a cost of £1,500,000 sterling.

Estimates of revenue and expenditure shewed thus:—

	1884. \$ currency.	1890. \$ currency.
Revenue.....	94,000	405,000
Expenditure...	106,000	970,000

The revenue of 1890 was made up thus:—

	\$ currency.
Property-tax.....	130,000
Licenses.....	90,000
Sundries.....	185,000
TOTAL.....	<u>405,000</u>

The Government also counted on \$420,000 from imaginary bank-profits and coupons. The expenditure was (supposing service of debt) as follows:—

	\$ currency.
Int. of debt.....	540,000
Schools.....	40,000
Police.....	120,000
Sundries.....	270,000
TOTAL.....	<u>970,000</u>

Even after suspending the service of debt there would still be a deficit of \$25,000. Debt consists of a Paris loan for £600,000, say \$9,100,000 currency or \$83 per inhabitant.

One of the ill-fated Free State-banks was started in Catamarca in 1888 with a capital of \$1,500,000 and an issue of \$1,200,000: this was done by means of the above Paris loan for £600,000 sterling.

DEPARTMENTS.

Catamarca, with the city and suburbs, comprises a beautiful valley between the Alto and Ambato Sierras, watered by the Rio del Valle, an insignificant stream during several months of the year, but in flood seasons overflowing the country for miles. The whole valley, and especially the city suburbs, are of remarkable fertility. The suburbs, called Chacrita, Cholla, Angali, Toma, Angeles, etc., grow fruit and grain in large quantities, the figs and oranges being much esteemed. The inhabitants of Cholla are pure-blooded Calchaquies. Chief town, *Catamarca*, with 8,000 inhabitants, stands at the foot of the Ambato, 1,700 feet above sea-level, and has a most picturesque appearance, surrounded by much culture and fertility. It was founded by Governor Mendoza, from Tucuman, in 1680, near where Cholla is situate, and was removed to its present situation on account of the inundations of the Rio del Valle. The new church is one of the finest in the Republic, 220 feet long by 90 feet in width. The convent of San Francisco was for more than a hundred years a kind of university for all the provinces north of Cordoba, the friars teaching Latin and philosophy; but its importance has declined in latter years. The convent and church thereto belonging cover 4 acres, and are endowed, having a well-stocked estancia. The old Merced convent was converted into a national college by Dr. Navarro, and covers 2 acres. The halls are well supplied with library, laboratory and printing-press, and the institution has farms at Andalgalá, Paclin and Ambato. All the public offices are at the Cabildo, in the principal square, which has rows of orange-trees. The Alameda, a public walk,

has an artificial lake of 2 acres, 10 feet deep, which is fed by the Tala stream, and supplies the city with water. There are two good hotels, club, free-library, billiard-rooms, two printing-offices and weekly papers, 5 mills, a tannery and a number of fine shops. The female orphanage, under Carmelite sisters, covers four acres. It was founded in 1784 by Bishop San Aberto, who endowed it with lands of his own property at Paclin. The municipal revenue is \$12,000, or \$1 $\frac{1}{2}$ per inhabitant. The ladies are famous for the manufacture of tasteful embroidery. Catamarca is 318 miles (see p. 137) from Cordoba, the journey taking 20 hours.

Valle Viejo is a small department east of the city of Catamarca, watered by the Rio del Valle and abounding in fruit. There are a church, schools and shops at the village of San Isidro.

Piedra Blanca is another small department, comprising two successive "cañones" or deep valleys; the first is 15 miles long by 3 wide, and terminates at the Puerta gorge, after which we enter a wider valley, 42 miles long, which is closed by the Narvaez peak; the second valley is generally called Cañon de Pucarrilla. This department produces grain, wine, cotton, cochineal and tobacco, being watered by numerous streams from the Ambato, Gracian, and other sierras. The farmers, moreover, fatten cattle at a charge per head of \$3 per month, in the "alfares". The cotton is pronounced in England to be equal to Sea Island, but the cultivation has declined, since English cotton goods can be imported cheaper than home-made. The forests have excellent timber, much of which goes to Tucuman to be used for cabinet work. The women make first-class vicuña ponchos, as well as woollen goods. Sportsmen who may wish to shoot pumas in the mountains will

get thanks from the farmers. Chief town, *San José*, with 1,000 inhabitants, is better known as *Piedra Blanca*, situate 13 miles north of Catamarca city. Church, schools, 2 hotels, sugar-mill, flour-mills and many good shops. It exports hundreds of tons of oranges and dried figs yearly, the first to Cordoba, the second to Tucuman and Santiago.

Ambato lies north of Piedra Blanca and is watered by numberless streams from the Sierra. The chief town, *Puerta*, has church, schools, mills and 1,300 inhabitants: it is surrounded with gardens, and exports dried figs to the value of \$15,000 gold yearly.

Paclin is a valley, running from Piedra Blanca to the confines of Tucuman. Is is well watered and fertile, producing wine, grain and fruit.

Santa Rosa is a new department formed out of a portion of that of Alto. It lies along the frontiers of Tucuman and Santiago and is thinly inhabited. The village of *Obanta* is the seat of the authorities.

Alto lies east of Piedra Blanca: it is fertile and populous. The inhabitants are industrious, raising grain, fruit, tobacco, and some sugar-cane, besides collecting cochineal; but they suffer greatly for want of roads, having to drive their mules over the Santa Cruz mountains with loads of figs, oranges and sweet potatoes, to market at Catamarca. The woods are infested with tigers and pumas. Chief town, *Alto*, with 1,500 inhabitants, is 45 miles N.E. of Catamarca, on the high-road to Santiago del Estero. It is surrounded with irrigated gardens, and has church, school, hotel, and various shops.

Ancasti formerly extended southward to the frontiers of Cordoba. In the mountainous parts the inhabitants maintain great numbers of cows, mules, sheep and goats, and in the low grounds they cultivate alfa and

grain. At the foot of Sierra Ancasti a plain stretches out, 100 miles long and 30 miles wide, studded with woods of quebracho, chañar and sebil, the last being valuable for tanning. The low grounds are mostly subject to ague; they produce a species of indigo in the form of brushwood. The men make bridles, the women weave ponchos, and a brisk trade in these articles is carried on with Cordoba. This department also includes San Pedro del Buen Retiro, which has a separate police administration, occupying the eastern portion, along the Santiago frontier. The climate is very healthy, and there are some centenarians, but the people feel the want of water, being obliged to keep the rain-water in hollows. The inhabitants of the Ancasti Sierras are reported uncouth and wild, but they are good tanners. Chief town, *Ancasti*, 45 miles S.E. of Catamarca, has 2,000 inhabitants, church, schools, tanneries and shops. It sends 5,000 fat cattle yearly to Chile, besides 10,000 to Cordoba and other provinces, the average value being \$20 a head; also 8,000 tanned hides to Cordoba, \$5,000 worth of lime to Catamarca, and 100 tons of cheese, similar to that of Tafi, in the province of Tucuman. *San Pedro*, with 1,000 inhabitants, is a station on the Great Northern Railway, within 5 hours of Tucuman. It has church, school and shops, and is 260 miles N. of Cordoba.

La Paz is south of Ancasti and lies along the borders of Santiago and Cordoba. The only place of importance is Recreo, on the G. Northern railway, from which starts the branch line, via Chumbicha to Catamarca (see p. 132).

Capayan extends southward from Valle Viejo to the Salinas desert on the frontier of Cordoba. This fertile valley, 90 miles long by 40 in width, contains large

alfares for the support of troops of mules that are employed in the trade between Catamarca and Rioja, besides raising such quantities of wheat as to export flour to Tucuman. The department, moreover, includes some of the slopes of Ambato, where vines are much cultivated. The streams from the Ambato and Alto ranges irrigate all these districts—viz., Coneta, Miraflores, Concepcion and San Pedro—but water is scarce in Chumbicha, farther south. The eastern slope of Ambato is well-wooded, and contains numerous cattle estancias, some of which are almost inaccessible. There is a mule-path over the Concepcion Pass to Poman, besides one by the Cebila Pass from Chumbicha to Mazan. Chief town, *Villa Prima*, with 1,500 inhabitants, at the foot of Sierra Ambato, is the residence of the authorities, the inhabitants being wholly engaged in agriculture. In this department is the important railway station of Chumbicha, on the Catamarca branch of the Great Northern line. There is a reservoir in the hills, 6 miles off, to keep a constant supply of water, at a place called Quebrada, 100 feet over the railway level, and the water costs \$2 per 100 gallons.

Poman lies west of Capayan: it is a wild, sparsely settled district, watered by streams from the Ambato. The town of Poman, with 1,500 inhabitants, is 80 miles west of Catamarca.

Andalgalá comprises a mining country south of Aconquija, and is remarkable for the industry of its people, the variety of its products, and the natural difficulties which impede its dealings with the outer world. It exports mules and asses to Peru and Bolivia, dried fruits and wine to Tucuman, as well as hides, vicuña ponchos, etc., to Cordoba and elsewhere. There are no roads, but mule tracks, and all commerce is

done by means of mules, these animals carrying from 200 to 300 lbs. each. The winter is cold and dry, the summer hot only in the valleys. Water-supply is deficient in many places, for which reason the National Government has made borings for artesian wells, but without much success. Agriculture, mining, fattening cattle, mule-driving and wood-cutting give ample occupation to the natives, who are mostly rough, but laborious. This is considered the richest mining department in the Argentine Republic, and the works of most importance are those of Mr. Lafone Quevedo. The Restauradora mine is at Capillitas, on a spur of the Sierra Aconquija, in 27 S. lat. and 67 W. long.; it was worked by the Calchaquies before the conquest, but remained unknown in later times till 1849, when an old Indian (who is supposed to have learned the secret from the Jesuits more than 80 years before) made the discovery to Señor Espeche; since that time it is said to have yielded ores which produced 12,000 tons of copper, worth about \$4,000,000, besides a percentage of gold and silver. The works are under Mr. Lafone's personal direction, and are prosecuted on the English system, with tramways in the galleries; average production, 200 tons of ore monthly, the cost of extraction being about \$5 per ton. The balance-sheet of this mine for a period of 10 years showed as follows:—

Mineral extracted.	22,000 tons.
Product in pure copper.	4,000 »
Value of metal	1,590,000 dols.
Expenses.	1,195,000 »
Net profit.	395,000 »

The ore gives 14 per cent. of copper; the mine is 10,000 feet over sea-level and 7,000 feet above the valley in which the smelting-works of Pilciao are situated; these

works also belong to Mr. Lafone Quevedo, and the distance is a little more than 40 miles, one-third through a mountainous country, the road having been made by Messrs. Lafone & Co. The muleteers charge about \$8 per ton freight, each man having 16 mules in his troop, and each mule carrying 300 to 330 lbs.; they take 3 days on the journey—say, 14 miles a day. The Pilciao works keep about 3,000 mules constantly busy. Pilciao, the seat of the smelting-works, is in the centre of an algarroba forest, 10 miles S. of Andalgalá town; the works have constantly maintained 600 persons since first established, in 1860, and for water-supply have wells 100 feet deep. The works have 9 furnaces, the algarrobo forest supplying the requisite fuel. The number of actual workmen is usually from 80 to 100, and the engineers and mechanics are English; working expenses exceed \$5,000 a month. Few establishments in S. America are better managed; attached to the works are a chapel, a school and a camp-store. The miners' children sing at Mass on Sundays in a manner that shows patience, skill and artistic taste. An observatory for meteorology has been kept for some years with great precision. Mr. Lafone Quevedo is the son of one of the earliest British merchants of Montevideo. There is another mine of richer ore called the Rosario, formerly Carranza's, which sent its ore to be smelted at Pipanaco, at foot of the Ambato; here there is plenty of wood, but lack of water, and the distance, 75 miles from the mines, is a serious drawback. The Ambato and Aconquija ranges have plenty of tigers, pumas, guanacoës, hares and foxes to invite sportsmen. Chief town, *Andalgalá*, with 3,000 inhabitants, stands on the site of a fort built by the Spaniards to keep in awe the Andalgalá

tribe, one of the most warlike of the Calchaquí nation; it is at the foot of Aconquija, and covers with its suburbs a square league, being surrounded by vineyards. It has church, schools, free-library, hotel, tannery and many good shops, the commerce of the place keeping 5,000 mules in constant occupation. It is 60 miles N.N.W. of Catamarca city, and is connected by telegraph with Cordoba, Chile and Buenos Ayres. Excursions may be made to Sierra Chilca, where the remains of an Indian fortification are seen at Pucará; to Poman, a thriving town of 2,000 inhabitants; to Cholla, a mining village 10 miles westward; to Guazan, famous for its wine, 5 miles north; or to Mr. Lafone's works at Pilciao, 10 miles south.

Santa Maria lies along the borders of Salta and Tucuman. It is remarkable for its cold, dry atmosphere, and consumptive patients, who come hither from Tucuman, return cured. The hill-ranges have much to invite the botanist, naturalist, or sportsman. Medicinal herbs and dye-woods abound, as well as vicuñas, guanacoës, a large kind of snake, and a spider the size of a tortoise. Gold is found in many places, marble crops up as plentifully as rock-salt, of which latter blocks may be cut as big as a mule can carry. Every Easter the natives make up hunting parties to kill vicuñas, of which they export the skins. Formerly this was a mining department, but the mines were abandoned in 1860, whereupon the Lafone smelting-works, which were 10 miles south of Santa Maria town, were removed to Pilciao. In the irrigated districts the natives raise great quantities of grain, potatoes, apples, pears and grapes; in the thinly settled parts westward they fatten cattle for Chile, and mules for Bolivia, besides exporting cheese and rock-salt. Chief town, *Santa Maria*.

with 2,200 inhabitants, is 180 miles north of Catamarca, and 120 north of Andalgalá; it has church, school and many shops; but the houses are built of sun-dried bricks. It is surrounded with gardens, and exports quantities of grain, dried fruits and aniseed to Tucuman, receiving sugar and English cotton-goods in exchange. There is a coach-road to Salta, 160 miles northwest, another southward to Belen, 120 miles. *San José*, with 1,000 inhabitants, is 12 miles S. of Santa Maria, on the river of that name; it has church, school, and band of music, and is remarkable for the politeness of the people. There are copper-mines in the vicinity of the Balastro smelting-works, 20 miles southward.

Belen is west of Andalgalá and extends to the Andes, It is remarkable for its favoured soil and climate, picturesque scenery, valuable products, and the industry of its inhabitants. The Blanca valley is devoted to rearing cattle, and the districts of Gualfin, Londres and Cienaga are partly pastoral, partly agricultural. Much business is done in buying mules from Rioja, Cordoba and Santiago del Estero, and fattening them for traders in Bolivia. The women make handsome ponchos, and a species of cloth called "cordillate de Belen." Llamas, guanacoës, vicuñas, goats and chinchillas are very numerous in the mountains. The forests contain many kinds of wood used for upholstery. Gold quartz is commonly found at parts of the Culampaja range, and at Santa Catalina, from which the country people often extract small quantities of the precious metal for their daily wants. Señor Espeche has smelting-works at Corral Quemado, 40 miles N. of the town of Belen. There are mineral springs at Gualfin, 6 miles south of the said works. Chief town, *Belen*, with 3,000 inhabi-

tants, was the first settlement made by the Spaniards in this part of the Calchaquí territory; it was built by Nuñez de Prado in 1550, and twice burnt by the Calchaquies, but as often rebuilt. At first it went by the name of Barco, though the valley was called Belen. It stands at the foot of a Cerro, on a bend of the river, surrounded by gardens, vineyards and plantations of roses, willows and poplars. It has church, schools, three mills, club, hotel, several distilleries, and an enterprising population who export wines, grain and dried fruits to Bolivia, ponchos and fat cattle to Chile. A fortnightly courier from Salta passes with mails to Chile, and a weekly one to Andalgalá and Catamarca, the distance to Andalgalá being 60 miles, and to Catamarca 120. *Londres*, with 500 inhabitants, is 10 miles south of Belen, and was founded in 1558 by Zúrita.

Tinogasta is the largest department in the province, but has less than one inhabitant to the square mile. It stretches along the foot of the Andes, and maintains a brisk trade with Chile, which has an excellent effect on the habits of the people, who are more industrious and progressive than in many other parts. Some mines are owned by Chilians, but the chief occupations are fattening cattle and the production of grain. No less than 5,000 cattle and 3,000 sheep are sent yearly to Chile, besides numbers of mules to Bolivia. There are no roads, but mule-paths, and most of the imported goods come from Chile. About 2,000 bushels of grain are exported, chiefly to Andalgalá. The women make all the clothing used by the inhabitants. The men are fond of hunting, and use guanaco and vicuña meat largely as food for their families, the skins serving as an article of export. In the north the district of Singuil, bordering on Bolivia, is often visited

in winter by the Zonda wind, which is like a tornado, destroying crops and tearing up trees. Copper and silver are found in the hills, and the Hoyada mine gave silver for many years. Chief town, *Tinogasta*, with 2,000 inhabitants, disputes with Andalgalá the rank of second town in the province. It derives its importance from proximity to Chile and Bolivia, and has made great progress in the last ten years. It has church, schools, hotel, and many fine shops and well-built houses. The two best high-roads to Chile are by the passes of San Francisco and Barrancas Blancas, the distance to Copiapó being 400 miles by the former, which is the most frequented route. The road by Fiambalá is the shortest to Bolivia, but very difficult. The new route over Zapata to Belen is 66 miles, but if on wheels the lower route must be taken, which is 102 miles. Excursions may be made to Fiambalá thermal springs, 12 miles north; to Copacabana, a thriving town, famous for fat cattle, 10 miles south; or to the Indian village of Cerro Negro, in an algarrobo forest, 25 miles east.

J U J U Y .

This is the lowest in population and importance, as well as the most remote, of all the Argentine provinces. It is bounded on the north by Bolivia, on the east and south by Salta, and on the west by the Andes. It comprises 6 departments viz:—

	Population.		
	1851.	1869.	1890.
Jujuy.	6,600	7,600	10,000
Tumbaya.	2,000	3,800	5,500
Humahuaca.	4,000	5,000	7,000
Peico.	3,000	3,200	4,500
Puna.	9,800	12,300	18,000
Rio Negro.	4,600	8,500	10,800
TOTAL.	30,000	40,400	55,800

There are 6 principal mountain ranges: Humahuaca and Cachi westward of Jujuy city, Zenta in the direction of Oran, Cortaderas in the extreme north, Alumbre and Santa Barbara between the San Francisco river and the Gran Chaco. From these descend numbers of rivers, 18 of which are affluents of the Rio Grande, sometimes called San Francisco, which waters the province for 400 miles, in the form of a half-moon, ultimately falling into the Bermejo at Juntas, where its volume of water is equal to the Bermejo. The soil is fertile, the climate healthy although tropical, and the people industrious, one-tenth of them being respectable Bolivians who have come here to escape the civil wars in their own country.

The inhabitants have but a slight mixture of Spanish blood, unless in the city of Jujuy, the only place in the province where Spanish is spoken; they are descendants of the Humahuacas, a branch of the great Calchaquí family, who bravely opposed the Spanish invaders from 1582 till the middle of the following century, when the conquerors transported numbers of them to Rioja, bringing back in their stead some reduced Indians of Famatina. The Humahuaca valley, being the easiest high-road from Peru to the Argentine provinces, again became the scene of hard fighting in

the War of Independence. Jujuy was allowed to send one deputy to the Congress of Tucuman, but remained a portion of the province of Salta till 1834, when it declared itself a separate province. Since then it has not suffered much from civil wars, being so remote.

Agriculture is the principal occupation, combined with the fattening of cattle for Bolivia. The inhabitants raise more than 100,000 fanegas of grain (700,000 bushels) yearly; this is for the most part maize, a considerable portion of which is manufactured into chicha, a fermented spirit, of which the natives are very fond. Coffee of admirable quality is grown at many places, the best at San Pedro in the department of Rio Negro.

Fruit is also cultivated on a large scale, and 2,000 tons of oranges, bananas, chirimoyas, olives, pears etc. are exported yearly, chiefly to Bolivia.

The area under tillage is as follows:—

	Acres	Product, \$ gold.
Grain	40,000	400,000
Sugar	6,000	600,000
Sundries	14,000	700,000
TOTAL	60,000	1,700,000

The value of landed property may be summed up thus:—

	Sq. miles.	\$ gold.
Agricultural	100	1,200,000
Pastoral	15,000	2,200,000
Mountain	3,700	300,000
TOTAL	18,800	3,700,000

Although the stock of cattle is small, not exceeding 140,000 head it is more than enough for home requirements, the inhabitants exporting annually 22,000 head, between cows, horses and mules, worth \$300,000 gold.

Public wealth has almost doubled since 1870, shewing approximately as follows:—

	1870 \$ gold.	1890 \$ gold.
Lands	2,500,000	3,700,000
Cattle	500,000	700,000
Houses	3,000,000	4,000,000
Railways	—	2,000,000
Sundries	2,000,000	4,000,000
TOTAL	8,000,000	14,400,000

Mineral resources may prove some day a great element of wealth: there is an inexhaustible salt-field at Casabindo; petroleum is found near the Rio Negro and at the foot of Sierra Santa Barbara; silver, copper, lead, iron, antimony, marble, jasper and rock-crystal exist in many places, besides gold-washings at Puna, Rinconada and Cochinoca, from which the annual export averages 3,300 ozs. gold-dust per annum.

In 1891 the Government sent Messrs. Cabanettes and Amans to examine and report on the mineral resources: they reported that Puna might become a second California if capital and machinery were forthcoming. They found 9 principal gold veins at Santa Catalina and Rinconada, and in several places remains of the old mining works of the Spaniards. At Tilcara they found silver, lead and copper. In June 1892 the Jujuy Mining Co. was formed, and it acquired 670 concessions of mines. The only company actually working is the Adda, manager Mr. Nelson. The ores yield about 3 ozs. gold per ton.

The earnings of the population may be estimated thus:—

	\$ gold.
Agricultural products.	1,700,000
Pastoral products.	500,000
Mining	100,000
Transport service.	100,000
Sundries.	<u>2,400,000</u>
TOTAL.	4,800,000

Public instruction returns shew as follows:—

	1889.	1891.
Schools.	57	58
Pupils on roll.	3,080	2,306
Average attendance.	2,274	1,969

This is the only province that has no public debt worth mentioning, its poverty proving its best protection. Its finances, nevertheless, are somewhat out-of-joint. Estimates of revenue and expenditure shewed:

	1884	1890
	\$ currency.	\$ currency.
Revenue.	66,000	126,000
Expenditure.	66,000	200,000

The revenue in 1890 was as follows:—

	\$ currency.
Lands.	58,000
Property-tax.	26,000
Sundries.	<u>42,000</u>
TOTAL.	126,000

Expenditure shewed as follows:—

	\$ currency.
Schools	74,000
Police.	34,000
Debt	10,000
Sundries	<u>82,000</u>
TOTAL.	200,000

There seems to be a small local debt of \$150,000 currency, equal to \$3 per inhabitant.

In this province there are 40 miles of railway, representing a cost of £400,000 sterling.

DEPARTMENTS.

According to a new division the province is cut up into 20 departments, but they are not so well understood as the old ones, 6 in number :

Jujuy embraces not only the capital and suburbs, but also the district known as Valle Grande, which stretches eastward along the San Francisco or Rio Grande, and a portion of the slopes of Sierra Zenta. Nothing can be more delightful than the climate, more productive than the soil, of the Reyes, Yala, Saucos and Leon valleys, admirably tilled and irrigated, for this province has unrivalled water-supply. The people are affluent, removed from the cares of the outer world, and subject to no other drawback than rheumatism. In Valle Grande they are altogether occupied in rearing cattle, but the other districts are mainly agricultural. Chief town, *Jujuy*, with 5,000 inhabitants, was built by Velasco in 1592, and is the residence of the Governor, Cabinet, Legislature and other principal authorities. It comprises 33 blocks on the right bank of the San Francisco, in $24^{\circ} 11'$ S. lat., and $65^{\circ} 21'$ W. long., at an elevation of 4,060 feet over sea-level. It has 4 churches, 3 schools, a hospital with 30 beds (founded by Rev. Dr. Zegada), an hotel and several well-stocked shops, and a weekly fair is held, to which Bolivians come in great numbers to buy cattle, mules and maize. The working-classes are very skilful Indians and mestizoes. In the churches are some good pictures done by Indians in the time of the Jesuits. The city is surrounded by the most

charming outskirts, wooded hills, watered valleys, fields of grain, gardens and orange-groves. An active trade is carried on with Bolivia and Chile in fat cattle, mules, chicha brandy, fruit, skins, gold-dust and salt, which are conveyed on llamas and sometimes on mules. The only roads are mule-paths, viz.:

By the Despoblado to Cobija, in Bolivia.

” San Francisco to Copiapo, in Chile.

” Puna in the interior of Bolivia.

” Cortaderas to Potosi and Peru.

All these roads are tolerably safe, being much used by travellers and dealers. So great is the export trade over the frontier, that the llamas carry 2,000 tons only of salt. The mineral waters at Quebrada de Reyes, close to the city, are of great efficacy in curing rheumatism. There are many volcanic signs, and an earthquake was felt in 1871, besides one in 1858, but without causing damage. Every effort to open the Rio Bermejo to steam navigation has been unsuccessful, but when carried out it will give a great stimulus to Jujuy. This city is 220 miles N. of Tucuman, and 942 from Buenos Ayres, the time taken in railway travelling being 50 hours from the latter city (see p. 141).

Tumbaya comprises the Tilcara and Tumbaya valleys, which constitute the lower parts of the great Humahuaca valley. The Tilcara valley is in no place three miles wide, and offers a continuous zone of gardens, alfares and grain-farms, with abundant streams from the Sierra Zenta. On the other hand, Tumbaya is wide, with a salt lake and extinct volcano at Pedregal del Volcan; the soil is too salty for tillage, but affords excellent pastures, supporting a great number of cows, sheep and llamas. It is surprising to find sheep at so

low a latitude as $23^{\circ} 30'$, but the heat is tempered by the elevation, and is less than in the more southern province of Salta. Chief town, *Tilcara*, with 600 inhabitants, a charming village on a hill, surrounded by smiling farms and well-wooded mountains. It is 50 miles N. of Jujuy city, on the route to Bolivia, and has chapel and school. *Tumbaya*, with 500 inhabitants, is midway between Jujuy and Tilcara, in a rich pastoral country, with church and school.

Humahuaca comprises the upper part of the valley of that name, from Guacaleta to Cortaderas. In those parts where the elevation exceeds 9,000 feet the inhabitants cultivate potatoes, but in the lower grounds they raise a good deal of grain. The chief occupation, however, is the care of cattle, of which some are sent to Bolivia; trade with that country is declining on this route, and becoming diverted to that of Salta. Chief town, *Humahuaca*, with 1,500 inhabitants, stands 9,960 feet over sea-level; it has a fine church and cabildo, with good houses, but the streets are narrow. Although within the tropics it is very cold, except at noon, and the least wind makes the cold very keen. The people are fond of cultivating peaches, pears and apples, which grow fairly, but cannot ripen unless facing the north. The shops are well supplied, as travellers usually take all necessaries here for the journey to Bolivia or Peru, this being the last town in Argentine territory. It is the largest town in the province after the capital, from which it is 80 miles northward.

Perico consists of two districts, Carmen and San Antonio. The first is situate east of the city of Jujuy, in the valley watered by the Rio Grande, and is admirably cultivated, having some sugar-plantations in the lower end, eastward, where the elevation does not

exceed 2,400 feet. San Antonio is mountainous, on the southern slopes of Humahuaca, and is devoted to cattle-farming. Chief town, *Carmen*, with 1,000 inhabitants, who have risen to great prosperity in the last 20 years, by their industrious habits; it has church, schools and sugar-mills. *San Antonio*, with 600 inhabitants, is a pretty village at the foot of Humahuaca, with church and school.

Puna comprises almost half the province, for it includes all the territory N.W. of Cachi and Cortaderas ranges, as far as the limits of Bolivia. It is inhabited by pure-blooded Indians, who mix but little with the rest of the province, and are divided into 4 parishes, which were old Jesuit missions—viz., Cochinoca, Rinconada, Santa Catalina and Yavi. Each of these villages has its church, and the Indians have preserved the pious customs taught them by the Fathers. They live by pastoral pursuits, having flocks of sheep, goats, llamas and vicuñas, and also pick up from 2,000 to 3,000 ozs. of gold-dust yearly at Rinconada. The best cattle-farms are at Puesto de Marquez, close to the Bolivian frontier. For some months in the year the snow-capped ranges of Cachi and Cortaderas in a manner cut off this part of the province. The district of Yavi gives title of Marquis to its owner, from a patent by the King of Spain, and the Marquis usually resides in Bolivia. There are two large lakes, Casabindo and Toro, the first of which is one of the greatest salt-fields in South America; the salt is cut in blocks by the Indians, who convey it on llamas to Bolivia.

Rio Negro is a great sugar-growing department, lying between Salta, Oran and the Gran Chaco. It is watered by the Rio Grande, and by a number of tributary

streams that descend from the Calilegua hills, of which the Rio Negro is the largest. The woods abound in timber for cabinet-work, besides yerba-maté, Peruvian balsam, dragon-wood, etc. The Mataco Indians are very useful in clearing the forests, to make room for rice, tobacco, coffee, sugar-cane, coca and cotton, for all of which the climate and soil are propitious, although but small quantities are raised. Sugar has increased notably in recent years, the plantations giving constant employment to numbers of Chaco Indians. The climate is tropical, with heavy rains in summer, dry autumn and winter, and frost almost unknown. The principal sugar-plantations are:—

	Cuadras.	Tons sugar.	Barrels caña.
Ovejero.....	170	340	1,100
San Pedro....	100	180	800
San Lorenzo...	60	120	500
Palos Blancos..	60	120	400
Piedras.....	80	160	500
Reduccion.....	50	100	400
Soria.....	50	100	400
TOTAL.....	570	1,120	4,100

The estate of Messrs. Ovejero gives employment to 600 hands, of whom 500 are Mataco and Chiriguano Indians. Next in importance is that of Señor Araoz, which employs over 360 Matacos, at San Pedro. The family of Villar own that of San Lorenzo, with 300 Chiriguanos. Palos Blancos is a new establishment, 36 miles east of Jujuy. Piedras was founded in 1857 on the river of same name, and is the property of a gentleman of Salta. The old Jesuit plantation of San Ignacio is now called Reduccion, and the church is well preserved. The Soria estate takes its name from the intrepid navigator of the Bermejo, in 1826, and was again put under cultivation in 1862. Chief town,

Ledesma, with 4,000 inhabitants, was founded in 1628 by Martin Ledesma, Governor of Salta; it adjoins the sugar-farm of Messrs. Ovejero, to whom it may be said to belong. It is surrounded by orange and banana groves. It is 90 miles N.E. of Jujuy, midway to Oran.

S A L T A.

This province holds the 7th rank, lying between the Chaco and Bolivia. Formerly Jujuy constituted the northern portion of this province; but now the divisory line is about 15 miles S. of Jujuy city, running eastward by San Pedro and the Sierra Santa Barbara, and westward over the Humahuacá and Cachi ranges to Bolivia. There are 5 mountain ranges: Cerros Blancos and Santa Maria in the west; Frontera and Cerros Colorados on the borders of Tucuman, southward; and Lumbrera, east of Salta city, besides the southern slopes of Humahuaca and Cachi, coming down from Jujuy. The Juramento waters the province for more than 400 miles, and its tributaries to an equal extent. This is the same river afterwards known as the Salado, which falls into the Paraná at Santa Fé, and was called the Juramento by the patriots of 1816, because on its banks they swore to accomplish independence. The climate is mostly tropical, and earthquakes occur at intervals of five or ten years.

Salta consists of 20 departments, viz.:—

	Sq. miles.	Population.
Salta.....	480	25,500
Caldera.....	520	2,700
Cerrillos.....	190	6,800
Lerma.....	810	15,000
Chicoana.....	190	9,200
Viña.....	270	4,300
Guachipas.....	600	4,600
Cachi.....	1,100	5,500
Molinos.....	1,300	5,500
San Carlos.....	3,000	4,500
Cafayate.....	880	6,000
Campo Santo.....	1,550	5,100
Metan.....	2,600	8,500
Rosario.....	1,300	9,300
Anta.....	6,800	6,700
Rivadavia.....	4,060	4,700
Oran.....	17,600	7,300
Iruya.....	700	4,300
Victoria.....	3,300	4,200
Poma.....	3,900	5,300
TOTAL.....	51,150	145,000

Estimates of population shew thus:—

Year.	Population.	Annual increase.
1854	65,000	—
1869	88,900	1,600
1890	145,000	2,700

The above includes 20,000 Indians of the Mataco, Chiriguano and other Chaco tribes. The number of Europeans residing in the province in 1890 was 5,900.

The annual rainfall averages 21 inches, the mean annual temperature (see Appendix) 63° Fahrenheit.

The history of Salta is closely identified with that of Tucuman. It was a portion of the Calchaquí territory, which the inhabitants voluntarily placed under the sway of the Incas in the reign of Viracocha, A.D. 1310. It remained a part of the empire till the Spanish conquest, when it was over-run by Rojas,

Aguirre, Zúrita and other adventurers. The first Spanish settlement was made by Lerma in 1582, from which time Salta was governed by a Deputy or Lieut.-Governor from Tucuman down to 1776, when the Viceroyalty of Buenos Ayres was created, with two Intendentes for the old province of Tucuman, one in the south to reside at Cordoba, the other in the north at Salta. The latter had under his jurisdiction not only Salta, but also Tucuman, Jujuy and Catamarca, appointing deputies, to reside at and govern these 3 departments. At the revolt of Tupac Amarú, in 1783, the natives rose *en masse*, but were soon overpowered, and the ringleaders garotted. Thirty years later, in the War of Independence, the Salteños bore much of the brunt of the contest, not only in the Federal army under General Belgrano, but also under their famous guerilla chief, Martin Güemes. In the civil wars of Quiroga this province suffered less than Tucuman or others, thanks to its remote situation; the people are, moreover, of peaceable and industrious habits, and the province has made great progress in recent years.

Agriculture is the principal occupation, the area under tillage shewing thus:—

	Acres.	Product, \$ gold.
Grain	100,000	800,000
Sugar	9,000	1,300,000
Vines	2,500	150,000
Alfa	24,000	200,000
Sundries	35,000	350,000
TOTAL	170,500	2,800,000

Wheat is not used so much as maize in this province. The sugar-crop is almost equal to the consumption. Cotton and indigo grow wild, and a little of the former is cultivated. Potatoes thrive better than in

the neighbouring provinces, and all kinds of fruit and vegetables are raised without much labour. In the central valleys, where the bulk of the population reside, the temperature is mild, and the soil bountiful; the western or hilly parts, which reach an elevation of 9,000 feet, are very cold, and more suited for pastoral than agricultural industry.

Rice and tobacco are grown successfully in many districts, the tobacco of Campo Santo being so fine that Mr. Arnold took a prize at the Paris Exhibition. There are sugar-factories at San Isidro and Campo Santo, which pay \$10 per ton of cane, to growers. One of the earliest sugar-planters was a Gibralterian, named Amar. Good wine is grown in many vineyards. But, the most profitable business is Alfa, which gives 3 crops yearly: the owners of Alfares charge \$3 a head monthly for letting cattle graze. In 1891 no fewer than 20,000 head were sent to Chile, where they were sold from £8 per head upwards. The stock of cattle is nevertheless small, not exceeding 350,000 head, of which 160,000 are cows, and sheep the same number: the latter are the largest in S. America, and so long-woolled that a fleece weighs 12 lbs. Salta ox-hides are reputed the best in S. America, and there are several tanneries at the city of Salta.

Few parts of the republic are richer in minerals, but, mining is neglected. In 1891 the province was said to have produced 14 tons of silver and 400 tons of ores, together representing a value of £200,000. The Argentine Mining Co. has in play a capital of £40,000 and turns out 300 tons of ore yearly. Copper-mines at San Antonio, Cafayate and Lumbreira; silver-mines at Poma, Guachipas and Oran; gold-washings in the river Acay, and gold quartz mines at Iruya and Vic-

toria have been worked at intervals, but would require more money and machinery than can be devoted to so precarious a class of enterprise.

The earnings of the people may be estimated as follows:—

	\$ gold.
Pastoral products.	1,300,000
Agricultural »	2,800,000
Transport service.	450,000
Sundries	<u>6,050,000</u>
TOTAL.	10,600,000

The landed value is made up thus:—

	Sq. miles.	\$ gold.
Agricultural.	300	3,600,000
Pastoral.	36,000	9,000,000
Forest.	14,800	<u>1,000,000</u>
TOTAL.	51,100	13,600,000

Public wealth has nearly doubled since 1870, shewing approximately as follows:—

	1870. \$ gold.	1890. \$ gold.
Lands.	10,000,000	14,000,000
Cattle.	2,500,000	3,000,000
Houses.	8,000,000	12,000,000
Railways.	—	7,500,000
Sundries.	7,000,000	<u>12,000,000</u>
TOTAL.	27,500,000	48,500,000

Public instruction is not advanced the returns shewing thus:—

	1889.	1891.
Schools.	116	79
Pupils on roll	7,378	5,645
Average attendance.	5,462	—

There are in this province 180 miles of railway, which have cost £1,500,000 sterling.

The unfortunate Free State-bank, started in 1888, had a capital of \$4,100,000 and an issue of \$4,800,000. It was created by means of a London loan for £1,000,000 sterling. The bank was soon pumped dry, the Government having overdrawn more than a million.

Returns of revenue and expenditure were:—

	1884	1890
	\$ currency.	\$ currency.
Revenue	202,000	327,000
Expenditure	204,000	1,390,000

The items of revenue in 1890 were:—

	\$ currency.
Land-tax	110,000
Licenses	70,000
Sundries	147,000
TOTAL	<u>327,000</u>

The service of debt would alone require a sum three times as great as the total revenue, the expenditure shewing as follows:—

	\$ currency.
Int. on debt	970,000
Police	175,000
Schools	52,000
Sundries	193,000
TOTAL	<u>1,390,000</u>

By suspending the debt the expenditure would be reduced to \$420,000, leaving a deficit of \$93,000. The debt is composed as follows:—

	£ sterling.	\$ currency.
Foreign loan	1,000,000 =	15,100,000
Bank over-draft		<u>1,250,000</u>
TOTAL		16,350,000

This is equal to \$110 per inhabitant.

DEPARTMENTS

Salta includes the city and suburbs, within a radius of 8 or 10 miles. The city was founded in 1582, by Governor Abren, who called the place San Clemente of New Seville; but the site being liable to inundations the settlement was moved two years later by Hernando de Lerma, who gave it the title of San Felipe de Lerma. Subsequently it acquired its present name, some time in the 17th century. It stands 3,780 feet over sea-level, and has a pleasant aspect, surrounded by the picturesque suburbs, Buena Vista, Velarde, Cuestas, Pedrera and Lagunilla; these are, however, at times inundated by the Arias and Silleta streams, after which malaria is prevalent, and intermittent fevers are common. In fact, the canals or "tagaretés" are as a rule pestilential, for want of being flushed. The inhabitants likewise suffer from goitre, probably due to the quality of the water. It is a well-built town, and in the principal square are the cathedral, Government-house, Cabildo and other public offices. The streets are wide and paved, the shops well assorted, the city carrying on a considerable trade. There are two convents, one of Franciscan friars, the other of Carmelite nuns; also a female orphanage and a public hospital. The Franciscans devote their attention mostly to the Chaco Indians. There are 4 public schools, besides a national college in the old Merced convent. Some of the gardens have orange-trees, notwithstanding the sharp frosts and cold winds of winter. One-tenth of the citizens are natives of Bolivia, the trade with that country keeping in constant employment 27,000 mules and 3,000 drivers. An Irish merchant, named Fleming, is very attentive to foreigners, and owns some fine

estates. Near the city is the battle-field where General Belgrano won the first victory over the Spanish arms in South America, in 1812; the flags taken from the enemy were hung up, according to the general's promise at Our Lady's altar in the church of the Merced, and in recognition of this victory he adopted Our Lady's colours, blue and white, for the Argentine flag. Salta is 208 miles N. of Tucuman, and 930 from Buenos Ayres, say 50 hours by rail from the latter city (see p. 143).

Caldera contains the upper part of Lerma valley, from Rio Vaquero to the Jujuy frontier. It has 5 inhabitants to the square mile, the people being known for careful agriculture, and possessing a considerable number of cattle. Wood and water abound, and a species of kaolin or clay for making porcelain is found at Getemani. The village of Caldera, with 300 inhabitants, stands 4,600 feet over sea-level, and is watered by the Vaquero, which changes its name to Mojotoro before falling into the Bermejo.

Cerrillos extends southward from Salta, in the pleasant valley of Lerma, the inhabitants producing sugar and other crops, although sometimes nipped by the frosts. There are numerous lime-quarries in a range of "cerrillos" or hills, which have a medium elevation of 3,300 feet. The town of San José, with 1,500 inhabitants, including the local authorities, is a place of brisk trade, 15 miles S.W. of Salta, 3,700 feet over sea-level.

Lerma or Rosario de Lerma is an extensive department, comprising the Carabajal valley, the Sierra del Toro, and some valleys of the lower Andine system. The hilly parts are devoted to raising cattle, especially the Toro district on the borders of Jujuy, but the

lowlands are agricultural, being irrigated by canals from the Carabajal and Silleta rivers. The town of Rosario, 30 miles N.W. of Salta, has church, school, and 2,000 inhabitants; it is not to be confounded with Rosario de Frontera near the Tucuman frontier.

Chicoana is rich in pasture, agriculture, timber and minerals, and consists for the most part of a table-land at the foot of the S.W. end of the Sierra Humahuaca. Grain and tobacco are cultivated in the districts of Pedregal, Osma and Sumalao the surrounding hills having several cattle-farms. Timber for cabinet-work is prepared and exported by the villagers of Escoipe, 6,000 feet over sea-level. Copper ore was extracted at many places in 1858, but the mines are no longer working. The town of Chicoana, on the Rio Escoipe, has church, school and 1,200 inhabitants.

Viña is a new department formed out of the northern portion of the territory of Guachipas. It takes its name from the cultivation of vines, which has increased notably of late years. The village of Viñas, population 1,000, is surrounded by vineyards which produce a richly flavored wine.

Guachipas consists of an extensive valley, irrigated by the Juramento and well tilled. The village of Guachipas has a church, school and 500 inhabitants.

Cachi comprises a table-land, 10,000 feet over sea-level, separating the Chicoana plain from the Calchaquí valley; it includes also the districts of Payogasta, Poma and San Antonio, which are in the far north, very wild and mountainous, but producing potatoes and many kinds of fruits, besides some wheat. The snow-clad peaks of Cachi and Acay belong to the Bolivian Andes, on the route to Cobija or Oruro. Silver and copper have been found in many places near the

Cachi river, but the works were never long prosecuted, hands being scarce and the climate severe at such elevation. The village of Cachi, with 800 inhabitants, has church and school. A few miles off resided for many years Mr. Ledger, who had an estancia of alpacas: he it was who introduced Jesuit bark into Java.

Molinos is a populous, fertile district, situated to the south of Cachi, and comprises that part of the great Calchaquí valley which has the richest pastures and most advanced agriculture. So patient and skilful are the peasants of Siclantas, Churcal, Colpes and San José, that not a drop of water is lost, the method of irrigation being admirably arranged; otherwise this would be a desert, as rain seldom falls. The valleys of Aymacha and Lauracatao have not only tillage, but plenty of fat cattle and mules; the district of Amana is famous for its vineyards. The estates of Gomez and Iburguren, between Molinos and Siclantas, are establishments of which the province is justly proud. The town of Molinos, with 800 inhabitants, is 80 miles N.W. of Salta city, 6,300 feet over sea-level, on the upper-waters of the Juramento; it carries on a profitable trade with Chile, being on the main route that leads from Salta by the San Francisco pass to Copiapó.

San Carlos includes all the lower part of the Calchaquí valley, from Molinos to the snowy range of Quilmes, on the Tucuman frontier. The whole Calchaquí valley, from the peak of Acay in the north to the Tolombon forest at the foot of Quilmes, is 250 miles long. The above-mentioned forest is of algarrobo, the leaves of which serve to fatten cattle, this valley being, moreover, reputed to produce very hardy mules for travelling, besides a great number of sheep and goats. The department of San Carlos comprehends

the district of Cafayate, which grows the best of all the Salteño wines. The town of San Carlos, near the confluence of two great arms of the Juramento, is 70 miles S.W. of Salta city; it has church, school and 800 inhabitants, and is surrounded by gardens and vineyards.

Metan is traversed by the high-road from Tucuman to Salta. The inhabitants raise grain and cotton. At Piedras is the Palacios cotton-mill, built in 1866: the machinery is of 30 horse-power, made at Manchester, and cost \$20,000; it employs 40 hands, and turns out 3 tons of woollen or cotton textures monthly, besides very fine vicuña ponchos, which are sold at \$20 each. The climate and soil are favourable for cotton-growing, but caterpillars sometimes do much injury. The authorities of this department reside at the village of San José, sometimes called Metan, near the foot of Cerros Colorados, 60 miles S. of Salta city.

Rosario de Frontera is a populous, hilly country, watered by affluents of the Juramento; it produces much sugar and tobacco, besides cheese similar to that so famous in Tucuman, called Tafi. In the direction of Piedras are the ruins of Esteco, destroyed by earthquake in 1692. The town of Rosario de Frontera, with 1,000 inhabitants, is much frequented for its mineral waters, 66 miles south of Salta. It is on the line of the Great Northern Railway section from Tucuman to Salta, has a good hotel, and a hospital built by a Salteño gentleman, as a token of gratitude for the recovery of his health. The thermal-springs have a temperature of more than 160° Fahrenheit, about the same as Carlsbad. This department also includes the district of Candelaria, between the Rosario river and the Tucuman frontier, taking in the Mogotes plain and

the Yaranú hills. It produces sugar, tobacco and cheese. The village from which the department takes its name is 90 miles S. of Salta, close to the Tucuman frontier.

Cafayate is a new department formed out of the southern portion of the territory formerly comprised by San Carlos. It is watered by the Calchaquí and many other streams, and produces the best wines in the province. There are, moreover, dense woods of algarrobo. The town of Cafayate has 2,200 inhabitants, almost pure-blooded Calchaquis; it stands in the valley of Santa Maria, on the banks of the Yacuchuya, 125 miles south of Salta.

Campo Santo is a delightful country, separated from the district of Salta by the affluents of the Lavayen, which water the whole department. All fruits of temperate or tropical climes thrive, the medium elevation not exceeding 2,300 feet. Coffee is grown, equal to the finest Yungas, far superior to the best Mocha; sugar is largely cultivated, with the aid of the Mataco Indians. Among the fruits are the chirimoya and coca; the latter is much used in Bolivia, where the natives by chewing the leaves can travel 100 miles a day on foot. Cornejo's sugar plantation is worth a visit, as well as the village of Cobos, 15 miles N.E. of Salta. The town of Campo Santo on the banks of the Lavayen is 25 miles from Salta, on the route to Oran.

Anta covers a large tract of country between the Salado and Bermejo, bordering on the Gran Chaco. Cattle-farms are met with at intervals, and a few scattered groups of huts around the old ruined forts or missions that formerly marked the frontier. Chapels are still standing at Miraflores, Piquete and Guanacos, the last-named being the most southern settlement

towards the desert. The Indians do all the work on the estancias. The village of Anta, with 1,000 inhabitants, is near the foot of the Sierra Lumbrera, 80 miles E.N.E. of Salta city.

Rivadavia is a slice of the Gran Chaco, beyond the Bermejo and bounded south and east by the river Teuco; it is less than 20 miles in width, from N.W. to S.E., by 120 in length. A colony was established here in December 1862, comprising 54 families, which numbered 550 souls. By degrees the settlement has risen to a population of 2,000, each family receiving a home-stead grant of 1,200 acres in perpetuity, with $1\frac{1}{2}$ miles frontage on the Bermejo or Teuco, or 2,400 acres if without river frontage. The soil is fertile, mostly alluvial, being inundated periodically by the Bermejo. Nevertheless, the colonists give their attention rather to pastoral industry than agriculture, having about 40,000 head of cattle, and finding insuperable difficulties in sending products to market. Most of them are Bolivian immigrants from Tarija or Santa Cruz de la Sierra, who employ the Matacos on their estancias. There is a fort with 3 pieces of cannon for defence against any inroad of the Tobas or other tribe of the Chaco. About 20 miles lower down the Bermejo, on the opposite or southern bank, is Esquina Grande, a small settlement in this department, to which Lavarello's steamer ascended in 1863, and Roldan's in 1874, after a tedious voyage from Buenos Ayres; there are 990 bends of the river from its mouth to this point. General Mitre's government proposed a high-road from Esquina Grande to Corrientes, across the Chaco, but it was never attempted; the distance is 340 miles. From Esquina Grande up to Oran is 120 miles, not navigable.

Oran stretches along both banks of the Bermejo,

comprising many valuable estancias, besides some Indian reductions, composed of semi-civilized aborigines, mostly Christians. Sugar-cane, tobacco, mandioca, maize and bananas grow in many places, and the woods yield excellent timber for ship-building or upholstery. *Oran*, before the earthquake of 1871, was a flourishing town of 2,400 inhabitants, and suffered much injury on that occasion; a second earthquake occurred on July 6, 1873, accompanied by an inundation from the Zenta, which almost reduced the town to a pile of ruins, 400 lives being lost according to the statement of the engineer, F. Host. Since then it has been rebuilt, and possesses some importance by reason of its proximity to Bolivia; it is watered by the Zenta, and separated from the Bermejo by 10 miles of forest. It is 180 miles from Jujuy, 220 from Salta, 150 from Tarija, and 600 from Santa Cruz de la Sierra. The high-road to Tarija follows the bank of the Bermejo, and is often impracticable owing to floods; the San Andres valley for 80 miles presents a scene of magnificent tropical vegetation, until approaching the village of that name, 5,000 feet over sea-level, when we enter on a region where snow rules supreme for many months of the year. The route from Oran to Humahuaca attains the highest point at the gap of Zenta, 15,000 feet. Cedar is so abundant in the forest of Oran that adventurous woodcutters sometimes make rafts of it which they push down the Bermejo to the Paraguay river, and dispose of profitably at Corrientes; in some cases the Indians help the raftsmen and sell them maize and poultry, but in others they kill them with arrows.

Iruya lies west of Oran proper, along the slopes of Sierra Zenta, covering an area of 186 square leagues; the inhabitants have numbers of cattle, sheep, goats,

llamas, mules and asses. The village of same name, with 1,000 inhabitants, was founded in 1839, and stands at a considerable elevation.

Victoria extends from Iruya to the Bolivian frontier; the lower part is watered by the Bermejo, the upper includes the Sierra Victoria, which abounds in beautiful crystallizations and calcareous stones of many colours. The village which gives name to the department and sierra, has a church, school and 900 inhabitants; it is built on the Arroyo Pucará, where the natives wash the sand for gold; there are deposits of gold, silver and copper in the mountains.

T U C U M A N .

This province holds the 6th place in the Confederation and is called the Garden of South America, by reason of the rich and varied products, genial climate and delightful scenery, which render it the most favoured spot in this continent. It is admirably wooded and watered, the lofty peaks of Sierra Aconquija imparting an aspect of grandeur to the picture, while fields of grain, sugar-cane, rice and tobacco attest the fertility of the soil and the industry of the natives.

In the time of the Incas, all this country, including also Salta and Santiago, was known as Tucma, the inhabitants of which, as Garcilazo narrates, sent deputies to the 8th Inca, Viracocha, A.D. 1310, to beg annexation to the Empire of Peru, at the same time offering

presents of *cotton*, honey, wax, grain, fruit and vegetables, as samples of the richness of their land. The Inca accepted their allegiance, and gave them handsome robes of vicuña wool, woven by the Virgins of the Sun, to be presented to their "curacas" or chiefs. He also sent back with them persons capable of teaching the Tucumanites not only the religion and laws of the Empire of the Sun, but also the science of irrigation and agriculture. His son, Pachacutec, extended the empire to Catamarca and Rioja, and under the 10th Inca, Yupanqui, a road was made over the Andes by the Uspallata Pass, with tambillos or huts for travellers. Tucma, or the *land of cotton*, enjoyed the best government that has ever been known in South America for 243 years, until the Spanish conquest. The first adventurer to arrive was Captain Aguirre, in 1553, but no permanent settlement was made till his nephew Villaroel came in 1565, and obtained by treaty from the Lules tribe a tract of country, including the site on which Tucuman stands. The Lules were of the great Calchaqui family, and when Villaroel distributed 10,000 of them as slaves among his followers a revolt took place, in which they were aided by their kinsmen. The struggle lasted 10 years, until the Viceroy of Peru sent a large force in 1580, and firmly established the new province of Tucuman, the Governor of which resided at Santiago del Estero. A century later the seat of government was removed from Santiago to Tucuman, the province still maintaining jurisdiction over all the territory from Jujuy to Cordoba inclusive. In 1776 the province was split in two, and placed under two Intendentes, subject to the Viceroy of Buenos Ayres, when its separate existence may be said to have ceased, and its importance declined.

In the revolt against Spain, no province won greater laurels, for Tucuman not only was the scene (in 1812) of the surrender of the Spanish army, under General Tristan, to the patriots, under Belgrano, but had the happiness, 4 years later, of seeing the assembled delegates proclaim within her walls the Act of Independence. The Tucumanos have also been among the most enlightened and progressive people in the Republic; but the province suffered greatly during the civil wars of 1830—61.

Population has increased as follows:—

Year.	Population.	Annual Increase.
1845	57,900	—
1869	109,000	2,100
1891	202,000	4,200

The province has 9 departments, viz:—

	Square miles.	Population.	
		1869.	1891.
Tucuman.....	970	37,600	60,000
Famayllá.....	650	10,200	20,000
Monteros.....	440	14,200	28,000
Leales.....	920	7,200	14,000
Chicligasta.....	700	11,900	23,000
Río Chico.....	640	8,700	18,000
Graneros.....	860	8,500	17,000
Trancas.....	2,700	5,200	10,000
Burrayacú.....	1,600	5,500	11,000
TOTAL.....	9,480	109,000	201,000

The above is the area given by Latzina, but the Tucumanos claim 17,000 square miles.

Agriculture is the principal industry, and received a great impulse by the opening of the G. Northern railway in 1876. Sugar-planting has been, moreover,

stimulated by an import duty of £14 sterling (say 100 per cent *ad valorem*) on foreign sugar. Thus the area and crop of sugar rose as follows:—

	Acres.	Tons sugar.
1874	5,000	4,000
1884	25,000	20,000
1892	50,000	40,000

The agricultural products may be summed up thus:—

	Acres.	Product, \$ gold.
Sugar.....	50,000	3,800,000
Grain.....	80,000	800,000
Tobacco.....	2,000	100,000
Rice.....	2,000	100,000
Sundries.....	60,000	1,300,000
TOTAL.....	194,000	7,100,000

The sugar-fields in 1892 are estimated to yield 40,000 tons sugar and 50,000 barrels of rum. It seems that the Jesuits first introduced sugar-planting, as the inventory of 1767 mentions among their effects "a sugar-field at Lules and a mill for grinding the cane". The industry, however, was forgotten after their expulsion, until 1821, when Dr. Colombres, a priest, brought seed from Peru, and revived sugar-planting, for which reason he is incorrectly regarded as the originator of this product in Tucuman.

Statistics for 1891 shewed 35 sugar-factories, turning out 38,000 tons sugar and 60,000 barrels (2,500,000 gallons) of rum yearly. These factories worked night and day, being lit by electricity: the machinery represents an outlay of £4,000,000 sterling. The harvest lasts 100 days and employs 15,000 hands.

The first cost of laying down sugar is \$160 gold per cuadra, or £8 sterling per acre; that of cultivation and freight £10 per acre. The ordinary yield is from 15 to 20 tons of cane, or more or less one ton of sugar, per acre. Sugar-growers assert that the business gives an annual profit of 50 per cent on capital invested. The first cost has to be repeated every 10 or 12 years, for although some cane-fields give crops for 20 years it is observed that the crop declines after the 10th year. Sowing-time is from May 15 to September 30, the distance between the furrows being usually from 6 to 8 feet. The harvest is from June 15 to September 15, and consists of cutting, peeling and hauling; for the first the peons employ sharp hatchets, cutting an inch below the surface; for the second they use the knife ordinarily worn by Gauchos, placing the peeled canes in heaps. The hauling is done by means of mule or ox-carts, or in some cases by tramways. Maize is also largely cultivated, 10 lbs. being sown to the acre, and the crop giving from 50 to 100-fold. Rice yields over a ton to the acre. Alfares or meadows give from 4 to 8 crops yearly, but in the latter case last only 8 years, whereas the Tafi meadows, with 4 crops, last 20 years. The area under sweet-potatoes is 1,500 acres, the crop averaging 80 bushels; that under maní 400 acres, crop 30 bushels, a yield of 70-fold. The orange crop averages 18 million oranges yearly. Cotton, which has given Tucuman its name, is no longer cultivated, except in Tafi and other remote valleys; but flax and coffee promise to become valuable staples, experimental planting having given the best results.

Public wealth has doubled since 1870, shewing approximately as follows:—

	1870 \$ gold.	1891 \$ gold.
Lands	10,000,000	17,000,000
Cattle	2,500,000	3,000,000
Houses	9,500,000	14,000,000
Railways	—	9,000,000
Sundries	7,000,000	16,000,000
TOTAL	29,000,000	59,000,000

The value of landed property may be summed up thus:—

	Sq. miles.	\$ gold.
Agricultural	800	14,000,000
Pasture and forest ..	8,700	3,000,000
TOTAL	9,500	17,000,000

The earnings of the people may be estimated as follows:—

	\$ gold.
Agricultural products . . .	7,100,000
Pastoral do.	1,100,000
Transport service	500,000
Sundries	7,300,000
TOTAL	16,000,000

Annual rainfall averages 42 inches: the thermometer never falls below 35 Fahr., the mean annual temperature being 67 (see Appendix).

Educational returns were as follow:—

	1889.	1891.
Schools	156	155
Pupils on roll	17,508	15,636
Average attendance	11,002	11,474

There are in the province 210 miles of railway, which have cost £1,800,000 sterling.

Estimates of revenue and expenditure were:—

	1884 \$ currency.	1890 \$ currency.
Revenue	392,000	950,000
Expenditure	432,000	1,560,000

The revenue of 1890 shewed as follows:—

	\$ currency.
National subsidy	240,000
Property-tax	310,000
Licenses and stamps....	235,000
Sundries.....	165,000
TOTAL.....	950,000

Expenditure (supposing the service of debt) was as follows:—

	\$ currency.
Int. on debt.....	550,000
Police	280,000
Schools	140,000
Buildings.....	270,000
Sundries.....	320,000
TOTAL.....	1,560,000

By suppressing the service of debt the expenditure would be reduced to \$1,010,000, leaving still a deficit of \$60,000. The debt consists of a London loan of £600,000 sterling to found the State-bank of Tucuman: this is equivalent to \$9,100,000 currency or 45 per head. The service of the debt, as shewn above, is out of the question.

DEPARTMENTS

Tucuman comprises besides the city and suburbs a large stretch of country north-west, including the charming valley of Tafi, famous for its cheese, of which 100 tons are sent yearly to Buenos Ayres; the valley is also found to produce coffee and flax of superior quality. Another beautiful valley is that of San Xavier, while the sugar-fields at Cruz Alta, the grain-farms of Ranchillos, and the cattle estancias of the Banda and Santa Barbara, add to the richness of the

department. The Banda, however, is subject to occasional inundation from the river Sali. In the vicinity of the city are some of the finest sugar estates, 270 in number, and 30 large factories. The most remarkable factories are:—

Name.	Proprietor.	Locality.	Date.	Hands.
Esperanza.....	Posse.....	Cruz Alta....	1845	630
Concepcion....	Mendez.....	Sali.....	1840	420
Lastenia.....	Etchecopar...	Sali.....	—	400
San Juan.....	Paz.....	Sali.....	1870	200
Amalia.....	Molina.....	Amalia.....	1879	350
San Miguel....	Belausteguí ..	Ranchillos ...	—	320
Luxan.....	Gallo.....	Cruz Alta....	1874	250
Paraiso.....	García.....	Cruz Alta....	1838	320
San Felipe....	Posse.....	San Felipe....	1870	420
Ralos.....	Avellaneda...	Ralos.....	1879	200
San José.....	Frias.....	San José.....	—	200
Manantial.....	Videla.....	Manantial....	—	150
Colmenar.....	Mata.....	Sali.....	1884	250
Buenos Ayres..	Castellanos...	—	—	100
San Andres....	García.....	—	—	100

There are 15 other factories, the sugar-mills of this department summing up 7,000 hands and 20,000 acres of cane, producing yearly about 20,000 tons of sugar and 30,000 barrels of rum. The city of Tucuman was founded by Diego Villaroel at the confluence of the Sali and Monteros, in 1564; but owing to frequent inundations the inhabitants removed to the present site in 1585. It is admirably situated, 4 miles from the foot of Sierra Aconquija and one mile from the river Sali, on a table-land commanding a wide and varied prospect, and embosomed in orange groves. It is 1,530 feet over sea-level, and 25 feet over the river Sali; 26° 50' S. lat., 65° 16' W. long. It is the fourth town in the Republic, coming next after Cordoba; the women are handsome, the men intelligent. The city

is, like all other of these countries, built chessboard fashion, with narrow streets, but some of the houses have spacious courtyards. So agreeable are the manners of the people, the suavity of the clime, and the delightful scenery, that poets compare this city to Armida in the enchanted gardens. Plaza Independencia, the principal square, is in the centre of the city, and has the Cabildo on its west side, the Matriz church on its south, the club on its east, and the convent of San Francisco at its N.W. corner. It is beautifully laid out, with rows of orange-trees. Plaza Belgrano, one mile S.W., is on the site formerly called Ciudadela, where Belgrano gained his celebrated victory over the Spaniards. Another square is called Plaza Urquiza, and here are situated the law-courts, prison and police-office. About 200 yards south of the great square was the house in which was signed the Act of Independence, July 9, 1816.* Nothing remains but the room used by the Deputies, the rest having been pulled down to make room for the Post-office and Federal Court. The Matriz is a fine church of Doric architecture, built in 1856. San Francisco convent was formerly the Jesuit college, ceded by Charles III. to the Franciscans in 1784, the actual community counting 7 friars, who keep a free school. The Dominican convent has been rebuilt, and has 6

* The Congress was composed of the following members:—

Buenos Ayres..	7	Catamarca.	2	Rioja.	1	Cochabamba	1
Cordoba	5	Santiago..	2	San Luis..	1	Jujuy	1
Chuquisaca . . .	4	Salta.	2	San Juan..	1		—
Tucuman.	4	Mendoza .	2	Mizque.	1	TOTAL.	34

Montevideo, Entre Rios, Corrientes, Santa Fè and Paraguay refused to send deputies.

friars, who likewise keep a school. In the Merced church is the image of Our Lady, in the hands of which General Belgrano put an ivory bâton the night before his victory of the Ciudadela; the church is being restored at the cost of a lady named Rusiñol. There is a female orphanage at the Capilla Valladares. There are 3 chapels in the outskirts. For the religious service of the city there are 22 clergymen, including 13 friars. The National College occupies the site of the old Merced convent; it is a handsome, commodious building. The Sisters of Charity have a large school, and there is also a normal school. The theatre, called after General Belgrano, holds 1,500 persons. The only museum is that of the National College, but there are 4 libraries, at the college, town-hall, club and normal school, the first of which has 3,000 volumes. A new and spacious hospital has been built at Plaza Belgrano in Gothic style, with chapel attached. It is directed by French Sisters of Charity; admitted last year 1,530 patients, two-thirds males; death-rate, 9 per cent. among males, 11½ per cent. females. An asylum for aged poor is supported by private subscription, and the Sisters of Charity are building an orphanage for boys. There are 3 markets, in different quarters of the city, and 8 pretty good hotels, the charge being \$4 a day, everything included. Tucuman has 3 printing-offices, which issue 2 daily and 2 weekly papers.

Famayllá is a picturesque department S. of the city, watered by streams from the Aconquija, and containing plantations of sugar, maize, wheat, rice and tobacco. There are 60 sugar establishments, of which 8 are on a large scale, with factories attached, viz:—

Name.	Proprietor.	Locality.	Date.	Hands.
Lules.....	Hilaret.....	Lules.....	1879	400
San Pablo.....	Nougues.....	Lules.....	1855	300
Mercedes.....	Padilla.....	—	1876	220
Bella Vista....	Fernandez...	Bella Vista...	1882	100
Baviera.....	Déporte.....	Bella Vista...	1881	150
Reduccion.....	Posse.....	Bella Vista...	1852	160
Carpinchanga..	Recalt.....	—	1884	150
Hyde Park....	Quinteros....	—	1884	100

Each of the above establishments has a farm under cane, varying from 100 to 700 acres, besides which there is a number of small growers who sell their cane to the factories. This department turns out about 7,000 tons of sugar and 10,000 barrels of rum. The forests abound in fine timber, including laurel trees 70 feet high, with trunks 10 feet diameter. The village of *Lules*, near the station of that name, is delightfully situated in a defile, 10 miles S. of Tucuman, with church, school and 300 inhabitants. The village of *Bella Vista*, also a station on the Great Northern Railway, is in the centre of the sugar-fields, 15 miles S. from Tucuman.

Monteros has 63 inhabitants per square mile and possesses many valuable industries, such as tanneries, sugar-plantations, distilleries and saw-mills, most of which are worked by water-power. The natives also make furniture and cabinet-work, and export fat cattle to Catamarca and Chile. Fine embroidery and laces are made by the women, of native cotton. There are 20 sugar-plantations, and the principal are:

Name.	Owner	Locality.	Date.	Hands.
Providencia....	—	Cerro Bayo...	1884	360
Ingleses.....	Methvin.....	Concepcion....	1882	700
Santa Lucia...	Constantl....	Monteros....	1884	—

The town of *Monteros* is a thriving place, with church, schools, water-mills, hospital, town-hall, telegraph, hotel,

paved streets, well-built houses, 26 shops and 2,000 inhabitants; it is 40 miles S. of Tucuman, and 10 from the Simoca station, Great Northern Railway; the mill of Junior & Co. can turn out 4 tons of flour daily; the municipal revenue of Monteros is \$9,000. The village of *Simoca* has sprung up around the railway station, 33 miles from Tucuman, with church, 2 schools and various shops. This department has 10 municipal schools.

Leales has only 7 inhabitants per square mile. It lies eastward, along the river Sali, including a flat country with fine pastures. Several grain-farms, irrigated from the Sali, also exist. The village of *Leales* has chapel, school and 200 inhabitants.

Rio Chico comprises the most picturesque part of the province. No traveller should omit visiting the Valley of Arcadia, where the Molina and Itico villagers are most courteous to strangers. Valleys, rivers, forests, waterfalls and mountain slopes offer a charming variety of scene. The woods are full of cedar, quebracho, walnut, laurel, guayacan and other kinds of valuable timber. A rude mountain-path leads to Colalao, where there are a chapel and school. The air here is so pure, that persons suffering from ague, consumption, liver complaint, etc., on being sent hither, promptly recover.

Chicligasta is south of Rio Chico, and resembles that department, but is not so hilly. It grows the best sugar in the province, which is exported from the village of Medina, along with dry hides and tobacco. Oranges are likewise sent to Santiago, and the natives are famous for making cart-wheels, the wood being of superior fibre. The women are very clever at laces, needlework and ponchos, and possess some excellent

dyes from native roots. There are 45 sugar-plantations, but only 2 factories of importance, viz:—Trinidad, belonging to Mendez and Heller, which turns out 2 000 tons of sugar; and San Felipe, the property of F. Bernan 500 tons, yearly. The town of *Medina*, 22 miles from Monteagudo station, is a thriving place, with church, school, brisk trade, and 1,200 inhabitants. The village of *Concepcion*, one of the prettiest in the province, in 10 miles farther west, with plantations of rice and tobacco, church, school and 20 shops. The station of *Monteagudo* is rising in importance, having several shops, besides the fine steam-mill of Señor Lopez.

Graneros, bordering on the province of Santiago, derives its name from the quantity and superior quality of grain, especially wheat, that it produces, the peasants irrigating their lands from the river Maropá. The district of Lacochoa has a rich soil and fine timber, but is chiefly devoted to pastoral industry. The town of *Graneros*, on the Maropá, has church, school, 18 shops and 1,500 inhabitants; it is 60 miles S. of Tucuman, and 22 W. of Lamadrid station (Great Northern Railway). The sugar-factory of Ferreyra is in the vicinity, with the newest French machinery. There is an export trade in sugar and hides. This department also includes the village of Lacochoa, with chapel, school, telegraph-office, 10 shops and 800 inhabitants.

Trancas is a hilly country, thinly populated, partly agricultural, partly pastoral: it comprises a portion of the Aconquija slopes and the upper part of the Tafi valley, famous for cheese. The town of Trancas is a station on the G. Northern railway (see p. 141).

Burrucacú is a northern department, close to the Rio Salado and the Gran Chaco. It is one of the best

grazing districts, and here the Mamelucho leads a life in every way similar to the Gauchos of Buenos Ayres, minding large herds of cattle and troops of horses in the hill-ranges of Campo, Ramada and Remate, which alternate with permanent streams of fresh water. The fat cattle of this department are proverbial. At one place there are salt streams which yield enough salt for the country round, and employ 200 persons. The woods contain bark much used for tanning. There is a hill-range, 60 miles long, which abounds in marble, chalk and limestone. The town of *Burrucacú*, 40 miles N.E. of Tucuman, has church, school and 600 inhabitants. The village and district of *Timbó* are also in this department.

SANTIAGO.

This is the 8th province in order of importance, coming next after Salta. It covers an extensive plain, being bounded on the N.E. by the Rio Salado, on the S. by the province of Cordoba, and on the W. by Catamarca and Tucuman. It has a dense population, 9 persons to the square mile, for the real area of the province does not exceed 18,000 square miles, although officially put down at 35,000 by including a great slice of the Gran Chaco, which is held by the Indians. In the absence of mountains, the only natural features are the rivers. The Salado, which is called Juramento in the province of Salta, waters more than 300 miles

of the territory of Santiago; all efforts to make it navigable have failed, although in flood seasons steamers can ascend from the Paraná to Fort Bracho. There are no insuperable difficulties to canalizing the stream, but the cost would be greater than the advantages to be derived. Rio Dulce is formed of a number of streams falling from Sierra Aconquija, and goes by the names of Rio Hondo and Rio Sali in Tucuman; in the plains below the city of Santiago its waters left their old bed in 1825, and now lose themselves in the Salinas marshes, the sole outlet of which, the Saladillo, overflows annually. This stream is so impregnated with chlorine of soda, that if a man fall overboard he cannot sink. Rio Dulce resumes its course at Mistol, returns to its old bed at Salavina, and flows down to the Porongos and Mar Chiquita salt lakes. The abandoned bed of the Dulce is about 190 feet wide by 10 in depth.

This province was part of the Tucma or cotton country in the time of the Incas, and formed for about a century the most important portion of the government of Tucuman under the Spaniards; in fact, it should have preserved the name of Tucuman. The first Spanish settlement was made here by Aguirre in 1553, where Santiago now stands, and the first governor of Tucuman, Perez de Zurita, established his government here by rescript of Charles V. in 1558. His successor, Cabrera, extended the dominion southward and founded Cordoba 15 years later. In like manner, subsequent governors founded Tucuman, Salta, Jujuy, Rioja, etc. The first bishop of Tucuman (that is, of Santiago) was Don Francisco Victoria, in 1578, who invited the Jesuits to aid in converting the natives. The Franciscans, and especially St. Francis Solano, had previously labored with great success. The political

decline of Santiago de Tucuman was due to two calamities. In 1615 the cathedral was accidentally burnt to the ground, which caused the bishop to remove to Cordoba, although the see was not nominally translated till 1699. A greater misfortune occurred in 1633, when the Rio Dulce rose and carried away one-half of the city, whereupon numbers of the people removed, and upon the conclusion of the Calchaqui war, in 1680, the seat of government was transferred to San Miguel, now called Tucuman. Nevertheless, by aid of the Jesuits large plantations of cotton, grain and fruits were established along the Salado, the increase of sheep and cattle being no less remarkable, and Santiago enjoyed peace and prosperity till the expulsion of the Fathers in 1767. When the government of Tucuman was abolished, in 1776, upon creation of the Viceroyalty of La Plata, this province of Santiago was placed under the Intendente of Salta. In the War of Independence it was annexed to the province of Tucuman, but sent its own deputies to the Congress of 1816, and 4 years later declared itself a separate province. The emancipation from the control of Tucuman was effected by Don Felipe Ibarra, under whose rule, as Dictator, the province remained till his death in 1850. The more enlightened citizens having been banished, the province fell into a very backward condition, from which it has not recovered.

The increase of population has been as follows:—

Year.	Population.	Annual increase.
1857	90,000	—
1869	134,900	3,700
1891	208,000	3,300

There are 14 departments, viz:—

	Square miles.	Population.	
		1869.	1891.
Santiago	64	8,500	13,000
Banda	1,020	4,900	8,000
Gimenez	3,360	17,500	27,000
Rio Hondo	500	8,300	13,000
Guasayan	1,400	3,100	5,000
Cholla	3,100	4,200	8,000
Robles	250	4,600	6,000
Silipica	560	9,700	15,000
Loreto	1,450	13,200	20,000
Atamisqui	1,200	6,300	10,000
Salavina	4,800	10,200	16,000
Sumampa	7,500	9,100	14,000
Copo	5,600	15,500	18,000
Matará	10,100	19,800	35,000
TOTAL	40,904	134,900	208,000

Public wealth has more than doubled since 1870, shewing approximately as follows:—

	1870. \$ gold.	1891. \$ gold.
Lands	6,000,000	9,000,000
Cattle	4,500,000	6,000,000
Houses	8,000,000	12,000,000
Railways	—	14,500,000
Sundries	6,000,000	14,000,000
TOTAL	24,500,000	55,500,000

The value of landed property may be summed up thus:—

	Sq. miles.	Value \$ gold.
Tillage	500	5,000,000
Pasture	25,000	3,500,000
Forest	15,000	500,000
TOTAL	40,500	9,000,000

Cattle-farming occupies a large number of the people, but makes no progress, viz.:—

	1864.	1888.
Cows.....	600,000	590,000
Horses.....	100,000	110,000
Sheep.....	700,000	780,000

Agriculture, on the other hand, has advanced rapidly, the area under crops being now 300,000 acres against 46,000 in 1884, viz:—

	Acres.		Value of crop in 1891 \$ gold.
	1884.	1891.	
Grain.....	28,000	225,000	2,200,000
Sugar.....	9,000	5,000	300,000
Sundries.....	9,000	70,000	400,000
TOTAL...	46,000	300,000	2,900,000

Great expectations were entertained of sugar-planting, but the climate is not favorable: the plants flourish the first year and are killed by frost in the second. In 1889 there were 6 sugar-factories, but four have been closed and only two are working, those of San Germes and Pinto, which have to import some of the cane from Tucuman. Alfa-growing is a better business, giving 7 crops a year. Wood-cutting also promises well, the freight to Buenos Ayres being only \$16 currency per ton, and the forests very extensive. Oranges are also grown easily and in abundance. The mean annual temperature is 73 Fahr. (see Appendix), and the rainfall 25 inches.

The earnings of the people may be summed up thus:—

	\$ gold.
Pastoral products.....	2,200,000
Agricultural do.	2,900,000
Transport service	900,000
Sundries.....	4,800,000
TOTAL.....	10,800,000

There are in the province 485 miles of railway, representing a cost of £2,900,000 sterling.

Educational statistics shew a decline, viz:—

	1889	1891.
Schools.....	197	170
Pupils on roll.....	10,184	9,321
Average attendance....	7,933	6,032

Estimates of revenue and expenditure were as follows:—

	1884	1890
	\$ currency.	\$ currency.
Revenue.	110,000	670,000
Expenditure ...	144,000	1,610,000

Revenue in 1890 was as follows:—

	\$ currency.
Property-tax.....	144,000
National subsidy.....	96,000
Licenses.....	120,000
Sundries.....	310,000
TOTAL.....	<u>670,000</u>

This was exclusive of "bank-profits" which were counted to produce \$600,000. The Governor, nevertheless, announced a deficit of \$350,000, the Government owing the bank \$640,000.

The expenditure, if the debt were properly attended to, would have been:—

	\$ currency.
Int. on debt.....	950,000
Schools.....	140,000
Police.....	120,000
Public works.....	140,000
Sundries.....	260,000
TOTAL.....	<u>1,610,000</u>

The deficit would have been \$940,000 but for the suspension of debt, which brings revenue and expenditure even. Debt consists of a London loan for

£1,000,000 sterling and \$640,000 bank over-draft, together \$15,700,000 currency or \$75 per inhabitant.

The London loan was for the purpose of founding one of the Free State-banks, which was opened in 1888, capital \$1,800,000, issue \$2,100,000. The bank, as shewn above, was pumped dry, the Government getting \$640,000, and the service of the loan was suspended.

DEPARTMENTS

Santiago includes the city and suburbs, on the eastern bank of Rio Dulce, for which a water-tax of \$2 on each garden is levied annually. Wheat, maize, sugar, oranges, figs, peaches, grapes and pomegranates are grown in profusion, but the old cotton and cochineal plantations of the Jesuits are no longer cultivated. Most of the work is done by the women, who till the fields, make ponchos, and look after domestic affairs. while a considerable proportion of the men lie on the ground, smoking tobacco or drinking chicha. The people are almost pure Indians, and speak nothing but Quichua, except a few whites or Mestizoes in the city. The yield of wheat is said to be 80-fold. Some of the old Jesuit cotton-farms are now sheep-estancias, the sheep are remarkable for long wool. Chief town, *Santiago del Estero*, with 8,000 inhabitants, was founded by Francisco Aguirre in 1552. It is in 27° 46' S. lat. and 64° 19' W. long., at an elevation of 520 feet over sea-level. The floods of Rio Dulce are an intermittent menace; in dry weather the river is 300 feet wide and 3 feet deep. It is the oldest city in the Republic, and presents a sad picture of decay: silent streets, falling houses; even the churches and Government-houses are

yielding to *tempus edax rerum*, for the saltpetre in the sun-dried bricks is gradually eating away the walls. The old Jesuit church and college are much corroded. There is an orphanage of girls, founded by Madame Taboada in 1840. The Franciscan convent contains the cell of St. Francis Solano, apostle of Chiquitos and Paraguay. The railway opened in 1884 brings Santiago within 16 hours of Cordoba and 2 days of Rosario. The city gets the soubriquet "del Estero" from the swamps or "esteros" in the vicinity of Rio Dulce. It is the residence of Governor, Cabinet, Legislature and minor authorities.

Banda is a district on the other or eastern side of the Dulce, in which the natives fatten cattle and produce some wheat.

Jimenez is a department bordering on Tucuman, thickly wooded, and possessing good pastures. There are, however, no rivers, and the natives have to water their cattle from wells. The village which give name to the department is surrounded with grain-farms.

Rio Hondo, is so called because the Dulce is unfordable in this district, where it receives the Maropá from the Sierra Aconquija. It is eminently agricultural, producing wheat and maize, but has also good cattle-farms northward. Sulphur springs at Sotelillos are much frequented. The village of Rio Hondo has church, school and 800 inhabitants, 42 miles N.W. of Santiago, near the Tucuman frontier.

Cholla lies between the Salinas and Catamarca, and includes much wooded country at the foot of Sierra Ancasti. It is watered by many mountain streams, especially the Albigasta, which marks the frontier with Catamarca. The village of La Punta, at the end of the ridge, has a chapel and 150 souls.

Guasayan is a small district, comprising a range of hills of the same name, where the inhabitants have flocks of sheep and goats, their only care and means of support.

Robles takes its name from the dense woods, in which oak (roble) is found. This department, eastward of the city, is watered by the Dulce, and is famous for the great sugar estate of Luis Frias, founded in 1857, the finest in the province.

Silipica lies along the Dulce, south-east of Robles; the irrigated lands near the river produce grain and fruit, the rest being devoted to pastoral industry. Silipica village, on the west bank of the Dulce, is 12 miles S.E. of Santiago, with chapel, school and 500 souls.

Loreto still further south, on the west side of the Dulce, produces wonderful crops of wheat, more than 60-fold, thanks to the river, which rises like the Nile, and inundates the lands devoted to grain-growing. Lands farther removed are used for cattle; but such is the dearth of water that the cattle have nothing but brackish wells, and the inhabitants suffer greatly from so unwholesome a supply. The town of Loreto has church, school, railway station, telegraph and 1,500 souls, and carries on some trade in wool, hides and cereals; it is 18 miles south of Santiago, and formerly stood on the Dulce, but the river has retired, forcing inhabitants to get water by means of a canal.

Atamisqui produces excellent wool, and rears a breed of long-woolled sheep. It is south of Loreto, and almost destitute of wood and water, the soil being in many places salty. Soconcho village has church, school and 1,400 inhabitants. Atamisqui, or the sweet village, derives its name from the abundance of wild honey; it is 40 miles south of Santiago.

Salavina extends from the east bank of the Dulce, in the direction of Fort Bracho on the Salado. It is, like Loreto, exuberantly fertile in those places overflowed by the river, and produces crops and fruit in abundance. In the inland districts of Chilquita and Salinas the peasants and their flocks suffer from want of water, the sheep pasturing on plains covered with the Jume or soap-tree. At the confluence of the Dulce and Saladillo is the village of San Cristóbal, and here the water is brackish, unless in flood seasons. The town of Salavina, 70 miles south of Santiago, has 8,500 inhabitants, surpassing the city of Santiago in population.

Sumampa lies between Rio Dulce and the Sierra Quilino, on the frontier of Córdoba; the inhabitants have cows, sheep and goats, and raise some grain near the village of Sumampa, 120 miles south of Santiago.

Copo comprises the northern part of the province, bordering on Salta: the lands are periodically flooded by the Salado, and produce very heavy crops, the inhabitants being the purest Indians, and preserving the good lessons taught them by the Franciscans.

Matará includes 200 miles of country on the west of the Salado, including Matará, Fort Bracho and Fort Taboada. The lands, subject to inundations, produce wheat 60-fold, but the department is at times exposed to inroads from the Mocoví, Toba, or other hostile tribes of the Chaco. The Indians and hunters for wild honey have many fords on the Salado. Fort Bracho, a frontier outpost on that river, was founded in 1856, by General Taboada, and a road hence leads to Campo del Cielo in the Chaco, where there is an aërolite of meteoric iron weighing 16 tons, which fell in 1783.

CORRIENTES.

This is the 5th in importance : it comprises the upper part of the Argentine Mesopotamia, being bounded north and west by the Paraná, south by Entre Rios, and east by the Upper Uruguay and Misiones. The limits on the side of Entre Rios are the Guayquiraró, which falls into the Paraná, and the Mocoretá, a tributary of the Uruguay. Few parts of South America are more favoured, situated as this province is, between two great rivers, with an abundance of wood and water, and every advantage of climate and soil, besides being safe from Indian forays, which have so often desolated other provinces. Vessels drawing 9 feet of water can in all seasons ascend the Paraná as high as Corrientes, and the freight from hence to Buenos Ayres is but half what it would be by railway. Nevertheless, the industry and products are nowise equal to the capabilities of the province, perhaps on account of the civil wars, of which it was the theatre during 40 years.

Lake Iberá, which covers 2,000 square miles, is the most remarkable natural feature, the name in Guarani signifying "shining water;" but it is not strictly a lake, for it contains a number of lakes, islands and swamps, which were supposed by the early settlers to be inhabited by a race of dwarfs or fairies; the idea probably took its rise in the anthills, 3 feet high, which look like diminutive human dwellings. The swamps and jungle, amid which the bamboo "tacuara" rises to

30 feet, are infested with tigers and alligators, in spite of which the islands are full of wild cattle. Northward from Iberá is a chain of swamps called Maloyas, terminating near the Apipé rapids on the Upper Paraná. Most of the rivers which have their source in Iberá fall into the Paraná, such as the Corrientes, Batel, Santa Lucia, Ambrosio and San Lorenzo; but the Mirañay is tributary of the Uruguay. The absence of bridges makes travelling difficult in rainy seasons, but in ordinary times the above rivers are easily forded. The largest is the Corrientes, 120 miles in length, which the Indians called Aruhay or "stream of the brave," because the warlike Charruas used to dwell on its banks. The Mocoetá signifies the "home of the Mocovís," another branch of the Guarani nation. The Arapey, which washes the borders of Misiones, is the "river of floating islands;" the Mirañay, or "little river," probably received its name in comparison with the Uruguay.

The forest of Payubre extends from the lower Jesuit missions to the frontier of Entre Rios, and on entering that province it is called Montiel. Various kinds of wood are met with, such as laurel, lapacho, algarrobo, yviracó, urunday, peteribí and yverapuitá, all suitable for ship-building; cedar, quebracho, tatané, ñandubay and timbó, for rafters and door-frames; and rose-wood, guayiby, ñangapirú, mulberry, iguavirá, guayabo, aguayguazú and ivarire-piró, for the finest cabinet-work. There are 4 kinds of palms: the coronday, the bark of which serves for roofing houses; the pindó, which yields a yellow fruit called ibapitá, as savoury as a date; the yatay, the fruit of which is good for fattening cattle, while the natives make brandy from the kernels; the bocoyá, which produces a fruit esteemed

the greatest delicacy. In the forest the huntsman will find tigers, wild boars, river-hogs, ant-eaters, red foxes, alligators, lagartas, and deer of many kinds, as well as ostriches, birds of prey and the yavirá, so called, because at a distance he looks like an Indian fishing.

The original inhabitants, from whom the natives are descended with a slight mixture of Spanish blood, were a noble race of Indians, mainly Charruas and Mocovies, but known by the tribal or local designations of Caracará, Dagalasta, Yaunete, Frenton and Ebiraya. The first Spanish settlement was made by Juan de Vera, Governor of Paraguay, who landed with 60 men at Arazati, $1\frac{1}{2}$ mile below the present city of Corrientes, on Sunday, April 3, 1588. His first act was to put up a wooden cross, 15 feet in height, close to which he constructed a stockade, wherein he was at once besieged by 6,000 Indians. The latter, supposing the cross to be a talisman, collected wood around it to which they set fire; but after the wood was consumed the cross remained intact, which so much impressed them that they laid down their arms and subsequently became Christians, under the leadership of their caciques, Canindeyú, Paraguay, Boipy and Aguará-Coembá. The conquerors intermarried with the natives, and in a short time the Spanish language was forgotten; but it is still spoken by the educated classes of the city, while Guarani is in general use, the same as in Paraguay. Newspapers and official documents are in Spanish.

Population has increased as follows:—

Year.	Population.	Annual increase.
1857	90,000	—
1869	129,100	3,300
1891	197,000	3,100

There are 25 departments, viz:—

	Sq. miles.	Population.	
		1869.	1891.
Corrientes	20	11,200	16,000
Lomas.	140	3,200	5,000
Empedrado.	1,120	5,300	7,500
Saladas.	1,000	4,500	6,500
Bella Vista.	1,000	9,800	8,000
Lavalle.	680	—	6,000
Goya	2,280	10,900	15,000
Esquina.	1,400	8,000	6,500
San Cosme.	360	3,600	5,500
Itati.	720	2,200	4,000
Caacati.	920	8,200	8,000
San Miguel.	1,400	3,300	4,500
Ituzaingó.	1,280	—	6,500
Santo Tomé.	3,200	5,300	12,000
Alvear.	1,080	—	4,500
La Cruz.	1,600	3,500	4,000
Paso Libres.	1,520	6,000	10,000
Caseros	1,400	—	6,000
Palmar.	1,120	6,800	9,000
Burucuyá.	600	4,200	5,500
Concepcion	1,400	3,800	5,000
San Roque.	1,040	5,300	7,500
Mercedes.	2,880	9,900	14,500
Curuzú-Cuatiá.	3,160	14,100	15,000
Sauce.	1,080	—	5,000
TOTAL.	32,400	129,100	197,000

Although the climate and soil are equally suited for tillage or stock raising the latter is almost exclusively the occupation of the people. Agricultural statistics may be summed up thus:—

	Acres.	Product, \$ gold.
Grain.	65,000	500,000
Tobacco.	6,000	300,000
Sugar.	1,500	100,000
Sundries.	42,500	200,000
TOTAL.	115,000	1,100,000

The earnings of the people are approximately as follow:—

	\$ gold.
Agricultural products.....	1,100,000
Pastoral do.	6,700,000
Transport service	500,000
Sundries.....	9,700,000
TOTAL.....	<u>18,000,000</u>

Public wealth has doubled since 1870, viz:—

	1870 \$ gold.	1891 \$ gold.
Lands.....	16,000,000	28,000,000
Cattle.	12,000,000	15,000,000
Houses.	9,000,000	21,000,000
Railways.....	—	8,000,000
Sundries.....	12,000,000	24,000,000
TOTAL....	<u>49,000,000</u>	<u>96,000,000</u>

The value of landed property may be summed up thus:—

	Sq. miles.	Value \$ gold.
Agricultural.	200	2,000,000
Pastoral.....	22,200	24,000,000
Forest etc.....	10,000	1,000,000
TOTAL.....	<u>32,400</u>	<u>28,000,000</u>

The annual mean temperature is 72 Fahr. (see Appendix) which is the highest in the republic, but the extremes of heat and cold are not reached, the thermometer never marking 100° in the shade; in fact, the range from minimum to maximum is only 54 degrees, which makes the climate peculiarly agreeable and healthy, whereas the range is 72 degrees in Buenos Ayres and 88 in Cordoba. The rainfall is double the average for provinces in the same latitude. Atmospheric pressure is 4 degrees less than in Buenos Ayres.

Pastoral industry has made little progress in the last thirty years, partly owing to civil wars, partly to the lawless character of the province: statistics shew thus:—

	1864.	1888.
Cows.....	1,500,000	1,800,000
Horses.....	150,000	260,000
Sheep.....	250,000	610,000

There are in the province 190 miles of railway, which have cost £1,600,000 sterling.

Educational statistics shew:—

	1889.	1891.
Schools.....	126	135
Pupils on roll.....	11,111	7,439
Average attendance....	6,735	5,779

Revenue and expenditure shewed thus:—

	1884. \$ currency.	1890. \$ currency.
Revenue.....	710,000	1,120,000
Expenditure...	750,000	2,080,000

The estimated revenue for 1890 was \$1,860,000, but the amount received was only \$1,120,000. The estimates of revenue were:—

	\$ currency.
Bank profits.....	485,000
National subsidy...	175,000
Property-tax.....	405,000
Lands.....	160,000
Sundries.....	635,000
TOTAL.....	<u>1,860,000</u>

The bank-profits were of course illusory, but even the other items fell short of estimates by \$255,000. If the service of debt had been attended to the expenditure would have been:—

	\$ currency.
Interest on debt.....	910,000
Police	300,000
Schools	280,000
Tribunals.....	120,000
Sundries.....	470,000
TOTAL.....	2,080,000

The *Corrientes* loan in London amounts to £1,000,000 sterling. It was contracted in 1888 for the purpose of starting one of the unfortunate Free Banks: capital \$1,800,000, issue \$2,000,000. The coupons are unpaid since September 1890. The public debt is equal to \$15,100,000 currency or \$76 per inhabitant.

DEPARTMENTS.

Corrientes stands 15 miles below Tres Bocas, the confluence of the Upper Paraná and Paraguay, and presents a charming view of tropical vegetation, in the midst of orange-groves. It was called by the Indians Taraguay, expressive of the abundance of lizards. Before the Paraguayan war it had the same quaint appearance as when first built, in the 16th century; but so many of the citizens made fortunes as army-contractors that they pulled down the old houses and put up others of modern taste in their place. Still it is not uncommon to see some of the ancient style, with wide verandahs. The old Jesuit college is now the Government-house, with spacious courtyards. The National College, founded by the late Dr. Fitzsimon, and afterwards directed by his son, the present Inspector General of Schools, is an admirable institution. There are 4 churches: the Matriz, which is supposed to date from the 16th century; the Merced, in the Plaza; San

Francisco, with an organ made by one of the friars; and Rosario, or the church of Our Lady, on the edge of the city. The best view is from the tower of San Francisco, which takes in the whole sweep of the river, here 3 miles wide: canoes are constantly crossing to or from the Chaco, with Guaycurú Indians, who bring grass to Corrientes; the dark outline of the Chaco consists of timber to the edge of the Paraná, and there are numerous "obrajes" or wood-cutting establishments, chiefly in the hands of Italians. At sunrise the city market presents a very animated appearance, the women seated on the ground, selling wares, smoking and talking Guaraní, which has a musical cadence. In the evening the fashion and beauty resort to the Bateria, a mile north of the city, which has a delightful view of land and water. No stranger should omit visiting the quintas of Billingham and Latorre, each of which has superb orange-groves of 10,000 trees. The chapel of the Cross, where the Spaniards landed in 1588, is the first object seen by the traveller ascending the Paraná, being 2 miles south from the city, on a bluff; beside the chapel is a column, marking the spot where the Indians endeavoured to burn the cross; it is 26 feet high, and bears the inscription, "The people of Corrientes in gratitude to the Almighty for His wonderful protection of the first settlers on the memorable 3rd of April, 1588". A procession takes place every year on the anniversary, the governor and city authorities taking part. Corrientes has a free-library, many schools and some weekly newspapers; a museum was founded in 1854 by Amadée Bompland, who had been gardener to the Empress Josephine at Malmaison, but fell to decay after his death in 1857. Steamers on the Paraguay route touch here (see Route

39, page 210), and a railway is in construction (see Route 31, page 155) from Corrientes across the province to the Uruguay.

Lomas is a picturesque district N.E. of Corrientes, well wooded and watered, with frontage on the Upper Paraná. A French colony was established here in 1855 by Dr. Brougues, under the auspices of Governor Pujol, about 20 miles from the city; it would have prospered but for the smallness of the farms granted to the settlers, who were allowed only a few acres each. Some of the survivors eke out a subsistence by taking fire-wood and vegetables to Corrientes. Several Paraguayans have settled here, growing tobacco, sugar, maize, mandioca, sweet potatoes and oranges. The soil will grow anything, abundantly. Lake Brava has fish and game. Casaccia's farm is worth visiting.

Empedrado lies along the banks of the Paraná, between Corrientes and Bella Vista, being separated from the latter department by the San Lorenzo stream. This is one of the healthiest and most fertile parts of the province; the bluffs on the Paraná average 50 feet in height, and are intersected by 8 streams which fall into that river. Besides producing maize and tobacco the inhabitants have "obrajes" in the Chaco, where they cut much timber and fire-wood for the Corrientes market. At the mouth of the Riachuelo was fought, on June 11, 1865, a great naval battle between the Paraguayans and Brazilians, which lasted 12 hours; over 2,000 men perished, and both fleets were all but annihilated. The town of *Empedrado*, with 1,500 inhabitants, is 37 miles south of Corrientes.

Saladas runs inland from the Paraná to Lake Yberá. Some parts are thickly wooded, others swampy, but the soil is so fertile that the natives say the district

enjoys a perpetual spring; maize, mandioca, sugar, tobacco, potatoes, oranges, etc., grow luxuriantly, with little labour. The town of *Saludas*, with 4,000 inhabitants, is embowered in orange-groves, and connected by railway with Corrientes (see p. 157), being 61 miles south of that city.

Bella Vista lies along the Paraná, from Goya to Empedrado. The inhabitants grow some oranges and tobacco, and cut timber in the Chaco. The town was founded by General Ferré in 1826, as a coffee-plantation, but the people preferred to grow oranges. It stands on a lovely hill, overlooking the river. In the vicinity are two colonies, in 60-acre lots, with 24,000 acres under crops, mostly grain.

Lavalle is a new department formed out of the southern part of Bella Vista, and including the old Jesuit mission of Santa Lucia.

Goya is the most important department in the province, rich in cattle, and well known for its excellent pastures and the superior quality of the beef and cheese. Some parts are wooded, the Yatay palms being conspicuous. The port of Goya (see p. 208) is one of considerable trade; it is a well-built town of 4,000 inhabitants. "There are no beggars in Goya" is a local adage.

Esquina is an extensive department touching the Entre Rios frontier at the Arroyo Guayquiraró, or fat boy's stream. It lies S. of the river Corrientes, which separates it from Goya, and has good pastures, but suffers from matreros or bush-rangers; fine land may be had very cheap, and a few Swiss or Germans have ventured to settle down here. The town of *Esquina* is so called because it stands at the corner where the Corrientes river falls into the Paraná; it has church,

schools and 2,000 inhabitants, and strangers will meet with every kindness from Mr. Daniel Hayes, son of the *Standard* war-correspondent "Sinbad," the late Mr. John Hayes.

San Cosme, formerly Ensenadas, comprises the "rincon" or angle north of Corrientes, bordering on Tres Bocas and west of Lomas. It is a delightful country interspersed with woods, lakes, farms, orange-groves, sugar and tobacco plantations, and has 15 persons to the square mile. The village of *San Cosme*, with 1,500 inhabitants, is in a charming locality, and dates from 1760. The old mission of Guacaras or Sant' Ana is a few miles distant, which was founded by Fathers Romero and Mendoza in 1633.

Itati is an old Indian district, the inhabitants being almost pure-blooded aborigines. They are famous for making pottery, besides dealing in palm, lapacho, quebracho and other kinds of timber. Much of the country is low and swampy, near the Maloya marshes, but the soil gives plentiful crops of maize, mandioca, tobacco, sugar and oranges. The village of *Itati*, with 1,500 inhabitants, was founded in 1615, by the venerable Franciscan F. Luis Bolaños, who compiled the first Guarani vocabulary; the church, which he dedicated to St. Anthony, was rebuilt in 1853. A steamer from Corrientes calls here twice a week.

Caacati is the chief agricultural department of the province, the inhabitants producing maize, mandioca, tobacco, sugar, honey and rum, much beyond their needs for consumption. It is beautifully diversified with wood and water, the traveller meeting now a chain of lakes, now a belt of timber or cluster of yatay palms, the fruit of which is much sought by cattle. The town of *Caacati*, with 4,000 inhabitants, is 100 miles E. of Cor-

rientes and in wet seasons is almost inaccessible, through swamps.

San Miguel is a very swampy country between Lake Iberá and the Upper Paraná, near Tranquera de Loreto. It has fine pastures, for which reason the Jesuits had estancias here in the 17th century. The village of *San Miguel*, founded in 1667, has 800 inhabitants, church and school; it is 10 miles E. of Caacati, and 110 from Corrientes.

Ituxaingó is a new department east of San Miguel, along the banks of the Upper Paraná, comprising many of the old Jesuit missions north of the Aguapey river.

Santo Tomé lies east of the last department, along the Upper Uruguay. The ruins of 22 missions burnt by the Portuguese commander Chagas, in 1817, are in this department. Some of the inhabitants have cattle, others cut timber or collect yerba-maté. All the country north of the Aguapey was devastated by the Paraguayans in 1846, not a house, human being, or head of cattle being left.

Alvear is a new department formed out of the northern part of La Cruz, the line of demarcation being the river Aguapey, at whose mouth is the village of Alvear. This department lies south of Santo Tomé, along the Upper Uruguay.

La Cruz takes in the territory along the Uruguay from Restauracion northwards to the mouth of the Aguapey, including the Miriñay hills. The inhabitants have some cattle, and raise mandioca, maize, sugar and oranges. A dozen French families have formed a settlement at the ruined mission of Yapeyú, birth-place of the hero of Independence, General San Martín, where they have grown grapes and sugar with much success. The port of *La Cruz*, with 2,000 inhabitants, is 35

miles higher than Restauracion, and is the only Jesuit mission that remains in its integrity. It was built by the Fathers in 1657, and is overshadowed by 3 peaks, on the central one of which is a stone cross, which has given the town its name. The stone church, and college are intact, and the municipal school has 300 children. Nearly half the population consists of Brazilians, Italians or Paraguayans, mostly engaged in the yerba-mate or timber trade. Steamers from Caseros and Uruguayana once a week. La Cruz is abreast of Goya, on the Paraná, the distance being 160 miles, and the road passing through Mercedes, which is midway.

Paso de los Libres, otherwise called Restauracion, lies along the Upper Uruguay, a peninsula between that river and the Miriñay, with fine pastures near the slopes of the Miriñay hills. The cattle are in great demand at the saladeros of Pelotas, in the adjacent Brazilian province of Rio Grande. The port of *Restauracion*, formerly Paso de Los Libres, is in front of the Brazilian city of Uruguayana, and carries on a considerable trade with Brazil and Misiones, in cattle, yerba-mate, timber and oranges; it has church, schools and 2,000 inhabitants, one-third of the latter being foreigners—Brazilians, Italians, or Paraguayans. It is 180 miles S.E. of Corrientes and 56 N. of Caseros, on the proposed line of railway from Caseros to Posadas. At a short distance from this town is the ruined Jesuit mission of Sant' Ana, where the botanist Bompland spent the last 20 years of his life, and died in 1857; nothing remains of the garden wherein he acclimatized so many rare plants and trees. There is a steam-ferry to Uruguayana, across the river.

Caseros is a new department formerly included in Curuzú Cuatiá, and lies along the Upper Uruguay, im-

mediately south of La Cruz. The town of Monte Caseros is the eastern terminus of the railway in construction which is to cross the province to Corrientes city, and the northern of the East Argentine line from Concordia (see p. 155).

Palmar, sometimes called San Luis, covers a swampy district near the Maloyas lagoons, southward from Itati. Some of the inhabitants are wood-cutters, while others raise mandioca, sugar, tobacco and oranges.

Burucuyá is a small but populous district between the rivers Ambrosio and Santa Lucia, well wooded and watered, and producing the best tobacco in the province. There are 700 small farms under tillage, and the natives export, moreover, the bark of the Caranday palm, which is much used for roofing houses. The village of *San Antonio de Burucuyá*, with 700 inhabitants, has church and school, and is 60 miles S.E. of Corrientes, in the vicinity of Lake Iberá.

Concepcion was formerly known as Yaguarete and took its name from the abundance of tigers (yaguars). It includes the woods and swamps of a great portion of Lake Iberá, in the very heart of the province. The inhabitants are engaged in pastoral pursuits, and drive herds of fat cattle 3 times a year to the saladeros of Entre Rios. The village of Yaguarete Corá, with 500 inhabitants, mostly tiger-killers, is 120 miles S.E. of Corrientes.

San Roque is watered by the Batel, Santa Lucia and Corrientes rivers, and possesses some of the finest cattle, sending several herds yearly to the saladeros of Entre Rios. The town of *San Roque*, with 1,500 inhabitants, is 80 miles S. of Corrientes and will terminate the 2nd section of the proposed railway from

Corrientes to the Uruguay; it stands on a steep bank over the Santa Lucia, which is not navigable so high.

Mercedes is a central and thinly populated department, including much of the Payubre forest, which abounds in tigers, carpinchos and other large game. It touches northward on the Iberá swamps, but has eastward fine pastures in the direction of the Uruguay, watered by rivulets. It is mostly pastoral, although the natives also raise mandioca, maize, tobacco and sugar. The town *Mercedes* (see p. 156) is the terminus of that section of the railway from Caseros which proposes to cross the province.

Curuzú Cuatiá lies inland from Esquina, along the Entre Rios frontier to the Uruguay. It is famous for the best cattle and richest pastures, the lands being high and free from swamps; but for "matreros" the value of land here would be much greater, the Montiel woods of the frontier affording shelter to many outlaws. The town of *Curuzú Cuatiá* is a station on the railway above-mentioned (see p. 156), of which Caseros is the eastern terminus.

Sauce is a new department formed out of the southern part of Esquina, bordering on the province of Entre Rios and noted for outlaws. The village of Sauce, on a river of that name, is 10 miles from the Entre Rios frontier.

ENTRE RIOS.

So called because it lies between the rivers Paraná and Uruguay, forms the southern half of the Argentine Mesopotamia. It ranks as 3rd province, coming next after Cordoba in importance, and before Santa Fé. In area it is almost equal to Portugal. It is divided into two equal parts by the river Gualeguay, which falls into the Paraná abreast of San Nicolas. Under the Spaniards the eastern section was a dependency of Buenos Ayres, the western of Santa Fé, until in 1814 the Director Posadas made the province, with Concepcion, on the Uruguay, for its capital. General Mansilla removed the seat of power in 1821 to Paraná, previously called Baxada; but General Urquiza, 40 years later again placed the capital at Concepcion, where it remained about 20 years, having been recently restored to Paraná. There is little trace of the original Indians, who were of the Charrua, Minuan and Chaná tribes, some of whom murdered Juan de Garay on his return towards Paraguay, after the foundation of Buenos Ayres.

Although so favourably situated, and so near Buenos Ayres, this province was not conquered till the 18th century; this was perhaps on account of the warlike reputation of the Charruas, who could always rely upon their cousins, the Timbós of the Gran Chaco, for assistance if needed. The first Spanish settlers who ventured to gain a footing were estancieros from Arrecifes and Carcarañal, tempted by the fine pastures

along the river Guleguay, in 1728. A battle was fought where the town of Victoria now stands, nearly opposite to San Lorenzo, in which the Indians were beaten; the Minuanes consented to live in harmony with the victors, but the Charruas removed to Banda Oriental, now the Republic of Uruguay. Two years later the people of Santa Fé built the town of Baxada, now Paraná, and at the same time the Jesuits established missions on the Uruguay, where Concordia and Federacion now stand. The viceroy Vertiz, in 1778-83, by means of Captain Rocamora, founded Guleguay, Concepcion and Guleguaychú, building a chapel and a town-hall for each, and giving homestead grants, cattle, and farming implements to the Indians or others who chose to settle there. A period of prosperity ensued until the Independence, during which epoch it suffered under the tyranny of Artigas. From 1820 till 1842 the Entre-Rianos acquired military reputation under Ramirez, Mansilla, etc., and had little rest until the battle of Arroyo Grande, December 6, 1842, when the Correntinos were defeated and General Urquiza was proclaimed Governor: the province made much progress until his assassination in 1870, when civil wars again ensued, but peace was happily restored two years later, and Entre Rios is again prosperous.

The growth of population has been amazing; in 1797 it was only 11,600, rising to 30,000 in 1825: from the latter year, in spite of civil wars, the increase has been very remarkable, viz:—

Year.	Population.	Annual increase.
1825	30,000	—
1857	79,300	1,500
1869	134,300	4,600
1891	246,700	5,100

The extraordinary increase between 1849 and 1857 was consequent on the pacification of the Republic after the fall of Rosas, in 1852, when numbers of political emigrants returned to Entre Rios. Since then a large influx of Europeans has likewise taken place, the census of 1869 having shown 14 per cent. of the population to consist of foreign settlers.

There are 12 departments, viz:—

	Sq. miles.	Population.	
		1869.	1891.
Paraná.....	1,920	18,600	41,000
Diamante.....	2,880	3,900	10,500
Victoria.....	2,040	10,500	17,700
Nogoyá.....	1,720	9,000	16,500
Guauguay.....	2,480	15,200	22,000
Tala.....	1,160	5,600	11,500
La Paz.....	2,560	11,600	15,500
Guauguaychú.....	4,620	18,400	30,500
Concepcion.....	2,240	11,300	17,000
Villaguay.....	2,520	8,200	13,500
Concordia.....	3,240	17,300	24,500
Colon.....	1,360	4,700	10,500
Federacion.....	1,640	—	9,000
Feliciano.....	1,200	—	7,000
TOTAL.....	31,580	134,300	246,700

Public wealth has doubled since 1870, viz:—

	1870. \$ gold.	1891. \$ gold.
Lands.....	31,000,000	70,000,000
Cattle.....	30,000,000	38,000,000
Houses.....	12,000,000	27,000,000
Railways.....	—	13,000,000
Sundries.....	24,000,000	49,000,000
TOTAL....	97,000,000	197,000,000

The value of landed property may be summed up thus:—

	Sq. miles.	\$ gold.
Agricultural.....	1,200	6,000,000
Pastoral.....	25,000	60,000,000
Forest.....	5,400	4,000,000
TOTAL.....	31,600	70,000,000

The official valuation of landed property is as follows:—

	\$ gold.	£ sterling.
Paraná.....	6,820,000	= 1,360,000
La Paz.....	4,700,000	940,000
Diamante.....	2,220,000	440,000
Victoria.....	11,300,000	2,260,000
Nogoyá.....	2,620,000	520,000
Guauguay.....	6,240,000	1,250,000
Guauguaychú....	8,120,000	1,620,000
Concepcion.....	5,830,000	1,160,000
Concordia.....	9,330,000	1,860,000
Colon.....	2,480,000	490,000
Villaguay.....	3,160,000	630,000
Tala.....	2,800,000	560,000
Federacion.....	1,820,000	360,000
Feliciano.....	470,000	90,000
TOTAL.....	67,910,000	13,540,000

The statistics of cattle shewed as follows:—

	1864.	1890.
Cows.....	2,050,000	4,100,000
Horses.....	1,060,000	720,000
Sheep.....	1,550,000	4,900,000

There are in the province 19 saladeros, which kill 400,000 horned cattle yearly, and export 13,000 tons beef.

The earnings of the people are approximately as follows:—

	\$ gold.
Agricultural products.	5,700,000
Pastoral do.	16,800,000
Transport service.	800,000
Sundries.	18,700,000
TOTAL.	<u>42,000,000</u>

There is no part of the world which enjoys a healthier or more agreeable climate; the mean annual temperature (see Appendix) is 67 Fahr. and the rainfall 44 inches.

Statistics of education shew as follows:—

	1889.	1891.
Schools.	202	131
Pupils on roll.	15,150	10,560
Average attendance.	11,720	7,650

The above shews a very great decline in two years. There are 440 miles of railway in the province, representing an outlay of £2,600,000 sterling.

Estimates of revenue and expenditure were:—

	1884	1890
	\$ currency.	\$ currency.
Revenue.	1,050,000	2,970,000
Expenditure.	1,050,000	6,710,000

The items of revenue in 1890 (excluding bank-profits) were as follow:—

	\$ currency.
Property-tax.	1,140,000
Railways.	420,000
National subsidy.	320,000
Licenses and stamps.	570,000
Public lands.	300,000
Sundries.	220,000
TOTAL.	<u>2,970,000</u>

The service of debt would have required £320,000 sterling or \$4,720,000 currency, and the expenditure would be as follows:—

	\$ currency.
Int. on debt.....	4,720,000
Schools.....	280,000
Police.....	600,000
Tribunals.....	210,000
Sundries.....	900,000
TOTAL.....	<u>6,710,000</u>

The sum required for service of debt was 60 per cent greater than the revenue of the province. Since then the Government has made a very good business by handing over the State railways in lieu of a part of the debt.

The debt of Entre Rios in December 1891 comprised 7 foreign loans, viz:—

	£ sterling.
Railway loan.....	3,200,000
Loans of 1886-90..	2,800,000
TOTAL...	<u>6,000,000</u>

The railways (which figure above as a large source of revenue) did not pay working-expenses. The bondholders consented, on receiving £500,000 of the Morgan Loan scrip, to take over the railways and cancel the above debt of £3,200,000 sterling. The debt of Entre Rios now stands as follows:—

	£ sterling.	\$ currency.
Foreign loans....	2,740,000	= 42,000,000
Internal debt.....		<u>6,200,000</u>
TOTAL...		48,200,000

This is about \$192 per inhabitant, and the annual service of the debt would require a sum of \$3,000,000 currency or the total revenue of the province.

There are 46 colonies in the province,* which shew as follows:—

Name.	Department.	Population.	Acres tilled.	Area sq. miles.
Urquiza	Paraná.	2,000	8,500	30
Municipal.	»	1,650	14,000	40
Hernandarias	»	780	3,000	40
Espinillo	»	450	5,500	20
Florentina	»	300	4,500	10
Santa Maria.	»	320	3,400	10
Cerrito	»	1,200	24,000	100
Brugo.	»	1,380	12,000	20
Palmar.	Diamante.	3,170	30,000	80
Diamante.	»	1,070	8,500	40
Belgian.	Villaguay	1,560	12,000	25
Federal.	Concordia	2,700	3,200	50
Yerúa	»	1,600	20,000	180
Libertad	Federacion	3,470	13,200	44
Federacion	»	1,110	4,100	25
Mandisobí	»	1,600	3,500	100
San José	Colon	1,750	7,600	70
Hugues	»	310	2,000	20
Nueva	»	560	5,500	20
Tala.	Tala	530	7,500	25
Caseros	Concepcion	2,600	14,000	50
Perfeccion.	»	390	3,000	6
Rocamora	»	680	2,200	15
Nogoyá.	Nogoyá	290	1,900	10
Sauce.	»	200	3,000	10
Retiro, etc.	Guauguay	350	8,800	20
Municipal.	Guauguaychú	1,100	11,000	30
Moran.	»	250	6,000	20
San Gustavo.	La Paz.	820	20,000	60
Various	—	1,920	23,800	134
TOTAL		36,810	286,700	1,304

* This table does not include 3 of Baron Hirsch's Jewish colonies, established in 1892: those of Clara (Villaguay), San Antonio (Colon) and Mayo (Concepcion) with 690 settlers: total area 150,000 acres.

Entre Rios and Santa Fé are the only provinces in which agricultural colonies have proved successful. In this respect these provinces compare thus:—

	Entre Rios.	Santa Fé.
No. of settlers.....	36,800	180,000
Acres tilled.....	286,700	1,750,000
Value of farms.....	£2,550,000	£13,200,000
Do. of crops.....	610,000	3,200,000

The area under crops averages 40 acres per family in Entre Rios, and 50 in Santa Fé, and the ratio of wealth per head is £70 in the first, and £72 in the second province. According to the Governor's Message this province has 580,000 acres under grain, but this is incorrect: the total area under tillage of all descriptions is barely 300,000 acres, the Colonies standing for 95 per cent of the whole. If the Governor's figures were right each family would till more than 80 acres, which is absurd. Wine-growing promises to be very profitable, the vineyards already covering 6,000 acres.

The most striking natural feature in Entre Rios is the forest of Montiel, covering an area of 6,300 square miles or about 4,000,000 acres.

DEPARTMENTS.

Paraná extends from the banks of the Paraná to the hills of Nogoyá and Villaguay. It is chiefly pastoral, and consists of excellent land, the ordinary price of which is \$10,000 per square league. Some parts are wooded, with ñandubay, tala, espinillo, willow, laurel, guayabo, mistol and ceibo. The river bank is famous for lime, which is sent largely to Buenos Ayres. This department has 11 agricultural colonies with an aggregate of 8,200 colonists, 81,000 acres under till-

age, and covering a total area of 305 square miles. The oldest of these colonies is Urquiza, 6 miles higher than Paraná, on the river-side, founded in 1858, the settlers being Germans and Swiss: it comprises 300 farm-lots of 64 acres each, which are held by 622 families; there are 2 churches, 2 schools, 8,500 acres under tillage and 24,000 trees. Next in importance is the Municipal, founded in 1879, consisting mostly of Italians, who bought their lots at £1 sterling per acre; they have 14,000 acres of tillage, 2 steam-mills, and the colony is valued at £120,000 sterling. Cerrito is another thriving settlement, numbering 1,200 Italians, who paid 25 shillings an acre for their farm-lots, 64 acres each: the colony has 24,000 acres under crops. Brugo has 1,380 colonists, 12,000 acres tilled, farm-lots 80 acres each, value of colony £55,000 sterling. The other colonies are of less extent. The chief town is *Paraná*, formerly called Baxada, founded in 1730. It was capital of the Argentine Republic from 1852 to 1861, and is now seat of the provincial authorities. It has 13,000 inhabitants, 2 churches, several schools, tramway, custom-house, telegraph-office, and is the largest town in the province.

Diamante extends from the Paraná to the Cuchilla Grande near Nogoyá, with a large river frontage opposite to Coronda in the province of Santa Fé. The soil is very rich and watered by many streams. There are two thriving colonies; that of Palmar, which has 3,200 Russian settlers, grouped in villages who have 30,000 acres under crops, and that of *Diamante* 8,500 acres. Chief town *Diamante*, with 1,200 inhabitants, was founded in 1836, and stands on the bluff of Punta Gorda, 250 feet over the Paraná; it has custom-house, church, schools and several shops.

Victoria lies south of Diamante, along the Paraná, in the "rincon" formed by the Paranacito. The pastures are rich, the soil fertile, but swampy near the Paraná; the inhabitants have fine herds of cattle. Chief town, *Victoria*, with 5,000 inhabitants, was founded in 1810, on the spot formerly called Matanza, in commemoration of the slaughter of Indians made here by the first Spanish settlers, in 1728. It stands on the Paranacito, near its confluence with the Paraná, and has a considerable trade, especially in lime. *Victoria* is connected by a branch railway with the main trunk line at *Nogoyá*, the branch being 32 miles in length.

Nogoyá is the centre of the province, and takes its name from a stream that rises in the forest of Montiel, which after a course of 90 miles falls into the Paranacito. It has excellent pastures, well watered, and abounds in cattle and sheep. In this department there are two colonies: that of *Nogoyá* has 80 families who possess 80-acre lots and have 1,800 acres under grain; that of *Sauce* 45 families, with 3,000 acres of tillage. The town of *Nogoyá*, population 3,000, was founded in 1793: it is an important railway centre, being the midway station on the trunk line from Paraná to Concepcion, and also the junction from which starts the branch to *Victoria*.

Gualeguay comprises a superior pastoral district on the west side of the river of that name. It is watered by the Clé and other tributaries of the Gualeguay, and the ordinary price of land is \$15,000 per square league. Some of the finest estates in the province are those of San Guillermo, Duportal, McDougall, Haymes, Thompson, Isabel, Black, Calderon, Millan, Colt, Benites, Crespo, etc. The first-named belongs to a Scotch joint-stock company, and is managed by Mr. Gillespie

O'Dwyer; the second took a silver medal for wool at the Paris Exhibition; all are favourably known for wool, this department obtaining the highest prices. In this department there are 8 small colonies, the largest of which is Retiro, which has 60 families, holding 80-acre lots: the aggregate of the 8 colonies (some of which date from 1873) is only 350 population, with 8,800 acres under crops. The town of *Gualeguay*, population 10,000, is one of the best in the province, and is connected by a branch railway 74 miles long with the main trunk line at Tala. It was founded by Captain Rocamora, in 1783, on the river Gualeguay, 7 miles of its mouth. There are churches, schools, hotels, clubs, theatre, newspaper, banks, soap-factories, tannery, steam-mills, town-hall, free-library and custom-house. The saladeros kill 100,000 head of cattle yearly.

Tala, sometimes called Rosario, is in the heart of the province, on the W. bank of the Gualeguay. The camps are excellent for grazing, being watered by the Tala, Clé, Raices and Sauce. This department was formerly included in that of Gualeguay. There is a colony of 530 Italians in this department, who have 7,500 acres under crops. The town of *Tala*, population 2,000, is on the main trunk railway, and a branch runs from here to Gualeguay.

La Paz is an extensive department on the Paraná, stretching so far inland as to include a great portion of the Montiel forest. It has fine pastures. The large estancia which belonged to Messrs. Haycroft was purchased in 1882 by a Cologne Co. called the Estancia Verein: it covers 220 square miles. The company formed an agricultural colony called San Gustavo, on an area of 60 square miles, and in June 1892 this colony comprised 96 families, counting 816 souls. Each

family has a lot of 400 acres, and the area under grain is 16,000 acres of wheat and 5,000 of maize, etc. The village of San Gustavo has 400 souls, a steam-mill, shops and a school of 60 children. Adjoining the colony is the estancia Santa Inés, stocked with cows and sheep, covering 60 square miles, belonging to the same Company. The remainder, 100 square miles, was sold by the company to Alex. G. Harder, and on a portion of it, on the Paraná, has been established the new meat-factory of Port Marquez. This department also includes the well-known Kemmerich factory for meat-extract, called Santa Helena. This factory began working in 1881, by killing 3,000 head of cattle, the slaughter rising to 53,000 in 1890, and to 110,000 in 1892. The factory has appliances to slaughter up to 200,000 head per annum. The purchases of live stock represent \$1,000,000 gold yearly, and the yearly value of the company's export is estimated at \$1,300,000 gold. The capital of the company is £360,000 sterling. The annual output is 300 tons of meat-extract, 900 tons of boiled beef, 9,000 tons of salt beef, 15,000 of meat-flour. The Kemmerich Co. owns the San Javier estancia in Santa Fé and other farms, making up 250 square miles of land, and 60,000 head of cattle, besides renting 550 square miles of lands also used for pasture: it has 5 steam-tugs and a flotilla of lighters. The town of *La Paz* was formerly called Caballú-Cuatiá or the painted horse: it was founded in 1836, and has church, schools and 6,000 inhabitants. Steamers from Buenos Ayres to Paraguay touch here.

Gualeguaychú is one of the best departments in the province, comprising the delta between the Paraná and Uruguay, south of the Gualeguay and Gualeguaychú rivers. One-half the area is swamp, comprising the

low grounds near the Paranacito, Zinta, Palmas, Ibiçny, and other streams; these were formerly infested by pirates, until General Urquiza exterminated them, and the present inhabitants are said to be industrious woodcutters and charcoal-burners, who also collect bitter oranges and wild peaches. The high grounds are suitable for pasture or agriculture, and the swamps serve for fattening cattle, but do not suit sheep. All the streams are fringed with tala, espinillo, algarrobo, ñandubay and other trees. The department produces the best honey and wax, of which large quantities are sent to Buenos Ayres and Montevideo. Land is worth \$15,000 per square league. In 1863 the late Mr. Timothy O'Brien settled here, and was followed by 44 others, of whom only two or three remain. The Municipal colony comprises 300 farm-lots of 64 acres each, which were sold to Italians etc. at 20 shillings an acre. It was founded in 1875, and has 11,000 acres under crops. The possessions of the colonists are valued at £70,000 sterling. There is a smaller colony called Moran, consisting of 60 Italian families who have 6,000 acres under tillage: value £30,000 sterling. The town of *Gualeguaychú*, population 15,000, was founded by Captain Rocamora in 1883, on the W. bank of the river of that name, about 12 miles from its confluence with the Uruguay, in front of Fray Bentos; there are church, schools, hotels, newspapers, club, free-library, banks and a considerable trade.

Concepcion extends inland from the Uruguay to the department of Villaguay. The land is chiefly devoted to pasture, but the colonies have large tracts under grain. Most of the department belonged to the late General Urquiza, whose palace at San José is the finest country residence in South America, about 24 miles W.

of Concepcion. He had likewise estates in other parts, and was said to own one million head of cattle, between cows and sheep, and 10,000 square miles of land. The palace and gardens cost him over one million dollars. His widow established near the palace, in 1875, the colony of Caseros, which has flourished remarkably. Farm-lots of 64 acres were sold at 22 shillings per acre to Italian and French settlers, who have now 14,000 acres under crops, the colony representing a value of £150,000 sterling. In this department are also two small colonies named Rocamora and Perfeccion, established in 1875: the first has Italian, the second Spanish, settlers. Together they have 5 200 acres of tillage, and represent a value of £45,000 sterling. The town of *Concepcion*, on the Arroyo de la China, was founded by Captain Rocamora in 1778: it has a fine church, National College, several schools and 10,000 inhabitants.

Villaguay is a central department, with only 5 persons to the square mile: it includes a great part of the forest of Montiel, but has also fine grazing lands. Agriculture was hardly known until Mr. Scheppens established the Belgian colony, in 1882: this covers 25 square miles and counts 250 families, who have 12,000 acres under crops and 60,000 fruit-trees. There are two steam-mills, turning out 1,600 tons of flour. The town of *Santa Rosa de Villaguay*, population 2,000, was founded in 1865, on the eastern bank of the river Gualeguay. It has church, schools and hotel. It is connected with the main trunk railway by a branch at Basabilbaso, 39 miles long.

Concordia extends along the Uruguay northward to Federacion. Its western limit is the Arroyo Feliciano. The camps afford fine pastures, being watered by the

Ayuy, Yeruá. Yuquery and Mandisobi. There are several English estancias in this department. There are two important colonies: that of Yeruá, covering 180 square miles, consists of 1,600 farm-lots, with more than 20,000 acres under crops; the land was bought from an English Company in 1888 for the sum of £126,000 sterling, say 21 shillings per acre, by the Argentine Government, and given out to French, English, Italian and other settlers. The colony of Antelo or Federal was founded in 1878, midway between Concordia and La Paz: there are 270 farm-lots of 80 acres, sold to settlers at 8 shillings per acre, and on some of these are grown vines very successfully. The colonists also attend to pasture, having 14,000 cattle: the area under crops is 3,200 acres. Timber abounds, especially algarroba. The colony has a school and 520 houses, and is valued at £120,000 sterling. The town of *Concordia* is the 3rd commercial port in the Republic (see p. 222), and has 10,000 inhabitants. It was founded in 1833, and has church, schools, banks, hotels, clubs, etc. The East Argentine Railway runs trains daily to Caseros in connection with the steamboat service of the Upper Uruguay. There are several large saladeros: that of San Carlos exports yearly 15 million tins of beef.

Colon lies along the Uruguay, between Concepcion and Concordia. It has three flourishing colonies of Swiss, Italian and French settlers, numbeing in all 2,600, with 15,000 acres of tillage. The largest is that of San José, founded by General Urquiza in 1856; the colonists have made fortunes in supplying poultry and vegetables to various river-ports. O'Connor's saladero is one of the best on the Uruguay.

Federacion is a new department formed out of the northern part of Concordia, and extending along the Uruguay to the frontier of Corrientes. In this department there are 3 large colonies. Libertad founded in 1875, is 8 miles from the banks of the Uruguay, and is traversed by the Arroyo Chajarí. The first settlers were 360 Tyrolese, and it counts 3,500 souls, the area under tillage exceeding 13,000 acres, including 60 acres of vineyard: it has 50,000 fruit-trees, 3 schools, 4 mills, and a railway-station, at Chajarí, on the East Argentine line. Federacion, founded in 1876, comprises 240 farms of 80 acre-lots, which have 4,100 acres of tillage, including 240 acres under vines, and 13,500 cattle. Mandisobí, founded in 1883, has an area of 100 square miles, with 125,000 cows and sheep and 3,500 acres under crops. These three colonies represent a value of £240,000 sterling, the bulk of the colonists being Italians and French. The town of *Federacion*, population 2,000, is on the East Argentine Railway, near the Sierra Mandisobi, on the banks of the Uruguay, with church, schools and a considerable trade in lumber and yerba-maté: it is 34 miles N. of Concordia.

Feliciano is a new department formed out of the northern inland part of La Paz, up to the border of Corrientes. It includes the colony of Feliciano. The village of that name has 1,000 inhabitants, mostly occupied in raising cattle or cutting timber. The adjacent forest of Montiel has large numbers of pumas, wild boars and deer.

Territory of the Chaco.

The Gran Chaco forms a quadrangle, 400 miles on each side: the N.E. side is the Pilcomayo, from the Bolivian frontier near Tarija to the confluence of that river with the Paraguay at Asunción; the S.W. side is the Rio Salado from 26° S. lat. to its mouth at Santa Fé; the S.E. side is formed by the rivers Paraguay and Paraná; and the N.W. is the frontier line of Salta from the Salado to the Pilcomayo. As it covers an area equal to Spain, there is a great diversity of soil, climate and natural features. For the most part it is dense forest, but there are several swampy regions in the vicinity of the great rivers, whilst some parts are composed of prairies and rich pastures, surpassing in fertility the most favoured lands of Europe. It is divided into two almost equal parts by the Rio Bermejo, which has a course of nearly 500 miles from Oran to its mouth near Humaytá. These two parts form distinct governments or territories, the northern being known as Formosa, the southern as Chaco, with the following area and population:—

	Sq. miles.	Population.
Formosa.....	72,500	5,000
Chaco.....	49,900	32,000
TOTAL.....	122,400	37,000

Formosa is inhabited by Tobas, Mocovis, Abipones, Ocoles and Matacos who are not included in the above estimate of population, their numbers being probably

about 30,000. Some of the above tribes are very fierce: in 1882 Dr. Crevaux and his party were killed, a fate which had befallen many previous explorers. One of the few expeditions which met with friendly treatment was that of Lavarello, in 1863, to which Mr. Porter Cornelius Bliss was attached, and this gentleman classified the Indians under the five groups mentioned above, all of whom, he said, were alike in habits and appearance, though using distinct dialects of the Guaraní. They live by hunting and fishing, which they supplement with the fruit of the algarroba and of the yuchan or palo-borracho. Formerly they had numbers of sheep and cattle, but they lost most of them through some epidemic. Like the Patagonians, they have a great fear of magic and of the souls of deceased apothecaries or physicians, which they call "gualichues" or evil spirits: they have a distinct belief in a future life. The official report for 1892 shews that the Christian population is 5,000 souls, who have under tillage 5,000 acres, and possess 10 saw-mills and 15 cattle-farms, the stock of the latter comprising 20,000 cows, 500 sheep and 2,200 horses.

All the territory facing the river Paraguay is occupied by settlers. The most northern part is the "rincon" at the confluence of the Pilcomayo and Paraguay, on the south bank of the former, the Zapiola property, 320 square miles. Going south we pass 3 colonies with river front, on the Paraguay, those of Portalis, Cichero and Chueco, each with an area of 320 square miles, divided into farm-lots of 250 acres, which were sold cheap to the first settlers and are now worth \$8,000 currency or £500 each. Lands not fenced or tilled may still be had for £60 per square mile or 2 shillings an acre.

The town of Formosa, founded in 1879, stands on a bluff, facing the Paraguayan village of Villa Franca. It is well built, with wide streets lined with trees, 625 houses, 32 shops, club, church, hospital, hotels, Government house, surrounded with gardens, orange groves, palms and flowers. It is 4 days by steamer from Buenos Ayres, and has 2,000 inhabitants. In the vicinity are General Fotheringham's estancia and Mr. Hamonet's plantation of ramié. The settlement of Formosa, on which the town stands covers 200 square miles, and has 3 steam distilleries, 6 brick factories and 8 sawmills. The estancias of Torres, Arning and Brauss are inland. Formosa is situate in 26' 10' 53 S. Latitude, just midway between Corrientes and Asunción, being 140 miles from either place. The average rainfall is 35 inches yearly. In summer the glass sometimes marks 104 F. in the shade, the lowest reading in winter being 43 F. The mean temperature of the seasons is as follows:—

Quarter ending.	F.	Quarter ending.	F.
February 28th...	79	August 31st.....	70
May 31st.....	70	November 30th..	72

Barometrical pressure ranges from 737 to 763.

Going southward from Formosa town we meet Poncet's sugar-factory which extends along the river Paraguay to the mouth of the Tres Marias. On the south bank of the latter is Canal's colony of San Aquino, with 12 miles frontage on the Paraguay: area 320 square miles, the colony having also 6 miles frontage on the Bermejo, above Cano's colony. San Aquino is a thriving village, with shops, hotels and a sugar-mill with Decauville railway and the best French machinery. The colony has 1,500 horned cattle. The Herradura stream, which falls into the Paraguay, is the

boundary between San Aquino and the more southern estate of Vernet; the latter has 20 miles of frontage on the Paraguay and faces the Estancia de los Ingleses in Paraguayan territory: the property covers 200 square miles and was given by Congress to Messrs. Vernet in exchange for Staten Island near Cape Horn. Cano colony, area 200 square miles, occupies the "rincon" between the river Paraguay and the north bank of the Bermejo, with a frontage of 20 miles on the former, 10 on the latter, river: a village has been built, facing the Paraguayan town of Pilar, $3\frac{1}{2}$ days by steamer from Buenos Ayres.

Southern Chaco.

As already shewn, the Chaco proper, extending southward from the Bermejo to Santa Fé, has an area of 49,900 square miles and 32,000 inhabitants. It contains no fewer than 15 colonies, of which one belongs to Government and has 9,500 inhabitants, the others being private enterprises with 10,100 settlers. The area under tillage covers 90,000 acres, of which 82,000 are under maize, the rest under sugar and other products. There are 7 saw-mills, the woodcutters having an area of 300 square miles. The cattle-farms have 150,000 cows and 2,500 sheep. The territory has 11 schools, attended by 800 children. In this portion of the Chaco the Jesuits had several missions, but there are remains of no more than 5, namely: San Gerónimo, San Javier, San Pedro. Cayastá and Santa Rosa, each of which has 500 to 600 inhabitants, these places

being now in the province of Santa Fé. In the 18th century the Jesuits cultivated sugar and cotton at their missions, the traces of the plantations being still visible. Traditions of Christianity are to be found among the Matacos and other tribes who assist in the labors of the sugar-fields in Salta, Jujuy and Santiago: they also carry on a frontier trade in skins of tigers, pumas, foxes, otters, etc., in wild honey, ostrich feathers and the gum of palo-santo.

Timbó or Port Bermejo, founded in 1884 by Major Host, on the south bank of the river, close to its mouth, is the northernmost point of this territory. It is a village of 100 houses, with 600 inhabitants, and some shops, in a swampy locality, and has 3 telegraph lines, to Formosa northward, to Resistencia southward, and along the Bermejo, connecting 8 settlements on that river as high as Fort Roca, distant 125 miles. All the lands on both sides of the Bermejo have been given away. Colonel Uriburu's estate at Carmen, formerly Fort Carlsen, is one of the finest, growing excellent wheat and having 2,000 fat cattle. Higher up is the Lozardi colony belonging to the Chaco Colonial Co. and under the direction of John McLean: area 320 square miles, from Fort Irigoyen to Fort Roca, the latter a well-built village, on the site of an old Indian settlement called Cancayé. On the southern flank of Lozardi is the Rio de Oro, which has a course of 150 miles till it falls into the Paraguay.

The people of Timbó have a concession of 40 square miles, stocked with 3,000 cattle. It is surrounded by the Vedia colony, sometimes called Taurel's, which has an area of 320 square miles, having a north front on the Bermejo, an eastern on the river Paraguay and a southern on the Rio de Oro. At a point called Tres

Horquetas, the confluence of the Cangué and Oro, are the principal houses, facing the Swedish colony, the Oro being navigable for steamers to this point: the Vedia colony has 150 tilled farms. There is an important sugar-factory belonging to Mayer and Bonaccio at the point where the Rio de Oro falls into the Paraguay: the area under sugar is 500 acres, which yield 28 tons of cane or 2 tons of sugar per acre. The cane requires re-planting every 7 years. There is a large number of Indians employed, who commence to cut the cane on May 15th, the harvest lasting $5\frac{1}{2}$ months. The factory has machinery capable of crushing 3,000 tons of cane monthly or producing 200 tons of sugar. A factory of this size costs £30,000 to put up, and the estimate of outlay, etc. is as follows:—

	\$ currency.	£ sterling.
Factory	600,000	= 30,000
Land, 12,500 acres..	100,000	5,000
Planting.	300,000	15,000
Harvesting.	120,000	6,000
OUTLAY.....	<u>1,120,000</u>	<u>= 56,000</u>
2,000 tons sugar....	800,000	= 40,000
50,000 gallons alcohol	50,000	2,500
PRODUCT....	<u>850,000</u>	<u>= 42,500</u>

The net annual product (for 7 years) may be taken at \$600,000 currency or £30,000 sterling per annum, say 55 per cent on capital.

It is thought that, in time, sugar-planting in the Chaco will supersede the industry in Tucuman, offering room for larger profit. Land in the Chaco costs \$30 currency per cuadra, or 8 shillings an acre whereas in Tucuman it costs \$800 per cuadra. Freight from Tu-

cuman to Buenos Ayres is \$40, from the Chaco \$10, per ton. Moreover the Chaco soil is almost inexhaustible.

Rio de Oro is the seat of a Swedish colony above-mentioned, mostly given to wood-cutting: this stream is 200 feet wide, and navigable for vessels of 4 feet draught up to San Carlos, 21 miles from its mouth on Paraguay river; in flood seasons up to Brillante, 12 miles higher. The colony has a front of 5 miles on the Paraguay, down to Arroyo Solalinde, which separates it from the great sugar-plantation of Palmas. Behind San Carlos is an Italian colony, with much tilled land and 2,000 fat cattle. Mr. Christiensen runs a steamer from his factory at San Carlos to the Paraguay.

Palmas, the estate of Messrs. Hardy, has an area of 400 square miles, bounded by three rivers, east the Paraguay, north the Solalinde and south the Guaycurú: it has 15 miles front on the Paraguay and 25 on the Solalinde. There are 200 farm-lots held by European settlers, 250 acres each: the cattle-farms have 3,000 cows. About 1,500 acres are under sugar-cane, the crop reaching 40,000 tons of cane, from which 3,000 tons of sugar are extracted. The factory has all the newest machinery, which can crush 200 tons of cane daily. The manager, Mr. Young, has 2,000 persons under him; English, French, Spaniards, Italians, Paraguayans, Correntinos and Toba Indians. The village of Palmas, 8 miles inland from the Paraguay, has some fine buildings, especially Mr. Hardy's residence, surrounded by beautiful gardens. There is a railway of 25 miles, which brings down the cane in trucks. The factory is lit with electricity, and can turn out daily 17 tons of sugar and 500 gallons of rum. All the houses are built of brick and lime, including hotel,

railway station, schools etc. The climate is so healthy that there are no sick.

On the south bank of the Guaycurú is Novaro colony, with 8 miles front on the Paraguay, comprising vineyards and alfa plantations. Adjacent is the Benitez property, which has a chapel and school on the Arroyo Tragadero, area 280 square miles, with frontage on the Paraná till approaching the port of San Fernando.

Resistencia, the residence of the Governor, General Donovan, is a thriving town of 500 houses and 3,000 inhabitants, with church, schools, free library etc. It stands on the Rio Negro, 12 miles from San Fernando, which faces the city of Corrientes, the Negro being navigable for steamers of 5 feet draught. The locality is swampy, but not unhealthy, and the town is surrounded by 450 farms, held by 1590 settlers. The colony covers 160 square miles, and produces among other crops 3,000 tons of maize. Farm-lots of 250 acres, which the settlers bought very cheap are now worth £500 each. Midway between San Fernando and *Resistencia* is Boggio's steam distillery. Steamers from Buenos Ayres reach San Fernando in 44 hours. *Resistencia* stands in 27° 26' 39" S. Lat. and will soon be connected by railway with Santa Fé.

Various attempts have been made to open a road from *Resistencia* across the Chaco to Salta: the last was by Major Host in 1886, who reached a place called Nillak, 215 miles; and bored 156 feet for fresh water, without success, having met no surface water for 125 miles. He was barred by impenetrable woods 5 miles beyond Nillak, being then within 38 miles of the village of Aluampa, in Santiago del Estero.

Southward and southwest from *Resistencia* there are numerous colonies before reaching the frontier of Santa

Fé. Those of Dreyfuss, Lucinda and Amalia have wood-cutting establishments; those of Tacuarendí and Delfino sugar-plantations; those of Arocena and Florencia large areas under grain. Arocena, on the Palometa stream, has 150 farms, cultivated by Italians and French, who bought 64-acres lots at £50 each: this colony is 25 miles south of Resistencia and 20 north of Florencia (see p. 389), most of which latter colony is in the province of Santa Fé.

Territory of Misiones.

This small, fertile and thinly peopled territory lies between Brazil, Paraguay and Corrientes, the limits with the first country being the Iguazú and Upper Uruguay, with Paraguay the Upper Paraná, and with Corrientes the Chimiray river, a tributary of the Uruguay. Its area is stated in Latzima's geography to be 22,000 square miles, but the Argentine Government, in the Message to Congress (1892), alleges that it covers 37,500 square miles. It was claimed by the province of Corrientes down to 1882. The soil produces cotton, mandioca, maize, potatoes, oranges, grapes and every kind of European and tropical fruit. The first Jesuit settlements were made by Father Montoya, in 1633, when the remains of the Guayrá nation were saved from the Mamelucos or man-hunters of San Paulo. The Guayrá missions some 10 years previously numbered 90,000 Christians, of whom 60,000 were carried off and sold for slaves in San Paulo, and when Father Montoya founded Corpus the sole survivors were 12,000

souls: 100 years later the missions counted 130,000, and were able to supply 7,000 archers and lancers for the King of Spain's service at the siege and capture of Colonia. After the expulsion of the Jesuits in 1767, the missions fell rapidly to decay, the Indians taking to the woods to escape the cruelty and extortion of the Spanish civil employés. Finally, the Portuguese general, Chagas, invaded Misiones in 1817, and destroyed everything with fire and sword. Sugar-plantations have recently been established, and a considerable trade is done in yerba-mate and lumber at Itapua, San Javier, La Cruz, etc. Official returns for 1892 estimate the population at 25,000 souls. The area under crops is 7,000 acres; farm-stock 40,000 cows, 5,500 horses, 6,000 sheep and 4,000 pigs. There are 38 establishments, such as mills and distilleries: also two Government colonies, with 2,600 settlers, who raise sugar, tobacco, etc. Annual exports, 2,000,000 feet lumber, 850 tons of yerba-mate, 300 tons sugar, 100 tons tobacco. The seat of government is Posadas, founded in 1865, on the bank of the Upper Paraná. There are 7 schools, with 700 children.

Mr. Niederlein gives the following account of Misiones when he visited it in 1891:—

“The territory comprises Upper and Lower Misiones, each of equal extent and together covering 38,700 square miles. Upper Misiones is claimed by Brazil, and has 5,000 inhabitants, chiefly Brazilians, descendants of a colony who settled here in 1838, attracted by the favorable climate and fertile soil. There are traces of the old roads made by the Jesuits. Land may be bought for £700 per square league, say two shillings English per acre: a square league carries 800 head of cattle. There are 48 estancias, the farm-stock

consisting of 35,000 cows and 5,000 horses, and yielding an annual profit of 30 per cent on capital. Area under tillage 500 acres. There are 3 villages, Palmas with 500, Boa Vista 300, and Chopin 300 inhabitants: the last was founded in 1882."

Argentine or Lower Misiones has the following population:

Argentines.....	5,500
Brazilians.....	2,200
Paraguayans,.....	1,600
Europeans.....	1,700
TOTAL.....	11,000

Chief town Posadas, population 3,000; also Concepcion 800, and Candelaria 700. There are 70 houses of business, 16 sugar-factories, 8 yerba-mate plantations, 15 cattle estancias and 9 river-steamers. Area under plough 10,000 acres. Stock, 53,000 cows, 26,000 horses; value \$850,000 gold. The annual value of crops is \$600,000 gold. The total value of lands, houses, cattle, etc. is \$7,900,000.

An Englishman who visited Misiones recently writes as follows:—

"Posadas is a rising town and only waits the arrival of Clark's railway now in construction from Caseros through Misiones, to become a trading centre. The Lucero and other steamers ply from Posadas to the colonies and sugar-factories on the Upper Paraná. Some Frenchmen have vineyards and orchards of pineapple; that of M. Hamard is very fine. Higher up is Candelaria, where there are 150 families and a good inn. The best lands are on the Garupá river. Mr. Puck has a sugar-plantation at the Arroyo San Juan, passing which we come to General Rudecindo Roca's sugar-factory on the bank of the Paraná, a large estab-

lishment with railway, turning out 200 tons sugar yearly; manager M. Theulpin. Ascending still further we reach the old mission of Santa Ana; the ruins of the Jesuit church are in the midst of an orange-grove. Here there is a colony of 150 Germans, French and Italians."

Territory of the Pampas.

This vast and sparsely populated territory comprehends the pampas or plains west of Buenos Ayres, and south of Mendoza and San Luis. Latzina gives its area as 58,000 square miles, but the prime-minister's message to Congress claims 89,000 square miles. It was formerly inhabited by Ranqueles and other Indian tribes, until they were exterminated or driven beyond the Rio Negro in 1879. The southern boundary seems to be the Rio Colorado. It is by no means an unbroken plain, having woods and lagoons in many places, and a chain of hills on the limits of Mendoza. The population already reaches 38,500 persons, who have 55,000 acres under tillage. The stock comprises 1,100,000 cows, 6,000,000 sheep and 250,000 horses. There are 340 estancias, the stock of which exceeds 1,500 cows and 3,000 sheep; and 1,690 whose stock is less, in all 2,030 establishments, mostly belonging to capitalists of Buenos Ayres. The property valuation is \$19,000,000 currency, say £1,200,000 sterling. Revenue in 1891 amounted to \$285,000. The exports of this department in 1891 were: 28,000 cowhides, 220,000 sheepskins, 15 tons of ostrich feathers and 4,500 tons of wool.

Acha, the seat of government, will be shortly the terminus of the North-western railway, which it was proposed to construct to Villa Mercedes (San Luis): the line is completed to *Hucal*, a village of 400 inhabitants, which is 50 miles short of Acha. There is telegraphic communication with Buenos Ayres by way of Mari-mamel and Puan, the latter being a station on the G. S. railway, and by this route, or by Hucal and Bahia Blanca, the journey can be made to Buenos Ayres in 36 hours. The positions and distances from Acha are:—

To	Miles.	Direction.	To	Miles.	Direction.
Villa Mercedes..	250	N.	Choel-Choel..	145	S.
Buenos Ayres ..	430	NE.	Fort Roca ...	190	SW.
Bahia Blanca....	170	SE.	Chos-Malal...	295	W.

Acha is a flourishing town, of 2,500 inhabitants: it stands in the Chilhué valley, the head-quarters for many years of Namuncura's Indians. It was founded in 1882 by Colonel Campos. There are a church, schools, hotels, bakeries, brick-kilns, a hospital with 30 beds, 50 shops and many fine houses.

Victorica, formerly an Indian camping-ground called Poytagüe, is 90 miles NW. of Acha and 170 south of Villa Mercedes. It is a good town of 1,500 souls, with schools and numerous shops. The Western railway of Buenos Ayres will probably be prolonged hither, *Victorica* being 160 miles west of *Trenquelauquen*, the present terminus. About 60 miles SE. of *Victorica*, and the same distance N. of Acha, is the village of *Toay*, or *Santa Rosa*, with 200 souls.

A high-road is much needed from Acha westward to *Chos-Malal*, the capital of *Neuquen* territory; also a bridge over the *Colorado* at *Vallée Pass*. The territory is well supplied with timber, thickets of *calden* and *algarroba* being very common: fresh water is

usually found at a depth of 10 feet by digging. Among the principal land-owners are: Alston, Drysdale, Casey, Davidson, Gahan, Garaghan, Gowland, Ham, Lynch, MacKinlay, Todd, MacClymont, Seeber, Bouwer, Allen, Wallace, Williams Hutchinson, Brown, Gilmour, Reid, Wilson, Russell, Murray and the South American Land Co.

Territory of Neuquen.

This territory lies south-west of the preceding, along the slope of the Andes. Its area is officially stated at 68,000 square miles, population 15,700 souls, but Latzina only gives it 44,000 square miles, making the river Limay and Lake Nahuel Huapi its southern limits. Of late years this territory has been in many places occupied by settlers from Chile. There are 4,000 acres under wheat. Farm-stock comprises 82,000 cows, 17,000 horses, 115,000 sheep and 16,000 goats. Exports to Chile in 1891 included 6 tons of cheese, 8 tons of wool, 1,200 cowhides and 13,000 sheepskins. It was held undisputed by the Ranqueles Indians down to 1879.

The lower or eastern portion of the territory has little fertile land except in the valleys of the Colorado, Neuquen and Limay, where the population is chiefly centred; the sheep-farms on the Limay are said to count more than 100,000 sheep. From the Colorado southward extends the largest bed of shingle in the world, 600 miles long and ordinarily 50 feet in thickness. In the valleys above-mentioned the climate is temperate and all European fruits flourish luxuriantly: even in

winter snow rarely lies on the ground. There are patches of wheat, barley, maize, potatoes and alfa: irrigation is needed, as spring and summer are almost without rain. In the Andine portion, especially towards the south, are many fertile valleys, large streams and lakes, alternating with immense forests, which entitle this region to be called the Argentine Switzerland. The groves of apple-trees planted by the Jesuits (from 1690 to 1766) yield delicious fruit in abundance. In the winter from May to August, snow lies usually one foot thick, but the lakes are never frozen.

Lake Nahuel-Huapi covers 700 square miles, being 6 times the size of Lago Maggiore. There are also Lake Huechu, 240 square miles, and Lajar, the latter going right through the Andes and its waters finding their way to the Pacific ocean, near Valdivia. All these lakes are about 1,800 or 2,000 feet over the sea-level.

The river Neuquen, which gives its name to the territory, rises at Pichi-Neuquen in the Andes, and is navigable from Chos-Malal to the point where it unites with the Limay, near Fort Roca, to form the Rio Negro. By this means there is a continuous navigable stream from Patagones to Chos-Malal, 690 miles, of which the Neuquen counts for 270. The latter is 250 yards wide just above its confluence with the Limay, which takes its waters from Lake Nahuel-Huapi, 205 miles higher. The Limay is navigable as high as Villarino's rapids, for steamers of 3 feet draught. Another great river of this territory is the Colorado, which rises at Lake Carré in the Andes and receives on its way eastward a considerable affluent, called the Barrancas.

Among the principal forest trees are three classes of beech, white cedar, winter bark and oak, the latter frequently attaining a height of 400 feet with trunks

8 feet in diameter. There is also a species of pine called *Araucaria Imbricata*, which gives a nut esteemed in Chile as a delicacy. Several concessions have been recently given by the Argentine Government for felling timber in this region, and unless care be taken the forests will be recklessly wasted and destroyed.

The mineral resources are undoubtedly of the first order. Silver ore is found in large quantities all over the territory. Gold is found between the Neuquen and Barrancas, principally at Magel-Mahuida. Platinum has also been found. Coal and petroleum are also to be had in large quantities. Dr. Zuber, accompanied by Dr. Salas, visited in March 1892 the coal mines which the latter gentleman discovered in the Cordilleras, between the affluents of the rivers Atuel and Diamante. Dr. Zuber reports that the layers of coal are numerous, varying from a width of a few inches to three feet. At the Elvira mine the layer acquires a width of 13 feet at a very small depth from the surface. The coal is imbedded in conglomerate and sand-stone. Dr. Zuber thinks that the coal deposits stretch far south to the Neuquen. The largest surface quantities are found at the junction of the Barrancas and Colorado, and on the banks of the Neuquen.

The chief industry of the territory consists in fattening cattle for the markets of Chile, especially Valdivia and Chillan; about 30,000 head are driven yearly over the Andes, 300 or 400 miles, by the passes of Antuco, Lagunitas, Longuimay, Huechú-Lauquen, Lajar and Nahuel-Huapi, the last three being the nearest to Valdivia. Some of them are not high, but are rendered difficult by forest growth and bogs. The best is Longuimay, which has been cleared by Government up to the Chilean frontier, wooden bridges being placed over

difficult streams; its greatest elevation is 4,300 feet over sea-level, its length from Lake Alumine to the Chilian town of Victorica 155 miles, and bullock-carts have been known to traverse the whole distance. Heretofore only cattle were driven across, but sheep have recently sold so well at Chillan that one estancia in Neuquen has made a contract to deliver 10,000 wethers in 1892: Horse-breeding for Chile likewise promises well. Among the estancias in Neuquen are those of Seeber, Alsina, Rocha, Andrews, Jones, Molina etc.

Chos-Malal, the seat of government, is on the north bank of the Neuquen, where that river receives the waters of the Leubú, which is the highest point navigable of the Neuquen, the distances from here being as follows:—

To	Miles.	Direction.	To	Miles.	Direction.
San Rafael..	260	N.	Buenos Ayres..	660	NE.
Acha.....	295	E.	Nahuel-Huapi..	210	S.
Bahia Blanca.	420	E.	Fort Roca....	280	SE.

About 20 miles SW. from Chos-Malal is the village of Norquin, on the Rio Agrio, close to which are the mineral waters of Copahué, 10,000 feet over sea-level. The Green Lake has a temperature of 104 Fahrenheit, and the ferruginous springs in the vicinity vary from 140 to 205 Fahrenheit. The bathing season is from December to March, the surrounding country being covered with snow during the rest of the year. The extinct volcano of Copahué is 3 miles distant; the crater, which is accessible, has a lake, from which the river Agrio takes its rise.

About midway between Chos-Malal and Lake Nahuel-Huapi is the pretty little town of Junin, on the west bank of the river Chimihuin, in a picturesque valley. The surrounding country is delightful; rich pastures,

numerous streams of fresh water, abundance of wild strawberries and apples, thickets of oak, laurel, pine, etc. Junin has local authorities and there are 5 large houses of business.

The great obstacle to the progress of Neuquen is the difficulty of communication. A telegraph line exists from Roca along the Neuquen as far as the "Paso de los Indios" (120 miles) but as there is no telegraph clerk, it is practically useless: in addition to which the intermediate line between Bahia Blanca, Patagones and Roca is so ill constructed as to be constantly out of order. Postal service beyond Roca does not exist; now and again letters are conveyed to Chos-Malal or Junin. A journey thither is a serious undertaking. For the northern part rail can be taken as far as Mendoza, and thence the traveller must proceed by coach to San Rafael. Here either mules or horses must be taken and all baggage carried on pack saddles. For the Southern district rail may be taken from Bahia Blanca by the North Western line to Hucal; thence a stage coach runs once a week to Roca, occupying five days in the transit: ten leagues further on the confluence of the Limay and Neuquen is reached, and the remainder of the journey must be made on horseback, with pack animals for the baggage; and in this method not more than 30 miles a day can well be accomplished; so that to Junin requires another 9 days. The crying need of the Neuquen Territory is some improved means of access.

Territory of Rio Negro.

This comprises all the country south of the Colorado down to 42° S. Lat., from the department of Patagones to the Neuquen territory. According to the Minister's report (1892) it has an area of 132,000 square miles, 20,000 inhabitants and 78 estancias, the stock of the latter comprising 400,000 cows, 50,000 horses and 2,520,000 sheep. Latzina, however, gives it only 85,000 square miles. The Rio Negro, which gives its name to the territory, is navigable 433 miles, to the confluence of the Neuquen and Limay (see p. 189). The territory is traversed by the two great rivers, Negro and Colorado, which run parallel more than 400 miles, the distance apart being sometimes less than 40 miles. It is proposed by Government to irrigate the intervening country, say 30,000 square miles, by means of canals, connecting the said rivers. There are 5 state colonies, at Linares, Conesa, Roca, Turco and Chelforó, each having an area of 25,000 acres, but they have not prospered.

Viedma, the seat of government, is a town of 3,000 inhabitants on the south bank of the Rio Negro, opposite Carmen de Patagones (p. 190). It has a church, schools, bank, shops, etc., and is connected with Buenos Ayres by telegraph. The value of products exported last year from the department was \$1,560,000 or

£300,000 sterling, that of imports \$1,550,000. There are in the department 8 chapels and 20 schools, mostly under the care of the Salesian Fathers or Don Bosco's institute, who have 400 boys (including many Indians) that are learning various trades. Bridges are much needed over the Negro, Colorado, Neuquen and Limay. Among the villages which are springing into importance are Pringles and Roca (see Rio Negro route p. 189).

Territory of Chubut.

This territory lies between the 42nd and the 46th parallel of S. Lat. taking in all the country from the Andes to the seaboard. It has an area of 99,000 square miles, and about 4,000 inhabitants, deriving all its importance from the Welsh Colony (see p. 184). Excepting the Chubut valley and the slopes of the Cordillera it is a howling wilderness, void of pasture or fresh water and covered with pebbles where herds of wandering guanacoës eke out a scanty subsistence. The Welsh colony, founded in 1865 near New Bay, covers 100,000 acres, one-third of which is under wheat. It is connected with Port Madryn by a railway of 47 miles, and the farms of the colonists in 1888 represented a value of £330,000 sterling. A new colony, called Sixteenth of October, was founded by Mr. Thomas, with 50 settlers in 1888, at the foot of the Andes, in the Corcovado valley, 350 miles west of the town of

Rawson (Chubut). Close to the new colony is Fofocahual, a large joint-stock farm belonging to the Chubut Land Colonial Co., established in 1890: it covers 3,000 square miles or 2,000,000 acres, has 11,000 cows, besides sheep etc., and is managed by Mr. Somerville, who has a fine house and a staff of English officials, the peons being natives. The same company has another large establishment 150 miles further north, on the shores of Lake Nahuel-Huapi.

Territory of Santa Cruz.

This includes all the southern part of Patagonia, below the Chubut territory, with an area of 111,000 square miles. The population does not exceed 800 souls, including 300 Indians. In the last few years several sheep-farmers have arrived from the Falkland Islands, and there are now 24 sheepfarms between Santa Cruz and the Straits of Magellan (see p. 184). The river which gives name to the territory is navigable for vessels of 10 feet draught up to the foot of the Andes, say 160 miles (see p. 178). There are 142,000 sheep, 4,000 horses and 9,000 cows. The seat of government has been removed from Santa Cruz to Gallegos, a village on the river of same name, 120 miles south of Santa Cruz, 1,640 from Buenos Ayres, and 180 miles on this side of Sandy Point.

Territory of Tierra del Fuego.

The island was partitioned by the treaty with Chile, and the eastern or Argentine part has an area of 8,400 square miles. The boundary is an imaginary line drawn from Cape Holy Ghost in 68° 34' W. Lat. till it reaches Beagle Channel. Staten Island is also included in this jurisdiction. A full description of Tierra del Fuego will be found in Route 33, p. 163.

REPUBLIC OF URUGUAY.

This Republic, which is commonly called Banda Oriental, is the smallest independent State in South America, and the most favoured in point of climate, soil and geographical position. It forms a parallelogram, between 35° and 50° S. lat. and 52° and 58° W. long., with an area of 73,126 square miles, or one-fourth larger than England and Wales. Its boundaries are—E. Lake Merim and the Atlantic, S. the River Plate, W. the River Uruguay, N. the River Cuareim, Cuchilla Sant' Ana, and the River Yaguaron, which form the boundary with Brazil. The physical outlines present a varied aspect, in contrast with the flat pampas on the Argentine side of the River Plate, and the abundance of wood and water is an immense advantage to settlers, whether pastoral or agricultural. The principal chain of hills is the Cuchilla Grande, which comes down from Brazil and terminates at Montevideo. The coast-line is 625 miles, of which 200 on the Atlantic from Chuy to Montevideo, 155 on the River Plate, and 270 on the Uruguay, offering great facilities to coasting and sea-going commerce, while the sea-breezes from the Atlantic moderate the heat of summer.

The River Uruguay, which gives its name to the Republic, rises in the Serra do Mar, in Brazil, and has

a length of 1,020 miles. Its ordinary volume of water is less than one-third of that of the Paraná, and averages 11 million cubic feet per minute, that is, almost on a par with the Ganges.

The Rio Negro divides the Republic into two unequal parts, and has a course of 270 miles from the sierras of Tacuarembó to its confluence with the Uruguay below Fray Bentos. The principal affluent is the Yí, and there are hundreds of minor note, the Negro water-shed covering nearly 50,000 square miles, or three-fourths of the Republic. The Arapey, Daiman and Queguay are tributaries of the Uruguay, none of them navigable. The Santa Lucia falls into the River Plate a few miles higher up than Montevideo. Only one lake deserves to be mentioned, Lake Merim, which is 30 miles long, with an area of 100 square miles, and is Brazilian territory.

The soil is rich and fertile, producing in abundance every kind of grain or fruit known in temperate and sub-tropical climes. There are numerous settlements of Canary Islanders in the departments of Canelones and San José, who raise large quantities of grain, chiefly wheat, and keep 100 steam and water mills constantly busy. The departments most thickly wooded are Salto, Paysandú, Cerro Largo, Soriano, Minas and Maldonado; the kinds of timber are the same as already described in the Argentine Republic. The medicinal plants comprises poppy, wormwood, gentian, balsam, coriander, camomile, liquorice, marsh-mallow, rosemary, elder and sarsaparilla.

Mineral resources are imperfectly understood; coal is supposed to exist in Maldonado and Cerro Largo, in connection with the Candiota coal-fields in Rio Grande. Marble abounds in Canelones and Maldonado, of which

the English Bank and other edifices in Montevideo have built their façades. Cerro Catalanes near Salto is famous for agates, crystallizations and petrifications, of which several cargoes have been shipped to Hamburg. Alabaster and limestone are found in many places. For some years it was believed that gold and silver were abundant, and the town of Minas would seem to imply mineral wealth; the mine near Minas was worked by the Spaniards for silver, but turned out to be sulphuret of lead, on discovering which they abandoned it. Gold-washings exist at Cuñapirú and Arecuá, in the department of Tacuarembó, where Goyo Suarez took out 350 ounces of gold-dust; an effort was about to be made under Mr. Hubert Bankart, in 1869, to work these washings on a scientific basis, but the company disagreed before the machinery could reach its destination.

The early history of this country is closely connected with that of Buenos Ayres. The first inhabitants were of the Charrua, Chaná and Minuan tribes, some of whom killed the first discoverer of the River Plate, Juan Diaz de Solis, and these tribes were unmolested by the Spaniards during the 16th and 17th centuries. A very lucrative smuggling trade was carried on between Brazil and La Plata, to encourage which the Portuguese built the city of Colonia, in front of Buenos Ayres, in the year 1679, from which date the new settlement became a bone of contention, changing masters repeatedly. To remedy the evil the Governor of Buenos Ayres built Montevideo in 1724, giving sheep and cattle gratis to settlers in the rural parts; this was the beginning of the millions of sheep and cattle now spread over the Republic. Colonia was taken in 1778, and never afterwards recovered by the

Portuguese. From that time the colony of Uruguay prospered amazingly until the War of Independence (A.D. 1814), when General Alvear attacked Montevideo by land, and Admiral Brown destroyed the Spanish fleet, compelling General Huidobro to surrender the last Spanish stronghold east of the Andes. In 1815 the Banda Oriental, as it was then called, seceded from the Argentine Confederation and became a separate Republic. In 1821 it was annexed to Brazil, as the Provincia Cisplatina; in 1825, the expedition of 33 patriots under Lavalleja set out from Buenos Ayres to raise the standard of revolt, and in 1827 the Argentines under General Alvear, overthrew the Brazilians at the battle of Ituzaingó. The Republic of Uruguay was constituted in 1830, under Fructos Rivera as first President, but a civil war broke out between Generals Oribe and Rivera in 1836, in which General Rosas took part in 1839; this is known as the "guerra grande," having lasted 16 years, until 1852, and reduced the Republic to a howling wilderness. From 1852 to 1864 there were 8 governors, until, in the latter year, General Flores was installed by the Brazilians, after blockading Montevideo. Since then the country has undergone various convulsions, but owing to the spread of railways and the influx of immigrants it has made much progress, of late years.

Population has increased very rapidly, the estimates at various dates shewing as follows:—

Year.	Population.	Increase.	Increase per annum.
1829	74,000	43,300	—
1852	131,900	57,900	3 per cent.
1860	221,300	89,400	9 "
1884	476,000	254,700	5 "
1891	701,800	225,800	7 "

The various departments in 1891 shewed as follows:—

	Sq. miles.	Population.	Inhab. per sq. mile.
Montevideo	226	234,000	1,035
Canelones	1,860	73,800	40
San José.	2,720	21,100	8
Colonia.	2,220	38,200	17
Soriano.	3,610	27,500	8
Rio Negro.	3,320	14,300	4
Paysandú.	5,190	28,400	5
Salto.	4,940	32,000	6
Artigas.	4,470	17,800	4
Rivera	3,860	19,000	5
Tacuarembó.	8,210	22,400	3
Cerro Largo.	5,840	28,000	5
Durazno.	5,590	24,200	5
Flores.	1,760	15,300	9
Florida.	4,740	29,500	6
Minas.	4,880	22,500	5
Treinta-tres.	3,740	15,700	4
Rocha.	4,340	17,500	4
Maldonado.	1,610	20,600	13
TOTAL.	73,126	701,800	9

Vital statistics for the 5 years ending 1890 shewed the annual averages as compared with other countries thus:—

	Per 1,000 pop. yearly.		
	Births.	Deaths.	Increase.
Uruguay.	40	19	21
England	32	19	13
Scotland.	33	19	14
Ireland.	23	18	5
France.	24	22	2
Germany.	37	25	12
Australia	35	14	21
Canada	32	18	14
U. States*	36	22	14

* Census commissioners find the natural increase (without immigration) to be 14 per 1,000 yearly; the birth and death rates are, however, conjectural.

The number of immigrants arrived in Montevideo has been as follows:—

Period.	No.	Per annum.
1835—52	36,600	2,030
1853—72	171,000	8,550
1873—90	224,000	12,300
56 years.	<u>431,600</u>	7,600

Taking the population at 221,000 in 1860 and allowing natural increase to be 14 per 1,000 yearly it would appear that only half the above number of immigrants remained in the country, the rest proceeding to the Argentine Republic.

From the bills of mortality it appears that 131 men die for 100 women, from which we may infer that the population of the Republic is made up thus:—

Males	398,000
Females.....	303,800
TOTAL.....	<u>701,800</u>

This is a lamentable disproportion of sexes, Uruguay comparing with other countries thus:—

Females to 1,000 males.			
Uruguay.....	763	U. Kingdom...	1,047
Argentina.....	942	France.....	1,004
U. States.....	965	Germany.....	1,039
Australia.....	843	Italy.....	995

If the marriage table be taken as a guide to the component elements of the population we find as follows:—

	Persons married in 1890.	Estimated population.
Natives	4,996	428,000
Italians	1,232	106,000
Spaniards	937	81,000
Brazilians	399	35,000
Argentines	217	19,000
French	198	17,000
Various	185	15,800
TOTAL	8,164	701,800

The following table shews the births, deaths and marriages per 1,000 inhabitants in each department for the year 1890, also the percentage of persons able to sign the marriage register, this latter shewing the relative degree of instruction among the adult population.

	Per 1,000 pop.			Percentage could write.
	Births.	Deaths.	Marriages.	
Montevideo	35·0	24·2	6·2	82
Canelones	39·8	16·3	5·5	51
San José	56·0	26·5	8·2	59
Colonia	42·7	19·6	5·4	72
Soriano	40·8	25·6	5·3	68
Rio Negro	44·6	20·4	4·3	71
Paysandú	41·2	24·2	4·9	68
Salto	38·2	25·1	5·0	71
Rivera	35·0	20·5	6·7	58
Artigas	41·7	22·7	5·5	57
Cerro Largo	37·7	15·2	4·9	55
Tacuarembó	44·2	24·1	5·7	52
Durazno	45·5	23·9	7·2	62
Flores	34·4	17·7	2·9	59
Florida	42·3	16·4	5·0	57
Minas	49·8	19·3	7·2	62
Treinta-tres	42·4	20·7	6·5	57
Rocha	52·2	21·9	6·7	48
Maldonado	34·9	11·9	5·9	50
TOTAL	39·8	21·7	5·8	67

In 5 years ending 1890 the births averaged yearly as follows:—

Legitimate.....	20,589
Illegitimate.....	5,109
TOTAL.....	<u>25,698</u>

The general ratio of illegitimacy was 20 per cent, but in the departments of Soriano, Rio Negro and Artigas it ranged from 33 to 37 per cent.

Pastoral industry is the principal occupation of the people, but agriculture is also attended to. The following table shews the live-stock and the tillage area of each department:—

	Cows.	Sheep.	Horses.	Acres tilled.
Montevideo ...	—	—	—	90,000
Canelones.....	30,000	76,000	6,000	470,000
San José.....	82,000	610,000	6,000	138,000
Colonia.....	138,000	1,098,000	13,000	115,000
Soriano.....	193,000	1,684,000	18,000	28,000
Rio Negro....	406,000	818,000	18,000	5,000
Paysandú.....	597,000	700,000	29,000	28,000
Salto.....	573,000	432,000	37,000	10,000
Artigas.....	420,000	415,000	43,000	6,000
Rivera.....	262,000	132,000	18,000	1,000
Tacuarembó...	551,000	775,000	34,000	1,000
Cerro Largo..	623,000	476,000	30,000	35,000
Durazno.....	233,000	1,807,000	17,000	16,000
Flores.....	74,000	1,351,000	8,000	60,000
Florida.....	167,000	1,355,000	10,000	45,000
Minas.....	241,000	825,000	21,000	5,000
Treinta-tres ...	342,000	542,000	19,000	6,000
Rocha.....	272,000	423,000	30,000	35,000
Maldonado... .	77,000	238,000	8,000	30,000
TOTAL... .	<u>5,281,000</u>	<u>13,757,000</u>	<u>363,000</u>	<u>1,124,000</u>

In the last 30 years there has been a remarkable increase of sheep, but not of other live-stock, as the tables shew, viz:—

	1860.	1884.	1890.
Sheep.	2,590,000	10,540,000	13,760,000
Cows	5,220,000	6,830,000	5,280,000
Horses.	740,000	670,000	360,000

The area under crops has been approximately as follows:—

	Acres.		Value of crops.	
	1884.	1891.	1884. \$	1891. \$
Wheat	340,000	700,000	3,500,000	7,000,000
Maize	80,000	200,000	650,000	1,700,000
Sundries.	120,000	221,000	1,320,000	2,500,000
TOTAL	540,000	1,121,000	5,470,000	11,200,000

The occupations and earnings of the people shew approximately as follows, per annum:—

	\$	£ sterling.
Agriculture	11,200,000	= 2,380,000
Pastoral products	35,100,000	7,400,000
Transport service.	3,100,000	660,000
Sundries.	33,000,000	7,000,000
TOTAL	82,400,000	17,440,000

The growth of public wealth since 1884 has been very slow, viz:—

	1884. \$ gold.	1891. \$ gold.
Land.	82,000,000	107,700,000
Houses.	137,000,000	148,800,000
Cattle.	85,000,000	74,000,000
Railways	11,200,000	49,500,000
Sundries.	91,000,000	95,000,000
TOTAL	406,200,000	475,000,000

This shews an increase of 69 million dollars or £14,000,000 sterling in 7 years, which is equal to £3 per inhabitant.

Wealth compared with population as follows:—

	\$ gold.	\$ per inhab.
1856	201,600,000	1,240
1884	406,200,000	852
1891	475,000,000	722

The ratios of revenue and public debt per inhabitant at various dates were:—

Year.	\$ per inhabitant. *	
	Revenue.	Debt.
1840	8	28
1860	10	90
1880	18	130
1891	20	152

The returns of property-tax for 1890 shew as follows:—

	No. of property-holders.	Value, \$ gold.
Oriental	22,774	119,200,000
Italians	8,246	33,900,000
Spaniards	7,158	30,000,000
Brazilians	4,595	35,400,000
French	2,582	15,800,000
British	494	7,600,000
Argentines	936	8,700,000
Various	1,007	5,900,000
TOTAL	47,792	256,500,000

The crisis of 1890, following the "boom" of 1888 and 1889 was attended by a fall of 50 per cent in the value of real estate.

Year.	Properties sold.	Amount \$	Average, \$
1889	9,656	63,600,000	6,600
1890	9,616	29,300,000	3,010

The amount of mortgages registered in 1890 was \$22,600,000, against \$27,800,000 in the preceding year.

* These are more than ordinary gold dollars, being worth 51 pence English.

The distribution of property in the several departments is as follows:—

	Gold dollars.			Total.
	Land.	Houses.	Cattle.	
Montevideo . . .	—	119,300,000	—	119,300,000
Canelones	7,350,000	3,050,000	500,000	10,900,000
San José	3,500,000	1,700,000	1,700,000	6,900,000
Colonia	4,800,000	2,700,000	3,000,000	10,500,000
Soriano	7,100,000	2,800,000	4,600,000	14,500,000
Rio Negro	6,100,000	900,000	5,200,000	12,200,000
Paysandú	9,200,000	4,300,000	6,900,000	20,400,000
Salto	9,600,000	3,100,000	6,400,000	19,100,000
Artigas	6,700,000	600,000	5,100,000	12,400,000
Rivera	3,700,000	300,000	2,900,000	6,900,000
Cerro Largo . . .	6,700,000	1,500,000	6,800,000	15,000,000
Tacuarembó . . .	8,000,000	1,100,000	6,600,000	15,700,000
Durazno	7,000,000	1,600,000	5,100,000	13,700,000
Flores	3,900,000	800,000	2,800,000	7,500,000
Florida	7,900,000	1,400,000	3,700,000	13,000,000
Minas	5,200,000	1,500,000	3,700,000	10,400,000
Treinta-tres . . .	4,000,000	700,000	4,200,000	8,900,000
Rocha	4,500,000	900,000	3,600,000	9,000,000
Maldonado	2,400,000	600,000	1,200,000	4,200,000
TOTAL	107,650,000	148,850,000	74,000,000	330,500,000

The following table shews the ratios of wealth revenue and debt per inhabitant in various countries:—

	\$ gold per inhabitant.		
	Wealth.	Revenue.	Debt.
Uruguay	765	21	161
Argentina	590	11	113
U. Kingdom	1,185	22	120
France	1,075	20	170
Germany	672	20	45
Italy	480	16	75
Spain	710	12	80
Belgium	805	12	70
U. States	1,010	12	20
Canada	940	10	48
Australia	1,780	36	240

In the foregoing table all national and provincial (but not municipal) revenues and debts are included.

The revenue receipts for 1890 compare with those for 1886 as follows:—

	\$ gold.	
	1886.	1890.
Customs.....	6,440,000	11,080,000
Property-tax	1,820,000	1,720,000
Municipal rates ..	870,000	890,000
Sundries.....	2,590,000	3,730,000
TOTAL.....	11,720,000	17,420,000

The estimates of expenditure were:—

	\$ gold.	
	1886.	1890.
Debt	4,730,000	6,010,000
War.	3,620,000	3,400,000
Interior	2,150,000	2,030,000
Sundries.....	2,870,000	3,150,000
TOTAL.....	13,370,000	14,590,000

The actual expenditure, however, was much in excess of the estimates. This appears from the rapid increase of debt. The finances of 60 years may be summed up as follows:—

	Receipts. \$	Expended. \$	Debt. \$
1831—40	8,000,000	11,500,000	2,900,000
1841—50	10,000,000	14,000,000	6,800,000
1851—60	21,000,000	35,000,000	20,600,000
1861—70	32,000,000	59,000,000	37,600,000
1871—80	65,000,000	79,000,000	51,400,000
1881—90	115,400,000	170,200,000	106,200,000
60 years.	251,400,000	368,700,000	106,200,000

The expenditure of the last 10 years averaged \$17,000,000, receipts \$11,500,000, leaving an enormous deficit. An arrangement was made with the London

bond-holders in 1892 to reduce the interest on the debt by one-half.

The commerce of the Republic since 1851 shews as follows:—

Period.	Annual average, \$ gold.		
	Imports.	Exports.	Total.
1851—60	8,700,000	8,400,000	17,100,000
1861—70	12,900,000	11,500,000	24,400,000
1871—80	16,700,000	15,600,000	32,300,000
1881—90	25,100,000	24,100,000	49,200,000
1890	32,400,000	29,100,000	61,500,000
1891	18,900,000	26,900,000	45,800,000

The trade-returns of 1890 were as follows:—

	Imports from	Exports to	Total, \$
G. Britain...	8,800,000	3,900,000	12,700,000
France	5,100,000	6,100,000	11,200,000
Germany	2,800,000	1,000,000	3,800,000
Brazil.	2,500,000	3,300,000	5,800,000
Belgium.	1,500,000	3,100,000	4,600,000
U. States.	2,400,000	2,000,000	4,400,000
Italy.	2,600,000	400,000	3,000,000
Spain	2,200,000	200,000	2,400,000
Various	4,500,000	9,100,000	13,600,000
TOTAL.	32,400,000	29,100,000	61,500,000

The trade of the several ports shewed thus:—

	Imports.	Exports.	Total, \$
Montevideo . . .	28,700,000	16,600,000	45,300,000
Fray Bentos. . .	200,000	3,700,000	3,900,000
Paysandú.	1,000,000	2,300,000	3,300,000
Salto.	800,000	2,900,000	3,700,000
Colonia	500,000	1,900,000	2,400,000
Other ports. . . .	1,200,000	1,700,000	2,900,000
TOTAL.	32,400,000	29,100,000	61,500,000

Imports and exports in 1890 were:—

	Imports \$ gold.		Exports \$ gold.
Wines.....	4,410,000	Hides.....	9,320,000
Groceries.....	6,780,000	Wool.....	7,870,000
Dry goods.....	5,300,000	Meat.....	6,250,000
Hardware.....	8,680,000	Grain.....	1,200,000
Sundries.....	7,230,000	Sundries.....	4,460,000
TOTAL.....	32,400,000	TOTAL.....	29,700,000

Shipping returns shew as follow:—

	Tonnage entries.		
	Sea-going.	Coasting.	Total.
Montevideo....	1,810,000	3,890,000	5,700,000
Other ports....	30,000	2,120,000	2,150,000
TOTAL.....	1,840,000	6,010,000	7,850,000

The current of bullion is reported in the customs-returns of Montevideo as follows:—

	Imported £ sterling.	Exported £ sterling.
1881—85	5,720,000	7,630,000
1886—87	2,060,000	3,220,000
1888—89	3,080,000	4,080,000
1890	2,010,000	1,910,000
10 years.	12,870,000	16,840,000

The above can hardly be reliable, as it shews a continuous outflow of bullion during the last 10 years.

In May 1892 an official return of the railways in working shewed as follows:—

Co.	Miles.	Cost, £	Do. per mile, £	Yearly guarantee, £
Central Uruguay....	196	2,700,000	13,800	—
North Eastern.....	76	800,000	10,500	31,000
Northern Extension..	183	1,650,000	9,000	103,000
Eastern Extension...	129	1,160,000	9,000	72,000
North Western.....	113	1,380,000	12,200	28,500
Midland Uruguay...	198	1,850,000	9,300	111,000
Uruguay Northern..	71	800,000	11,300	40,000
TOTAL.....	966	10,340,000	10,700	385,000

The guarantee was 7 per cent on a cost of £8,000 a mile, but the Government has made an arrangement with the Companies by which the interest is reduced one-half; the guarantees now running amount only to £192,500 per annum. The Central Uruguay Co. commuted the guarantee on the main line in 1880. Besides the above there is a short line of 15 miles from Montevideo to Santa Lucia bar. Some of the above lines are extensions of the Central Uruguay, and the whole system may be summed up thus:—

	Miles.	Route.
Cent. Uruguay.....	358	Montevideo to Rivera.
San José branch.....	21	25 Agosto to San José.
North Eastern.....	148	Montevideo to Treinta Tres.
Minas branch.....	78	Toledo to Minas.
Midland Uruguay....	198	Río Negro to Salto.
North-Western.....	113	Salto to Santa Rosa.
Northern.....	71	Cabellos to S. Eugenio.
Corrales.....	15	Montevideo to S. Lucia bar.
TOTAL.....	1,002	

The Central Uruguay was commenced in 1868, and opened to traffic as follows:—

	Miles.	Date.
Piedras.....	11	1869
Durazno.....	130	1874
Río Negro.....	196	1887
Rivera.....	358	1892

A branch was thrown out to San José, 21 miles, in 1876, in the direction of Colonia, but proceeded no further. The North-Eastern was begun in 1883; the Minas branch was opened in 1889, and the main line to Treinta-tres in 1892; thus making a total of 605 miles of the Central line and the lines and branches over which it has control.

The Midland is properly a prolongation of the Central Uruguay from the Río Negro in a north-west direc-

tion to Paysandú and Salto, 198 miles: it was begun in 1888, and the final section completed to Salto in November 1890.

The North-Western was begun in 1872, to connect the port of Salto with the Brazilian frontier at Santa Rosa, on the river Cuareim, and although only 113 miles long it took 15 years for completion.

The Northern starts from Cabellos station, 80 miles from Salto, on the Santa Rosa line, terminating at San Eugenio, on the Brazilian frontier. It was begun in 1889 and concluded in 1891.

Some of the preceding lines have called for much engineering skill, the most remarkable bridges being:—

Name	Line	Feet in length.
Juan Chaso.....	Central Uruguay.....	1,345
Yi	»	2,050
Arapey.....	North-Western	1,250
Solis.....	Eastern Extension....	742
Dayman.....	Midland.....	1,485
Queguay.....	»	660
Salsipuedes	»	1,036
Cuaró.....	Northern.....	990

Although the various lines have been of great utility in developing the resources of the country they cannot be regarded as successful. The Central Uruguay system earns a little over 2 per cent on the cost of construction, the other lines much less. They may be all summed up thus:—

	Central Uruguay.	Other lines.	Total.
Mileage.....	605	397	1,002
No. of passengers .	560,000	70,000	630,000
Tons carried.....	420,000	90,000	510,000
Receipts, £	301,000	80,000	381,000
Expenses £.....	160,000	75,000	235,000
Net profit £.....	141,000	5,000	146,000
Capital cost £....	6,300,000	4,200,000	10,500,000

The net return on the total capital is less than 1½ per cent, which is nearly the same as in Argentina: the returns compare with other countries thus:—

Profit on Railway capital.

Uruguay	1·40	U. Kingdom..	4·10
Argentina	1·35	France	3·80
Canada	1·70	Germany	5·10
Australia.	3·30	Italy	2·50
U. States	3·10	India	5·20

The criminal returns for 1890 shew the following arrests:—

Crime.	Montevideo.	Departments.	Total.
Murder	29	77	106
Stabbing.	736	350	1,086
Robbery	722	944	1,666
Assault.	621	735	1,356
Various.	1,201	2,435	3,636
TOTAL.	3,309	4,541	7,850

The item “various” comprises many minor offences, and the annual number of criminals tried may be taken as 4,214, which compares with Prof. Bodio’s tables of crime in Europe as follows:—

	Criminals tried yearly.	Do. per million population.
Uruguay.	4,214	6,020
U. Kingdom	78,438	2,060
France	76,876	2,005
Italy.	127,382	4,240

The returns of public schools shew thus:—

	1887.	1889.
Schools.	366	470
Pupils	30,572	38,747
Expenditure.	\$513,000	684,000

There were also in 1890 no fewer than 407 private schools, counting 21,410 pupils: this makes a total of 61,000 children receiving education or nearly 9 per cent of the population, as compared with 6 per cent in Argentina.

Post-office returns shew as follows:—

	1885.	1890.
Letters	3,140,000	6,520,000
Post-cards	29,000	68,000
Newspapers.	8,880,000	14,350,000
Samples etc.	150,000	592,000
TOTAL.	<u>12,199,000</u>	<u>21,530,000</u>
Postal revenue..	\$163,000	210,000

The telegraph lines are as follow:—

	Miles.	Messages.
State	640	31,000
Platino-Brazilera	520	67,000
Oriental.	670	36,000
Platense	160	35,000
River Plate.	150	38,000
W. Brazilian	220	8,000
Telephonic.	114	17,000
TOTAL.	<u>2,474</u>	<u>232,000</u>
Railway lines.	656	
GRAND TOTAL.	<u>3,130</u>	

There are two Telephone Companies, which shew as follows:—

	Montevidean.	National.
Miles wire.	2,500	2,000
Subscribers.	1,850	1,350
Messages daily.	11,000	6,000

The uniform charge is \$4 a month per house.

According to the office of Patentes or trade-licenses the capital used in trade is as follows:—

	Capital, \$	Hands.
Montevideo.	85,400,000	21,600
Canelones	1,590,000	1,940
San José.	960,000	750
Colonia.	1,540,000	1,130
Sorlano	980,000	490
Durazno.	1,150,000	580
Maldonado	480,000	450
Rocha.	540,000	340
Salto	1,990,000	1,300
Paysandú	2,780,000	1,730
Río Negro	470,000	780
Cerro Largo	1,090,000	420
Rivera.	460,000	180
Tacuarembó	350,000	560
Treinta Tres.	470,000	360
Minas.	850,000	1,005
Florida	680,000	545
Artigas	540,000	145
Flores.	490,000	300
TOTAL.	102,810,000	34,605

The army numbers 4,000 men, and costs \$820 or £165 per man, the average being £100 in Europe. The navy consists of a few small vessels. There are 14 light-houses in the waters of the republic.

MONTEVIDEO.

This city has a most attractive appearance, whether seen from a vessel entering port, or on the land side from the Cerrito, nor is the favourable impression removed on nearer examination. Standing as it does on a tongue of land between the bay and the Atlantic, its streets are swept by cool sea-breezes, and it enjoys

pre-eminently the pleasantest climate in South America. It is, moreover, the best built city in the continent, and the value of house-property compared with population is very high. Its commerce is no less remarkable. If we compare the value of house-property in various cities we find:—

	\$ gold.	\$ per inhab.
Montevideo	126,500,000	534
Buenos Ayres	250,000,000	465
Berlin	760,000,000	540
Vienna	490,000,000	624
Sydney	432,000,000	1,170
Melbourne	442,000,000	1,010

No other city in South America has greater advantages in geographical position. If a proper port had been constructed 50 years ago, a considerable portion of the world's commerce would have flowed hither, and Montevideo would to-day be another Singapore. Unhappily the bay got worse by degrees, the depth of water having diminished 5 feet in 70 years, and the roadstead outside the Cerro is so exposed as to be one of the most dangerous in the world.

The Cerro, or mount, which gave Montevideo its name, is the most prominent object, rising to a height of 505 feet, and visible 12 miles out at sea. On the summit is a light-house, in the middle of an old Spanish fort which has been frequently used as a prison for political offenders; the sides of the hill are steep, but not precipitous, and a handful of men could hold the fort against an army; during the 9 years' siege of 1842—51, General Oribe was unable to take it. The revolving light on the top is visible 25 miles seaward. The bay is here nearly two miles wide, this being the mouth, and as it trends inward it takes the

form of a horse-shoe with easy accommodation for 500 vessels at anchor, the depth of water rarely exceeding 15 feet. The saladeros of the Cerro kill 200,000 cattle yearly, and in the season, when the wind comes from that quarter, the smell in Montevideo is disagreeable. Rat Island, which was formerly the Lazzaretto, is now a depôt for inflammable materials, the quarantine station having been removed to Flores Island, in the direction of Maldonado.

Montevideo was founded May 1, 1717, the feast of the Apostles SS. Philip and James, by the Governor of Buenos Ayres, Don Mauricio Zavala, who compelled the Portuguese to retire. It was only a military post till 1726, when Don Francisco Alzeibar introduced a number of families from the Canary Islands, to whom the Governor of Buenos Ayres gave sheep and cattle gratis. When the monopoly of Cadiz was abolished in 1778, this place was made a free port, its commerce rising to such an amazing magnitude that 14 years later it was the greatest port in all South America, with a trade of more than 7 million dollars. But for the Independence and the secession from Buenos Ayres in 1815, it would have progressed more rapidly than it has done:—

Date.	Imports. \$	Exports. \$	Total. \$	Popula- tion.	Commerce per head. \$
1792	2,993,000	4,151,000	7,144,000	15,200	476
1836	5,200,000	5,430,000	10,630,000	23,400	444
1858	7,400,000	7,200,000	14,600,000	60,200	242
1872	15,500,000	9,600,000	25,100,000	105,300	238
1882	15,600,000	12,500,000	28,100,000	120,000	233
1890	28,700,000	16,600,000	45,300,000	220,000	206

The city covers 1,600 cuadras or 3,200 acres, besides which the suburbs of Union, Paso Molino and

Cerro comprise 20,000 acres. There are in all 15,000 houses, which are supplied with water from Santa Lucia, the water-pipes having a length of 150 miles, and gas-pipes over 100 miles: the number of street-lamps reaches 4,000.

The Cabildo, in Plaza Constitucion, serves for senate-house and Police-courts. The Legislature consists of 19 Senators and 69 Deputies, the former elected for 6, the latter for 3, years. On the south side of the same square is the Matriz or cathedral, consecrated by Bishop Lue of Buenos Ayres in 1804, its towers rising to a height of 133 feet, that is 225 feet over sea-level. Uruguay was included in the diocese of Buenos Ayres till 1869, when Dr. Vera was made first bishop of Montevideo. The Matriz is dedicated to SS. Philip and James, and has a good organ by Telford, of Dublin.

The Sisters of Charity have a large convent and chapel in the Calle San José; this is the head house of the order in the River Plate, and has French, native and English ladies. There is another order, called Daughters of Charity, composed chiefly of Italian ladies. The good work done by these devoted women is beyond recital. They have the best schools for girls on both sides of the River Plate.* During the terrible epidemics of 1856 at Montevideo, of 1867 and 1871 at Buenos Ayres, and in the military hospitals at Corrientes during the Paraguayan war of 1865—70, they rendered the most splendid services, numbers of them dying at their post. They have schools, lunatic asylums, orphanages, and hospitals in all the Argentine territory,

* The nuns of the Sacred Heart have recently established similar schools at Buenos Ayres.

as well as in Uruguay. There is also a convent of Salesas nuns in Calle Canelones, with a stately chapel, decorated with the richest marbles; it was founded in 1856, and has an excellent boarding-school; in the chapel there is a fine altar-piece brought from Rome, a present from the Jackson family.

One of the handsomest buildings in the new town is the church of the Immaculate Conception, built in 1858 by the milkmen, market gardeners, etc., and commonly called the church of the Bascos. Another new church is that of San Francisco, near the Oriental Hotel, begun in 1863, and not yet quite completed.

The English church, dedicated to the Holy Trinity, in the Calle Santa Teresa, was built by the late Samuel Lafone, Admiral Sir John Purvis laying the first stone in 1847, on the site of a battery taken by the British in 1807. It has a Grecian front, with the Ten Commandments in Spanish on the tympanum. There is a stained glass window to the wife of Mr. Lafone. Divine service at 11 A.M., on Sundays. Last year a hall was built alongside the church and named "The Lafone Memorial Hall" in memory of the founder of the Church.

Catholic sailors attend Mass on Sundays at the Caridad chapel, which is attached to the hospital; there is generally an English priest connected with the hospital who preaches in English on Sunday mornings.

Hospital de Caridad in Calle 25 de Mayo is one of the finest institutions of the kind, and has about 600 beds: it is under the charge of the Sisters of Charity of the order "del Huerto", the medical attendant being Dr. Louis Fleury, surgeon-general to the army, a native of Dublin. It was founded in 1825, and is supported by a State lottery. The returns for 1890 shew:—

Admitted.....	6,840	Natives.....	1,491
Died.....	635	Italians.....	1,683
Discharged.....	5,706	Spaniards.....	1,770
Under treatment.	489	Various.....	1,896
TOTAL...	6,840	TOTAL....	6,840

The principal diseases were—

	Died.	Cured.
Phthisis.....	232	203
Bronchitis.....	32	300
Rheumatism....	—	387
Wounds.....	9	637
Accidents.....	8	321
Various.....	354	3,868
TOTAL.....	635	5,716

The British hospital, founded in 1857, is near the former, at the water's edge: the present fine building was put up in 1867, by private subscription, at a cost of \$36,000. It has 60 beds, in 5 wards, and is under the care of Dr. Jamieson.

The climate is warm and agreeable. De Moussy's observations for 10 years give the following:—

Quarter ending.	Fahrenheit.	Barometer.	Rainfall, inches.
February 28th....	71	762	8·7
May 31st.....	58	763	13·8
August 31st.....	53	764	10·0
November 30th....	65	762	11·5
Year.....	62	763	44·0

The highest and lowest readings in the years 1884 to 1886 were:—

	Highest. (summer)	Lowest. (winter)	Rainfall of year.
1884	101	35	38·0
1885	96	34	37·0
1886	100	35	36·0

The university, in Calle Uruguay, has 65 professors and the following number of students:—

In Law.....	168
» Mathematics . . .	21
» Medicine.....	93
TOTAL.....	282

There is also a preparatory school with 356 boys, making a grand total of 638.

The Bolsa or Exchange is one of the finest buildings in South America, being a copy of that of Bordeaux, at the corner of Calle Zavala and Piedras; it was built in 1863, at a cost of \$160,000. The hall is decorated with the flags of all nations, in fresco. At a short distance, in Calle Zavala, is the River Plate Telegraph Co. office, under the direction of Chevalier John Oldham, the father of telegraphic science in these countries, who laid the first cable between Montevideo and Buenos Ayres in October 1866: this company has paid dividends as high as 20 per cent. Messages are received in all languages, and for all parts of the world.

The Correo or General Post-office is in Calle Sarandi: it despatches 22 million letters and papers yearly. Strangers should have a passport, visiting card or some document to shew their identity, when applying for letters. In front was formerly the Museum, but now removed to one of the wings attached to the Solis Theatre: it was founded by Dr. Vilardebó in 1830, and to it is attached a State Library, founded in 1833 by Perez Castellanos.

There are 7 newspapers published daily, the oldest being the *Telégrafo Marítimo*, a shipping gazette founded by Juan Buéla in 1852. There are two English papers, one daily and one weekly. The total circulation of daily papers is supposed to average 10,000 copies.

All the foreign communities have their respective clubs: the British is in Plaza Constitucion and strangers

are allowed a free ticket for 30 days, The German Frohsinn is chiefly devoted to music. The most fashionable is the club Uruguayo in Plaza Matriz, which gives grand balls.

The principal theatre is the Solis Opera-house, built in 1856 at a cost of £52,000, with a Doric front and spacious interior, holding 3,000 spectators. The Cibils theatre in Calle Piedras holds 1,200, and is used for comedy.

There are 7 banks, the oldest and one of the best being the Banco Commercial, which used to have an issue of \$1,500,000, but some time ago called in its notes. The issue and specie reserve of the other banks in August 1891 were as follows:—

	Issue, \$	Specie, \$
London.....	2,240,000	4,760,000
English.....	890,000	400,000
Italian	220,000	190,000
Spanish.....	190,000	210,000
Oriental.....	30,000	50,000
National.....	760,000	50,000
TOTAL.....	4,330,000	5,660,000

The Banco Commercial was founded in 1858, capital £400,000 sterling, by Jackson, O'Neill and other local capitalists, and has been successfully managed by Mr. Ingouville for more than 30 years. The London and River Plate bank, founded in 1863, is a superb edifice in Calle Cerrito, having cost £30,000, with marble pillars from Maldonado. The National Bank was started by Argentine capitalists in 1888, with a capital of \$12,000,000 or £2,400,000 sterling, and became insolvent in 1890, its notes being now inconvertible: a fanciful balance-sheet was published in October 1891 as follows:—

	\$
Discounts.	19,200,000
Mortgages	17,600,000
Cash	50,000
Total assets.	<u>36,850,000</u>

	\$
Deposits.	6,330,000
Issue	760,000
Total liabilities	<u>7,090,000</u>

It is well known that most of the discounts and mortgages are either worthless or unavailable, and that the surplus of assets is purely figurative: shares are at present at 80 per cent discount.

There are 4 markets; the best is that adjoining the Solis theatre: it was built by Mr. Thomas Havers in 1867, for the Municipality, at a cost of £80,000 sterling, and covers two acres. Meat costs usually 6 cents or three-pence per pound: the consumption of the city in 1889—90 averaged as follows:—

	Tons.	Lbs. per inhab.
Beef.	24,700	247
Mutton.	1,020	10
TOTAL.	<u>25,720</u>	<u>257</u>

The fruit market is well supplied, pears sometimes weighing 10 lbs. a dozen. Some of Tomkinson's pears have been sent home to Covent Garden, London, where they sold for £3 a dozen.

There are 40 charitable associations, counting 12,000 members, who spend \$250,000 yearly in works of beneficence. There are (including the hospitals already mentioned) 9 charitable institutions, maintained partly by public endowment, partly by private subscriptions, and containing usually 4,000 inmates. The Asilo de

Mendigós or poor-asylum has 340 inmates; death-rate 16 per cent per annum; the Foundling Asylum receives 280 infants yearly, of whom 53 per cent die.

The Lunatic Asylum in the suburb of Union, shewed as follows:—

	Men.	Women.	Total.
Dec. 1883	317	209	526
» 1886	319	214	533
» 1888	350	256	606
« 1890	424	305	729

There was an increase of 35 per cent from 1886 to 1890, part of which was due to the frenzied speculations of the intervening years.

The Custom-house stands close to the site of Fort San José or Rompe Olas. The officials are very civil and not over-strict in examining luggage. Hard by is the magnificent hotel built by the Obras Co., with fine baths attached, at a cost of £120,000 sterling. The old Fort above-mentioned was the point from which the fortifications called Bovedas (casemates) started in opposite directions, encircling the town, which terminated where the Plaza Independencia now stands: some traces of them are still visible near Jackson's barraca. They were constructed by 2,000 Indians from Misiones, who were 7 years at the work and received no pay, as the Jesuits always insisted on their people giving military or other service to the King gratis whenever required. So strongly were they made, that it required 9 days' cannonading by Gen. Auchmuty, in 1807, before a breach was effected. It is needless to add that our countrymen, under Cols. Brownrigg, Butler, Brown and Vassal gallantly captured Montevideo with heavy loss, two of the above commanding officers being among the killed.

The city gas-works, at the foot of the Calle Andes, are worth visiting. They cover 2 acres on the shore, and are protected by strong sea-walls; the manager is Mr. Thomas F. Lane.

Maná's dry-dock adjoins the gas-works, and is a good specimen of marine engineering. It was commenced by Mr. Cock, C.E., in 1869, and finished in 1873, much blasting having been done, without any accident. English and Spanish war-vessels have been overhauled here, as well as Brazilian ironclads, for it admits vessels of 275 feet keel, 45 beam and 12 draught. The depth of water at entrance is 17 feet, and there is hydraulic power to pump the dock dry in 4 hours.

Gounouilhou's dry-dock at the foot of Calle Mayo and entrance of the bay was opened in 1870, the proprietor being an old French resident. Its length is 300 feet, and it does much business.

Jackson and Cibils' dock at the Cerro was made in 1874—78, and is thus described: "It is built on a granite rock, is 450 feet long, 80 wide, and can admit a vessel drawing 24 feet; it is lined with hewn stone, with grooves to the bottom. In the centre is a gate, so that two docks are formed when necessary. When the iron gate is closed it can be pumped out in 8 hours by means of a 40 horse-power engine. A granite breakwater outside protects the docks from the S.E., and also serves as a wharf for loading and unloading vessels. This breakwater is 380 feet long by 33 wide, and consists of blocks weighing 10 tons each."

There is a breakwater at the matadero, near the Aguada, which cuts off a portion of the bay, and serves as a viaduct for the Central Uruguay Railway. It was constructed in 1868—70. is 11 feet high, 67 feet thick, and 2,000 yards long, having cost \$600,000, but

the Government allowed Messrs. Fynn & Co. to keep the reclaimed area, about 30 cuadras or 60 acres which diminished the cost.

There are 8 lines of tramway, in all 107 miles of rails, which carry 20 million passengers yearly, employing nearly 4,000 horses and mules.

The traffic returns in 1890 shewed as follows:—

Name.	Miles of rails.	Journeys.	Passengers.	Horses.
Union.	21	171,000	4,800,000	633
Paso Molino....	20	134,000	3,290,000	629
Oriental.....	15	122,600	4,260,000	712
Reducto.....	17	76,800	2,540,000	550
Eastern.	10	86,400	2,430,000	300
Northern.....	11	36,800	1,560,000	400
Pocitos	8	57,900	1,220,000	420
Montevidean....	5	10,400	200,000	250
TOTAL. ...	107	695,900	20,300,000	3,894

The Union line shewed the following growth of traffic:—

Year.	Kilometres run.	Passengers.
1870	145,000	387,000
1880	537,000	1,264,000
1890	1,802,000	4,799,000

The receipts of the said line in 1891 were \$194,000 expenditure \$141,000, leaving a dividend of \$53,000 or 6.62 per cent on the capital (\$800,000), the average dividend for the years 1884—89 having been over 8 per cent.

The traveller should pay a visit to Union village, a pleasant suburb, 5 miles north of the city, overlooking the coast in the direction of Pando. Tram-cars run every five minutes from the Custom-House and Plaza Independencia.

The boulevard 18 de Julio is incomparably the finest street in South America, and terminates at the Cordon

suburb. There are many pretty country-houses along the route to Union, and close to this place is the principal race-ground of the city.

Paso Molino is the most fashionable suburb. Trams start from Calle 25 de Mayo, running down by the Aguada, and Calle Rondeau, after which they ascend the hill of Bella Vista, and from this point there is a wide view of the city and bay. Along the road we pass some beautiful country-houses, surrounded by gardens and plantations. The village of Paso Molino has an hotel, several shops, an ancient chapel, and a bridge where the pass or ford formerly existed. It is said the Jesuits had a mill here, and hence the name of the village. Crossing the bridge we come to the quintas of Hughes, Barnett and Castro; the first was built by the late Richard Hughes, an Englishman who took a great interest in the advancement of the country. The Castro quinta is one of the finest in South America, with lakes, lawns and plantations, open to visitors. No quinta, however, could compare with that of the late Joseph Buschenthal, so well known for his princely hospitality, whose house is now an hotel. The Jackson family have a fine quinta, with large plantations, in the direction of Cerro. Here Mr. Jackson has built a magnificent chapel in the florid Gothic style, to which is attached an orphanage under the care of the Sisters of Charity, the whole founded and maintained by Mr. Jackson and his sisters, containing 60 little girls. The country is undulating as we approach the Cerro, the view from which is thus described by an English traveller:

“At our feet lay the city of Montevideo, spread out as on a map, the ocean forming the background. A thousand vessels were at anchor in the bay. To the right rose the Cerro, crowned with a fortress 500 feet

over the water, and numberless gardens and country-houses between us and the city added a charm to the picture, while the white surf along the coast completed a *coup d'œil* of remarkable beauty and animation."

On the road from Cerrito to the city is Margat's famous nursery, the property of an industrious and intelligent Frenchman, who has acclimatised every fruit, shrub or vegetable of Europe.

Playa Ramirez is a favourite watering-place in the summer months. Tram-cars start from the Mercado del Puerto, and the line keeps eastward along the coast till reaching Playa Ramirez. This is a smooth sandy beach, crowded with bathers in the summer months, for whose use there are hundreds of bathing-machines, but there is at times a fearful current off-shore, and many persons have been drowned. Overlooking the rocky headland of Punta Carretas is the quinta of Mr. Evans, with rare plants and wild beasts; the owner has entertained at times the foreign diplomatic agents, as well as distinguished travellers. The best strawberries are grown in the sandy soil from here to Buceo. This place takes its name of "diving-ground" from the circumstance that in 1752 a Spanish vessel called *La Lux* was lost here with a cargo of bullion, much of which was recovered by diving. The coast view is very fine, and the hills of Maldonado, 900 feet high and 90 miles distant, may be clearly discerned. Bathing is often dangerous, the surf running high. The sea-water at Buceo is much more salty than at Playa Ramirez, and the air is bracing.

Pocitos is another fashionable bathing place and is greatly patronized by the Porteños. Trams from Calle Ciudadela every ten minutes.

If the traveller can spare the time he should devote

a couple of days to visiting the model-farms of Duplessis, Juanicó, Tomkinson, Lecocq and Esteves, all within a few miles of the city. Lecocq's establishment, near the Piedras station on the Central Uruguay Railway, is the result of 30 years of patient skill, possessing a number of Angora goats, alpacas, and other acclimatized animals. The fruit-garden of the late Mr. Tomkinson is one of the most remarkable in the world, for ripe pears may be plucked in it any day in the year. Strangers should also visit the mole of Messrs. Meikle & Co. at the foot of Calle Florida to see the fish for the city markets landed, any afternoon.

The Cerro is a most interesting excursion, and may be reached by steam-ferry every hour, from the Custom-house. The best time for ascent is early morning, and if possible the stranger should see the sun rise, but in order to do so a row-boat must be taken, the steamer not plying so early. At the foot of the hill are a number of saladeros and the large coal depôts of Wilson Sons & Co. and the Widow Braga, and the Engineering workshops of Messrs. F. L. Humphreys & Co., around which has sprung up a town. The ascent is not fatiguing, the view seaward and the fresh sea-breeze being very delightful. Sometimes there is a small garrison in the fort, sometimes only a couple of light-house keepers; the bastions are strongly built, and the enceinte is protected by 15 guns. Nothing can be finer than the view from the battlements, which takes in a great sweep of coast, as far as the peaks of Maldonado.

CANELONES.

Area 1,860 square miles, population 73,800. This department is a few miles north of Montevideo, and grows more wheat than all the rest of the republic, the area under tillage being 470,000 acres or 6 per inhabitant. The annual value of crops is over \$4,500,000 or about one million sterling. The lands are fertile, watered by the Tala, Canelones, Casupá, Soldado and Santa Lucía. The country is undulating, and this department is the thickest populated, having 40 persons to the square mile. Rich marbles are found in the Sierra Carapé. There are 4 flourishing towns.

Canelones, the seat of the authorities, is officially called Guadalupe: it is 30 miles from Montevideo, on the Central Uruguay Railway, and was founded in 1774 by the Rev. Juan Laguna, who built a chapel here. Seven years later a group of 17 families from Asturias formed a village on the spot, and it was occupied by the British troops in 1807. It has several flour-mills and 3,500 inhabitants.

Santa Lucia, 36 miles from Montevideo, is a favorite summer resort and has a good hotel. The water-works for supplying Montevideo are on the bank of the Santa Lucia river. Good shooting may be had in the woods, but sportsmen should not go singly, as outlaws are sometimes met with. The town has fine quintas and 5,000 inhabitants: a handsome church, schools and free library.

Piedras, sometimes called San Isidro, is 11 miles from Montevideo and has been the scene of two great battles. It was founded in 1795 by Rev. Domingo Castillo. Leccq's quinta, founded in 1850, is remarkable for its plantations and for breeds of ostriches, alpacas, guanacoës, etc.

Pando, a station on the North-eastern railway, is about 4 miles from the Atlantic, with church, schools and several mills and distilleries. It was founded in 1781 by some Asturian settlers.

The village of San Ramon is 20 miles higher up the Santa Lucia than the town of that name. Sauce is another village, 5 miles north of Pando. This department also includes the island of Flores, where there is a lazaretto supposed to accommodate 1,000 passengers from Europe: the sufferings of passengers at times are dreadful, as the place is badly managed. Flores light is visible 15 miles to sea.

SAN JOSÉ.

Area 2,720 square miles, population 21,100. This department is well wooded and watered, the Cuchilla Grande dividing the watersheds of the Yi and Santa Lucia. The river San José has a course of 100 miles and receives 17 tributary streams: at its confluence with the Santa Lucia is the estancia of the late Mr. Buschenthal, with 100,000 Eucalyptus trees. This department is surpassed only by Canelones in the extent of land under crops, and has also many fine estancias of sheep and cattle. At the San Juan river is McColl's meat-

factory, accessible from the River Plate to vessels of 24 tons burthen. At Cufre is the Ercilda colony founded in 1883 by Paullier Brothers, comprising 72 farms of 100 acres each, which were sold to Swiss and Italian settlers at \$7 or 30 shillings an acre, payable in 5 years: the colony counts 400 souls, and has a church, school, 7 cheese-factories, prize cattle and a good supply of machinery. In this department are limestone quarries, and it is said that iron, lead and copper have also been found.

San José, chief town, is 60 miles from Montevideo, being connected with the capital by a branch of the Central Uruguay railway. It was founded by Eusebio Vidal, who brought out a dozen families from Asturias in 1783. It was the capital of Uruguay during the war with Brazil in 1825—26, and was devastated repeatedly during the wars of Reds and Whites, in 1862—70. The church is a stately edifice, and there are other public buildings, besides a good hotel. Population 7,000.

COLONIA.

Area 2,220 square miles, population 38,200. This department lies along the River Plate and Uruguay, its northern limit being the Cuchilla Grande. It ranks third in agricultural development, having 115,000 acres under tillage, and counting 4 flourishing agricultural colonies.

The Vaudois colony of Piemonte at the Rincon del

Rey was founded in 1857 by 55 families who bought farms of 70 acres each, on condition of giving in payment one-third of the crops for 4 years. In 1890 the colony covered an area of 60 square miles and counted 2,200 souls. The grain crop averages 8,000 tons. The colonists are industrious, and possess a church, 7 schools, a steam mill, neat houses, orchards and vineyards. Wheat averages 11 bushels to the acre.

Nueva Helvetia colony adjoins the above on the Rincon del Rey: it was founded in 1861, and counts 420 families, who have 30,000 acres under crops, including 25,000 under wheat. They bought the land at £1 sterling per acre, and it is now worth three or four times as much. They have 12,500 cows and 4,000 sheep. There are Catholic and Protestant chapels and schools, hotel, mill and 57 cheese factories, which latter turn out 300 tons of cheese yearly, worth £16,000 sterling. Both these colonies have access to the River Plate by the Rosario river, which is navigable 12 miles for vessels drawing 10 feet.

Sauce colony was founded by some Swiss settlers in 1879 at a place called Artilleros, on the road from the Vaudois colony to Colonia. It comprises 59 farms, and a village with a Protestant chapel and three camp stores. The crops of this colony have an average value of £2,000 sterling.

Cosmopolita, on the Arroyo Sauce, has an area of 48,000 acres in farms of 37 acres, occupied by 407 families, which count 2,540 souls. They produce 6,000 tons of wheat and 13 tons of cheese. There is another colony, called Riachuelo, about 6 miles east of Colonia, founded in 1878 by Italian immigrants: it has 42 families, who have 4,100 acres under crops, nearly all grain.

The ordinary value of land in this department is £2 sterling per acre for tillage, and £1,000 per square mile for pasture.

Colonia del Sacramento, chief town of the department, was founded in 1679 by Manuel Lobo, for the Portuguese Government, to protect the smuggling trade over the Brazilian frontier. It changed masters repeatedly, being alternately held by Spanish and Portuguese until 1778, when it was definitively annexed by Spain. It had been shelled by the British, under Captain McNamara, 13 years previously, and the fortifications have never been repaired, the marks of the shot and shell of the *Clive* and *Ambuscade* being very apparent. It is considered the safest port in the River Plate at all seasons, being protected by the islands of San Gabriel, Farallon, and Lopez. The discoverer, Solis, after losing his pilot at Martin García, anchored here, leaving two of his caravels under the lee of San Gabriel; he was killed by the Charruas at a stream which bears his name, near Martin Chico (1516). Captain Manton's graving-dock, established in 1869, admits vessels of more than 1,000 tons. The public buildings include church, schools, Comandancia, and a light-house, 102 feet high, the light revolving every 3 minutes, visible 12 miles, put up in 1857. Before bad weather the city and shipping of Buenos Ayres are visible, sometimes upside down, in the sky, like the Sicilian *fata morgana*. The distance is 28 miles, and a steamer plies daily. Strangers ought to visit some of the fine estancias of English and German owners at Martin Chico, Lata, Miguelete, Sarandi, Estanzuela, Pichinango, San Juan, etc.

Carmelo or Las Vacas stands in front of the mouth of the Guazú, 13 miles N. of Martin García. It has a church, schools and 1,000 inhabitants. At a distance

of 7 miles is Punta Gorda, where the river Uruguay, 1800 yards wide, falls into the River Plate.

Higueritas or New Palmyra is 3 miles above Punta Gorda; it was founded in 1829 and has some 1,200 inhabitants.

S O R I A N O .

Area 3,610 square miles, population 27,500. This department forms a "rincon" between the Rio Negro and the Uruguay, and is almost wholly pastoral, the tillage area not exceeding 40 square miles. It is rich in flocks and herds: the woods and rivers abound with game and fish, but the department suffers greatly from "matreros" or outlaws.

There are two small colonies, called Diaz and Artigas, each comprising about 40 families, who have farm-lots of 75 acres: each colony produces 800 or 900 tons of wheat.

Mercedes, population 9,000, is the chief town of the department, charmingly situated on the Rio Negro, which is here a wide and rapid river, with 20 feet depth. It was founded in 1771, about 20 miles from the mouth of the river, and has long been frequented in the bathing season, the water being so impregnated with sarsaparilla as to give it its name. The town suffered for 20 years from a series of revolutions under Maximo Perez, since whose death, in 1882, it has enjoyed repose. It has church, schools, and many fine buildings, and a steamer plies daily to the mouth of the Negro for mails and passengers, in connection with

the Uruguay route. Mail-coaches run twice a week to Durazno railway station, 100 miles, by which way Montevideo is reached in 3 days. Excursions may be made to the estancias of Drabble, Prange, Demarchi and others.

Soriano, with only 600 inhabitants, is the oldest settlement in the Republic, and gives name to the department. It was founded in 1624 by Fray Bernardo de Guzman, whose church subsists. It is surrounded by rich pastures, but infested by "matreros".

San Salvador, sometimes called Dolores, was also founded by Fray Guzman, 10 miles S.E. of Soriano; it stands at the foot of Cerro Espinillo, which rises to a height of 283 feet, and commands a fine view of the Uruguay. Sebastian Cabot founded a town somewhere in this vicinity, but all trace of it is lost. The inhabitants are wealthy, this being one of the best pastoral districts. San Salvador has 1,500 inhabitants, church and schools.

R I O N E G R O .

This department, area 3,220 square miles, population 14,300, was formed in 1882 out of the southern portion of that of Paysandú, and is situate on the north bank of the Rio Negro, being traversed by the Cuchilla de Haedo. The pastures are excellent and the pastoral wealth is considerable, the assessed value of land and cattle being equal to \$900 per inhabitant. It is said that copper, lead and iron are found. Some of the earliest English settlers bought estancias in this depart-

ment, the Stirlings, Youngs and others, at \$800 per "suerte" or 8 pence an acre: their descendants have very valuable cattle-ranches.

This department has long been famous for two of the finest estancias in the republic; that which belonged until recently to Messrs. Wendelstadt of Cologne, and the Bichadero: the latter was owned by an English Co. who have sold it to the Liebig Co.

Fray Bentos, officially called *Independencia*, was an obscure fishing village until the Liebig factory made it famous. It was founded by a friar, Fray Benito, at the beginning of the century, who built a chapel. In 1863 Mr. Giebert of Antwerp, a friend of Baron Liebig, fixed on it as the site for a factory of *Extractum Carnis*: a company was soon afterwards formed in London, capital £500,000, and in May 1868 the factory was completed. Mr. Giebert died in 1874, having lived to see the establishment pay annual dividends of 18 per cent. The factory stands on a bluff overlooking the Uruguay, a mile below the town. In the season it is common to kill 1,000 cattle daily: a carcass usually gives only 20 lbs. of Beef Extract, the latter containing the soluble matter of 30 times its weight of flesh: one pound of it with vegetables will make soup for 128 men. The factory employs 800 hands and forms a little town of itself, numbering 2,000 souls: the staff includes manager, clerks, engineers, tinsmiths, carpenters, physician, chemist, school-teachers, etc. There are good schools, library and reading-room, besides an Anglican chapel and cemetery. The town of Fray Bentos has no other interest or importance apart from the factory: there is a pretty parish church in the plaza. The shops are well stocked and numerous. Including the factory the population reaches 5,000.

Fray Bentos is the second port of the republic, its exports far exceeding those of Salto or Paysandú. Its imports include 4,000 tons of salt and 8,000 of coal for the Liebig factory.

At a short distance from the town is the Berlin colony on the estancia formerly called Wendelstadt's: it was founded in 1874, and the colonists have 4,000 acres under crops.

P A Y S A N D Ú.

Area 5,190 square miles, population 28,400. This department stretches along the Uruguay as far north as the Dayman, and is watered by the Queguay and other streams. It is an undulating country, with rich pastures, well stocked with cattle, some of the finest estancias belonging to British settlers, Peile, Hughes, Drysdale, Wilson, etc. This department surpasses all others in the value of land and cattle, namely \$20,400,000 or £5,400,000 sterling. There are in the department two small colonies, Porvenir and Trinidad, the former close to the town of Paysandú and counting 1,400 souls, with 11,000 acres under crops.

Paysandú, the chief town, is one of the principal ports on the Uruguay. It was founded by a priest or Pay called Sandú who built a chapel in 1772, and ten years later prevailed on a dozen families to come here from Misiones. In 1826 the place received a great impulse from Padre Solano (Garcia), a native of Spain, who introduced silkworms, built lime-kilns, and hatched chickens by steam; he also introduced snails, from

Cuba, for an article of food, and these multiplied so fast that they are now a nuisance. During the wars of Oribe the tide of battle often passed this way, and the Gauchos still sing to their guitars the deeds of heroism performed by Colonel Mundell, a Scotchman, who was more than once Intendente of Paysandú, and whose name was worth 10,000 men against Oribe. After him another Scotchman, Major McEachen, was Intendente, and during his term of office, 1873—77, he cleared the department of banditti. There is now no trace of the Brazilian bombardment of 1864, when the gallant Leandro Gomez and his companions were cruelly put to death, most of the town having been rebuilt. Some of the public offices have Grecian fronts and display much taste, having been built under the auspices of Colonel Mundell, 1865—68. There are two good hotels, several merchants and shopkeepers, a newspaper, library, and tramway. The streets are lit with gas. There are two churches, a hospital, a theatre and several clubs.

S A L T O.

Area 4,940 square miles, population 32,000. This department extends along the Uruguay from the Dayman to the Yacay. Not quite two-thirds of the population are natives, the number of foreigners in 1888 exceeding 10,000, of whom one-half were Brazilians. It is a picturesque and well watered country, traversed by six ranges of hills: the various rivers are tributaries of the Dayman, Queguay and Arapey. In pastoral wealth it is surpassed only by Paysandú, the

value of land and cattle being \$19,000,000 or £4,000,000 sterling. The area under crops is small, barely 15 square miles. There is a small colony of Italian grain-growers at Arriaga, on the Arroyo San Antonio, comprising 24 families, who have 3,700 acres under crops. Some vineyards have been established by native land-owners, who give settlers 100 acres on halves, on condition of their planting a given number of vines yearly.

Salto, the chief town, has 12,000 inhabitants and is pleasantly situated on the Uruguay. It has a church, schools, town-hall and other fine buildings. The Concordia hotel is excellent. The town was founded in 1817, and the oldest resident is Mr. Richard Williams, who has a fine collection of crystallizations. There are two railways: one to Montevideo, 394 miles, the other to Santa Rosa on the Brazilian frontier, 113 miles. Salto is 306 miles by water from Buenos Ayres, and there are steamers on alternate days. A pleasant excursion may be made to Salto Grande, the great falls, 15 miles above the town: the noise of the fall may be heard 10 miles off, and sometimes even at Salto. In flood seasons steamers ascend the falls to the Upper Uruguay; at any other time the traveller who desires to go up to San Borja or Misiones must take the East Argentine Railway at Concordia to Caseros (99 miles), where he will find steamers. Ferry-boats ply to Concordia. There are some English estancias at Puntas Dayman, Itapeby, Tangurapá, Palomas and Guabiyú, within a radius of 40 miles from Salto.

ARTIGAS.

This department, area 4,470 square miles, population 17,800, has been recently formed out of the northern portion of Salto, which formerly extended to the frontier river Quareim. There are many hill-ranges, and dense woods along the Quareim and Uruguay: the former (especially Cerro Catalanes) abound in agate, porphyry and alabaster; the latter in timber used for building. The islands of Ceibal San Gregorio and Herrero in the Uruguay are in this department, with rich woods and pastures.

San Eugenio, seat of the local authorities is on the river Quareim, near the Bautista ford. It was founded in 1852 by Father Degroso and Santiago Montes, and has a church, school and 1,500 inhabitants, who carry on a brisk trade with Alegrete, in Rio Grande. The Rivera colony is in the vicinity, founded in 1884: it counts 100 families, who have 5,000 acres under crops. San Eugenio is 170 miles by railway from Salto, and 565 from Montevideo.

Santa Rosa is the most important town in the department, being situate on the Uruguay, in front of the Argentine town of Caseros. It was founded in 1853 and counts 2,000 inhabitants. It is connected by a railway of 113 miles with Salto, being the terminus of the Uruguayan railway system, where it meets the Brazilian. Passengers can go by rail from here to Uruguayana and San Borja, or southward to Montevideo, the distance to the latter city being 507 miles.

R I V E R A .

This department, area 3,860 square miles, population 19,000, is the most northern in the republic and touches the Brazilian frontier at Sant' Ana. It was a part of the territory of Tacuarembó until 1884, and includes the gold-bearing district of Cuñapirú. Gold was first discovered in 1859 by a Gaucho, crossing the Arroyo Corrales, who picked up a nugget of pure gold, weighing 3 oz. Soon afterwards smaller nuggets were found in the Cuñapirú and other streams that descend from Cerro Arecuá, a hill which presents auriferous strata, 250 miles due N. of Montevideo, and 150 E. of Salto. For some years the Gauchos used to wash the river sands and sell the gold at \$13 per ounce to the country dealers. Goyo Suarez with 100 negroes took out 350 oz. of gold. The last worker was Mr. Rogers, a Californian, who had two Mexican mills crushing two tons of quartz daily, yield 2 oz. per ton, which hardly paid the trouble: he said the washings were poor, but there were thick auriferous veins 60 feet deep, if machinery could be obtained to get at them. This department has some lofty peaks, the Bichadero reaching a height of 2,300 feet. It is a purely pastoral district, the value of lands and cattle reaching \$7,000,000. Marble is found in many places, of superior quality.

Rivera, the chief town, is on the frontier, facing the Brazilian town of Sant' Ana, and has 1,500 inhabitants. It is 358 miles by the railway from Montevideo, the line having been completed in March 1892.

T A C U A R E M B Ó .

Area 8,210 square miles, population 22,400. This department which lies along the Brazilian frontier is the largest in the republic, and the most thinly populated, having only 3 inhabitants to the square mile whereas the general average is 9: it is a wild, hilly country, watered by many streams that find their way to the Rio Negro. There are rich pastures, well stocked with cattle, agriculture being almost unknown. Many of the best estancias belong to Brazilians, who form 40 per cent of the land-owners of this department. Some of the hill ranges contain excellent, white marble. The woods that border the various streams have many kinds of useful timber.

Tacuarembó, otherwise San Fructuoso, is a well-built town of 3,000 inhabitants, standing on a plateau overlooking the river, surrounded by peach-gardens. It has a church, schools, hotel, and a considerable frontier trade. It is 285 miles by railway from Montevideo.

San Gregorio, founded about 1860 by Gen. Goyo Suarez, stands on the right bank of the Rio Negro, and is a place of rising importance, being a station on the Northern Extension railway.

Santa Isabel is a village at Paso de Toros on the Rio Negro, where the Central Uruguay railway has large workshops: from this point one line of railway goes to Salto, another to Rivera.

CERRO LARGO.

Area 5,840 square miles, population 28,000. This is another large department lying along the Brazilian frontier, and there are 36 Brazilian estancias, with an aggregate area of more than half the department. The value of lands and cattle reaches \$15,000,000: agriculture is in its infancy. The woods are full of game, and much infested with banditti. There is a rocking-stone called Cerro Campana, which gives forth the sound of a bell, when struck with a piece of iron. Rincon de Ramirez is a fertile district bordering on Lake Merim which is an inland sea of 600 square miles: the right of navigation is reserved to vessels of the Brazilian flag. Bridges are much needed over the rivers in this department: one of stone was built over the Tacuary in 1865 by a Frenchman, who was murdered a few months later because he demanded a toll. The department is traversed by the Cuchilla Grande; the highest peaks are Cerro Grande and Cuentos. The latter takes its name from the fact that stone-beads (cuentos) thoroughly perforated are washed out of rifts in the mountain after heavy rains. Some of the hills contain lead, copper, granite and porphyry. Coal has been found at Sierra de Rios.

Cerro Largo, the chief town, was first called Melo in honor of its founder, the Viceroy of Buenos Ayres of that name, who built a fort here in 1797 to keep back the Portuguese. It suffered terribly during the civil wars (1830—67), but is now a flourishing

place of 6,000 souls. It is 280 miles from Montevideo, and will soon be connected by the railway which already reaches Treinta-tres. There are many fine public buildings and squares.

Artigas on the Yaguaron river was founded in 1832, and stands opposite the Brazilian town of Yaguaron, about 60 miles east of Cerro Largo. It was a great place for contraband in the Oribe wars, but has since declined. It has about 3,000 inhabitants who carry on a very active trade over the Brazilian frontier, being for the most part Brazilians. A ferry-boat plies every half-hour to Yaguaron, an important town of 6,000 souls, on the Brazilian side.

DURAZNO.

Area 5,590 square miles, population 24,200. This department forms a "rincon" between the rivers Yí and Negro, and lies west of Cerro Largo. It is bisected by the Cuchilla Grande and watered by numerous tributaries of the Yí and Negro. The estancia San Jorge, property of the Fair family, on the Arroyo Chileno, has an area of 360 square miles, and was bought by the late Thomas Fair in 1824. This department suffered very severely in the civil wars, and has begun to recover since the opening of the Central Uruguay Railway.

Durazno, officially San Pedro, with 2,000 inhabitants, was founded in 1828 in the manner of a military colony out of the Indians of Misiones, whose towns had been burnt by the Portuguese. The colonists, however,

were impressed so often in the civil wars that only one was left, and he became President of the Republic and was killed—the late General Flores. Durazno is on the S. bank of the Yí, near the mouth of Arroyo Maciel; it stands on a hill-slope, thickly wooded, surrounded by gardens. Notwithstanding the name of Durazno, peaches are scarce. It is 130 miles by railway from Montevideo.

F L O R E S .

Area 1,760 square miles, population 15,300, is a new department, formed out of the eastern portion of that of San José. It lies south of the rivers Yí and Negro, and comprises the peaks of Ojolmi and the hill-ranges of Porongos and Marincho. It is the 4th department for agriculture, having 100 square miles under crops. It has also fine pastures, stocked with cattle and sheep. About 20 years ago there was a number of English estancieros, but only a few remain. There are numerous valuable quarries of granite.

Porongos or Trinidad was founded by Father Francis Jordan, who built a chapel on the spot in 1803. It has church, schools, hotels, printing-office, club, many fine shops and 4,000 inhabitants. It is 60 miles from San José and 120 from Montevideo.

FLORIDA.

Area 4,740 square miles, population 29,500, is a central department, which suffered terribly in the wars of 1830-67, and is still infested by "matreros". The country is undulating, with plenty of water, rich pastures and not much timber. John Jackson owns a great tract of country, including the Timote, Santa Clara and other estancias, bought in 1825 at \$300 per "suerte" or 4 pence an acre. The Jackson family clip 300,000 sheep.

Florida, otherwise San Fernando, is a station on the Central Uruguay Railway, near the Arroyo Pintado, 67 miles from Montevideo, that river being crossed by a railway bridge of 570 feet length. It is only a mile from the confluence of the Pintado and Santa Lucia, and is surrounded by quintas and plantations, which give it the verdant, flowery appearance to which it owes its name. It has church, schools and 2,500 inhabitants. The first Legislature of Uruguay met here in 1825. Trains daily to Montevideo; time, 4 hours.

MINAS.

Area 4,880 square miles, population 22,500, is a wild, mountainous department, most of the inhabitants being lawless. The district of Polanco has numerous crosses, where persons have been murdered on the highway.

The department is supposed to contain an endless supply of gold, silver, copper, lead, iron, coal, porphyry, rock-crystal, slate etc., and derives its name from its mineral wealth, purely fabulous. The mines which the Spaniards worked for silver in the last century turned out to contain only sulphuret of lead. They were supposed by Azara, in 1795, to contain diamonds and topazes, an opinion which received some support from Petivenil, a mineralogist sent out by the King of Spain. In recent years coal has been spoken of, but seems fabulous, or at best some kind of bitumen.

Minas, the chief town, was founded in 1783 by Rafael Perez, who brought out 40 families from Spain. It presents a picturesque appearance, the mountains forming an amphitheatre around. It is 70 miles N.E. of Montevideo, and terminates the second section of the Pando Railway. It has a mill, kept by a Frenchman, the suburbs producing 200,000 bushels of grain. The traveller should visit the caves, which are reached after an hour's walk along an extremely narrow path, with a fearful precipice on each side. The Salon cave is 200 feet long, by 50 in height, and from it a clear stream descends to the valley; a split in the rock, about the middle of the cave, admits some light. The Window cave is more striking, for it presents a delightful panorama of the Aparicio valley, and the Tapes hills. The Pillar cave is so called from a pillar at the arch of entrance, which the tradition of the place says was made by the Minuanes Indians in the last century. It has 5,000 inhabitants, and is a well built town.

There are two villages, called Solis and Nico Perez; the first on the route to Maldonado, the second a station on the railway to Treinta Tres, on the slope of the Cuchilla Grande.

TREINTA TRES.

Area 3,740 square miles, population 15,700, is a new department formed out of territory taken from Minas and Cerro Largo. It is the most picturesque and lawless department in the republic, having numerous woods and rivers. There are few English settlers; the murder of Mr. Hart in 1891 caused a bad impression, the assassin of course going unpunished.

Chief town *Treinta Tres*, founded in 1853 by Lucas Urrutia: it has church, schools and 3,000 inhabitants, and is situate near the river Olimar.

ROCHA.

Area 4,440 square miles, population 18,000. This is a new department formed out of that portion of Maldonado which formerly lay along the Brazilian frontier, the river Chuy. The northern part is swampy, and the "bañados" of India Muerta were the scene of a hard-fought battle in 1816, in which General Rivera was beaten by the Brazilians, who advanced and occupied Maldonado. At the mouth of the Chuy is a landmark, on the N. bank, with this inscription: "R. C. 1784, neutral ground as far as Tahin." The ruins of Fort San Miguel are seen, 10 miles from the shore. Still more imposing are those of Fort Santa Theresa, a mile inland, built of granite, in 1753, to hold 400

men, and pierced for 60 guns. The coast is very dangerous about Castillo Grande, so called because it is an island-rock resembling a feudal castle.

There are various hills, called Chafalote, Difuntos Averias and San Miguel. The department includes three groups of islands, Paloma, Polonia and Coronilla, which are used for pasturing cattle. Paloma has numbers of rabbits; the others are much frequented by seals. It is said that in various places of this department copper, lead, iron, jasper and slate are found. The colony of Santa Theresa, founded in 1885, comprises 80 farms of 80 acres, covering 10 square miles.

Rocha, the chief town, was founded in 1793 by 25 families from Galicia and Asturias. It has 6,000 inhabitants, and stands in a well-wooded country at the mouth of the Rocha river, 13 miles from Cape Santa Maria and 120 E. of Montevideo.

MALDONADO.

Area 1,640 square miles, population 20,500. This department lies along the Atlantic seaboard from Canelones to Rocha, and presents a very dangerous coast, famous for wrecks. The inhabitants had a practise of tying lights to cows' horns, to lure ships to destruction, until H. M. S. Cracker threatened, in 1874, to fire on them as pirates. They had frequently attacked and wounded shipwrecked sailors who attempted to defend their property.

The following light-houses are maintained on this part of the coast:—

	Class.	Light.	Miles visible.	W. Long.
Cape St. Mary...	1st	Flash	18	54° 10'
José Ignacio.....	3rd	Fixed	15	54° 42'
East Point.....	2nd	Fixed	20	54° 56'
English Bank...	3rd	Fixed	9	55° 52'
Punta Brava....	4th	Fixed	8	56° 08'
Flores Island....	2nd	Revolving	15	55° 55'

There is no light on Lobos Island, which is 4 miles seaward of East Point, in 54° 50' W. long.; the seal-fishers complain that a light would alarm the seals and spoil their business. The seal-fishery dates from 1782, the exports of the closing years of the last century showing an average of 2,000 skins, besides oil, shipped yearly to Spain. Nothing can be more nauseous than the smell, and yet the inhabitants, who are fishermen, get accustomed to it. The best fishing season is in May and June, when the seals are driven hither by cold from Tierra del Fuego; they utter shrill cries. Lobos island rises to 93 feet above sea-level, and is visible 15 miles; it is 42 miles W.S.W. of Cape St. Mary. A smaller island, called Gorriti, was fortified in 1777, and the fort was restored by the Brazilians in 1825, when they seized Maldonado; it mounted 4 batteries, in all 20 guns. This island was offered to the British Government about 30 years ago, for a coaling station, and refused; it is low and sandy at the mouth of Maldonado bay, and of no strategic importance. The most notable landmarks for vessels on this coast are: Solis Grande, 1,930 feet high and 4 miles inland; Sugar-loaf, 1,500 feet, 5 miles inland.

In no part of the republic is the soil better suited for agriculture: Fernandez grows good tobacco at Rocha, Aguilar produces Canary wine at Maldonado, and other persons grow olives and date-palms with equal success. The hill-ranges contain plenty of supe-

rior marble, such as that used in the front of the London and River Plate Bank at Montevideo.

Maldonado, the chief town, is sometimes called San Fernando. It has 2,600 population, and was a port of considerable trade with Spain in the 18th century. It was founded in 1762 by Don Pedro Zeballos, who brought a number of families from Rio Grande, driven from their homes by the war with Portugal. It was fortified in 1773, and increased by a colony of 227 Galicians in 1781, but the Indians were so troublesome that many families removed to Montevideo. It stands a mile inland, 273 feet over sea-level, and is frequented for sea-bathing, the water being stronger than near Montevideo, but a first-class hotel, tramway, and bathing machines are much wanted.

About 9 miles distant is the town of San Carlos, with 3,400 population. It has a handsome plaza, church, schools, theatre, newspaper, steam-mill, free library, and many good shops. This department includes also the village of Pan de Azucar, with a chapel, school and 700 inhabitants, near some copper mines.

REPUBLIC OF PARAGUAY.

This country is remarkable for enchanting scenery, fertile soil and healthy climate. It has an area of 90,000 square miles, that is, about equal to the island of Great Britain, and is situated between 22 and $27\frac{1}{2}$ degrees S. lat., and $54\frac{1}{2}$ and $58\frac{1}{2}$ W. long. It is bounded on the north by Rio Apa, which separates it from Brazil, on the west by the river Paraguay, and on the east and south by the Upper Paraná. It has also territorial rights over a vast and undefined portion of the Gran Chaco, which is also claimed by Bolivia, but is wholly in the possession of warlike Indian tribes, the only settlement on the west bank of the river Paraguay being Villa Occidental.

Being situated nearly 1,000 miles from the seaboard, it is in a manner secluded from the outer world, and is not accessible to vessels drawing more than 9 feet. It is nevertheless connected by telegraph with Europe, and may be reached from England in about 30 days. Previously to the war of 1865-70 it was in a flourishing condition, although subject to the iron despotism of Lopez, but at the conclusion of the war it was a pitiful ruin; the population destroyed, the towns wrecked, the lands uncultivated.

Under the old Spanish *régime* the term Paraguay included Tucuman, Cordoba and Buenos Ayres, all which were for a period subject to the Adelantado or governor of Asunción. The first conquest took place in 1536, under Juan de Ayolas, whose successor, Domingo Irala, constituted the colony on a solid basis. Towards the close of the 16th century the Jesuits were introduced by Governor Fernando Arias (a native), to check the cruelties of the Spanish conquerors. During nearly 200 years the Jesuit settlements were the admiration of travellers, and, as Voltaire confessed, "they were a triumph of humanity." On the expulsion of the Order, in 1767, the country quickly declined in arts and industry. An effort was made by General Belgrano to annex it to Buenos Ayres in 1812, which was unsuccessful, the Paraguayans establishing their own government in the form of a triumvirate. Subsequently the lawyer Gaspar Francia contrived to seize power, and ruled with much cruelty until his death, in September 1840. A constitutional form of government was initiated by Carlos Antonio Lopez, who nevertheless maintained a complete despotism during 20 years, and at his death bequeathed the power to his son, in September 1862. Marshal Lopez was then in his 35th year, and had travelled in Europe; he began by making docks, railways, etc., and employed many English engineers and skilled artisans. Unhappily the invasion of the Republic of Uruguay by the Brazilian army, in 1864, led to hostilities between that empire and Paraguay, which resulted in a war of 5 years, no fewer than 100,000 male Paraguayans being cut off in the campaign, while a still greater number of women and children died of hunger.

The census of 1857 gave a population of 1,337,449,

which was probably double the actual number, the settled or inhabited portion of the country never exceeding 20,000 square miles. It was estimated by experienced persons, in 1873, that the inhabitants numbered about 10,000 males and 60,000 females. According to the census of 1886 the population was 263,700 (of which total probably two thirds were women), the number of foreign residents being 3,200, mostly Italians and Germans, and only 168 British. The above is exclusive of the Paraguayan Chaco, north of the Pilcomayo, which is supposed to have 130,000 Indians, but we doubt if there be 30,000.

There are only two seasons, summer, which lasts from November to the end of March, and winter the rest of the year: mean temperature 60 F. in June and 83 in February (see appendix). In December 1881 the thermometer at Asunción rose to 100 F. in the shade. The climate, says Dr. Stewart, is very healthy, being free from yellow fever, typhus, typhoid, diphtheria, cholera and dysentery. The only peculiar diseases in certain districts are goître and elephantiasis; the former attributed to water, the latter, perhaps incorrectly, to eating pork. There is no malaria, in spite of the numerous swamps, and Europeans enjoy good health, if they live temperately and avoid too much exposure to the sun. The natives suffer from excessive use of tobacco and deficiency of animal food, which disposes to diarrhœa. Sunstroke is remarkably rare. Small-pox formerly made ravages, but is now unknown, vaccination being compulsory.

The appearance of the country is undulating, the vegetation luxuriant, with stately forests, noble rivers, and lofty peaks, the latter clad in timber to the summit and mirrored in expansive lakes. The fauna includes

tigers, pumas, wild boars, rattlesnakes, tiger-cats, foxes, apes, monkeys, etc., which frequent the woods; besides alligators, 20 feet long, in the rivers, and a lizard some 8 feet in length. Azara counted 448 kinds of birds, the prettiest being the "widow," no bigger than a canary. Bees and cochineal are common, and sometimes there is a visitation of locusts.

Agriculture is the chief occupation of the people, and is mainly in the hands of women.

† The area of cultivated land is, of course, much less than it was 30 years ago, before the war, viz:—

	Acres.	
	1863.	1891.
Maize.....	349,000	82,000
Mandioca.....	110,000	71,000
Tobacco.....	23,000	20,000
Sugar.....	25,000	9,000
Cotton, rice etc..	43,000	45,000
TOTAL.....	550,000	227,000

Maize, mandioca and oranges may be said to constitute the food of the people: the bread called Chipá, which is made of mandioca, is oily but agreeable. Enough sugar is raised for home consumption, say 6,000 tons or about 50 lbs. per inhabitant, besides 10,000 barrels of rum, say two gallons per inhabitant. A pea-nut called Maní is cultivated, the area under same being 7,200 acres. Tobacco is a valuable crop, and the area covered by it has doubled since 1881: the crop of 1892 was estimated at 15,000 tons, worth £70,000 sterling. The best qualities are grown at Villa Rica, Luque and Rio Apa. under the names Peti-Hobí and Peti-Pará, the latter having been introduced from Cuba. The industry is in some manner modern, for in 1829 the crop did not exceed 1,200 tons. It is so

profitable that it readily gives 50 per cent per annum on the capital invested. The plants are put down in September, like cabbages, and transplanted in November. The gathering begins in January, and the leaves are hung out to dry till the "acopiador" comes round to buy. At the Paris Exhibition of 1855 a gold medal was awarded for samples of Peti-hoby and Petipará. Some coffee-plantations have been started by Dr. Stewart and others, covering in all about 700 acres and numbering 34,000 plants.

Jesuit's tea or Yerba-maté is by far the most important product. It was a Government monopoly under the Francia and Lopez *régimes*. At present the northern "yerbales" are free to all comers, on paying merely a licence for working, but the southern are treated as State-property and leased (since 1880) to Messrs. Escobar, who have to pay a royalty of \$1 per ton, on a minimum product of 600 tons per annum. In the time of Lopez all "acopiadores," or collectors, received 5 cents per lb., and the yerba was then exported to Buenos Ayres, Chile, etc., at 10 cents, the difference going to revenue. The average export in 1860—63 was 2,050 tons, representing a value of \$450,000, but the production has more than doubled in recent years, the export duty (which was \$100 per ton under Lopez) being now only \$12 a ton. The yerbales are said to cover 3,000,000 acres, or 4,000 square miles, and were worked very carefully by the Jesuits, but in later times there has been much waste. All authors, from the Jesuits down to Bompland, agree that it has nutritive qualities and can sustain the system during long intervals of labor. Brazil exports 30,000, Paraguay 5,000, tons per annum. It is possible that yerba-mate may some day supplant coffee, being much cheaper, for it

can be placed in Europe at two-pence per lb. The annual crop varies from 10,000 to 12,000 tons, representing a value of £130,000 sterling. Yerba-mate can be prepared for market in 36 hours. The leaves are slightly scorched by being rapidly passed through a fire, and then the branches or twigs are suspended in sheds open at the sides; here they are exposed for 15 to 20 hours to a fire of scented wood kindled beneath, after which the twigs are ground and the whole is then ready to be sent to market. In this manner 10 men in a couple of days can make up from 3 to 4 tons. All efforts to introduce yerba-mate into use in Europe have failed. In the reign of Queen Anne the London physicians forbade Jesuits' tea, as productive of barrenness in men and women, but possibly they were jealous of its origin, although they certainly encouraged the use of Jesuits' bark. It is now more or less used by 18 millions of people in Brazil, La Plata, Chile, Peru and Bolivia, the annual consumption never falling below 55,000 tons.

There are two fibrous plants, the Caraguatá and Ivirá, samples of which have been valued in England at £24 per ton. Factories were established by Artecóna and others, in 1889—90, but proved a failure. Bompland is said to have discovered a variety of medicinal plants previously unknown, and the same is said of the Swedish physician of Francia. The cotton-tree grows spontaneously, and lasts ten or twelve years, but is not much cultivated, as cotton goods can be imported cheap from England: the total area under cotton is only 1,200 acres.

It is impossible to estimate the area under orange-groves or the number of trees, but the crop is at least 300 million oranges, of which less than one-fourth is

exported the shipments ranging from 50 to 60 million yearly: the market-price wholesale is about 2 shillings per thousand.

The forests contain much valuable timber, but it cannot be floated down on rafts, as in Canada, the specific gravity being usually 70 lbs. per cubic foot, so that if thrown into the water, it would sink like a stone. Wood for fuel sells at \$3 gold (12 shillings) per cord of 100 logs. Some quebracho is shipped to France, for tanning purposes: it is very hard and weighs 84 lbs. per cubic foot, being also used for railway sleepers, and the supply is inexhaustible. A recent enumeration shews 197 different kinds of wood, for building, ornamental, dyeing or medicinal uses.

There are few landed proprietors, three-fourths of the country being Government lands, mostly confiscated from the Jesuits missions in the last century, when the Fathers were expelled: the Government granted the lands at a nominal rent to the cultivators, and small "copueras" of maize, mandioca, tobacco, and cotton were met with every mile along the high-roads during the prosperous times before the war. After the fall of Lopez a survey was made by the new Government in 1870, when the public lands were found to comprise:—

	Sq. leagues.	Sq. miles.
Arable lands	7,100	42,600
Mountains and forests..	4,500	27,000
Yerbales	840	5,040
Public lands	12,440	74,640
Private »	2,560	15,360
TOTAL	15,000	90,000

Government estimates put down the live-stock in 1890 as follows:—

Cattle	862,000	Horses	105,000
Sheep	63,000	Goats	15,000

Several Argentines have cattle-ranches of three or four thousand head south of the Tebiquary, and numbers of Italians and Paraguayans are found in various departments with 500 each, or more. No business pays so well as cattle-farming, which gives 30 per cent clear profit yearly. Land may be bought at a shilling an acre, and a capital of £2,000 would suffice for buying and stocking a farm of 20 square miles. The climate is too hot for sheep.

Paraguayans have exaggerated ideas of the mineral resources of the country. The geologist Twite found iron in many places, copper in others: the ore of Caapucú is rich, giving 30 per cent. iron, and the iron-works established by Lopez at Ibicuy were used for casting cannon during the war, employing over 100 men. The late Colonel Wisner perished in a vain attempt to discover gold in the remote hill-ranges of Maracayú and Anhambay.

The earnings of the people may be set down approximately as follows:—

	\$ gold.		£ sterling.
Tillage products.....	3,200,000	=	640,000
Pastoral »	1,500,000		300,000
Transport service.....	200,000		40,000
Sundries.....	2,500,000		500,000
TOTAL.....	7,400,000	=	1,480,000

The wealth of the republic is approximately summed up thus:—

	\$ gold.
42,000 square miles arable land...	4,300,000
48,000 » » pastoral etc ..	2,400,000
Cattle.....	5,100,000
Houses and buildings.....	3,500,000
Railways.....	3,200,000
Sundries.....	6,500,000
TOTAL.....	25,000,000

This is equivalent to £5,000,000 sterling, or not quite £20 per inhabitant.

Trade returns for 1890 shewed as follows:—

IMPORTS.	\$ gold.	£ sterling.
Dry goods.....	90,000	= 18,000
Wines.....	70,000	14,000
Groceries.....	90,000	18,000
Sundries.....	80,000	16,000
TOTAL.....	330,000	= 66,000
EXPORTS.		
Yerba-maté.....	210,000	= 42,000
Timber and bark...	160,000	32,000
Tobacco.....	105,000	21,000
Hides.....	55,000	11,000
Oranges.....	15,000	3,000
Sundries... ..	15,000	3,000
TOTAL.....	560,000	= 112,000

The above returns compare with those of previous periods thus:—

Year.	\$ gold.	
	Imports.	Exports.
1855	220,000	505,000
1860	445,000	850,000
1881	200,000	350,000
1890	330,000	560,000

Import duties at present range from 20 to 50 per cent *ad valorem*, nominally, but being payable mostly in paper-money do not really exceed 10 per cent.

Tonnage entries shewed thus:—

Year.	Tons.
1889	184,000
1890	177,000

Most of the commerce is with Buenos Ayres by steamers of 6 feet draught and 200 to 300 tons, making two round trips monthly; they can carry about 80 cabin and 50 steerage passengers, fares \$45 and

\$22 respectively. There is telegraphic communication with Buenos Ayres by a Government line from Asunción to Corrientes.

Internal traffic is chiefly over the railway, begun by Lopez I in 1859 and completed as far as Paraguari (40 miles) by his son in 1863. It consists of 3 sections, viz:—

	Miles.
Asunción—Paraguari.....	40
Paraguari—Villa Rica.....	52
Villa Rica—Caazapá.....	50
TOTAL.....	142

The paid-up capital is £914,000; including £210,000 held by the Government, which has given a 6 per cent guarantee for 30 years on a capital of £1,500,000, provided the line be prolonged to Encarnacion, an old Jesuit mission on the Upper Paraná, in front of Posadas. The guarantee, however, on the completed sections is in default since Sept. 1890, and the Company stopped the works at Caazapá in August 1891. The whole line from Asunción to Encarnacion would have a length of 228 miles, the unfinished portion from Caazapá outwards being 86 miles. The Company suggest that a better terminus would be Curatorí on the Upper Paraná, in front of the rapids of Apipé, 60 miles lower down than Posadas, as the rapids are a great impediment to navigation,

Paraguay suffers greatly from a super-abundance of inconvertible paper-money, especially since the Government took over the National Bank, in June 1890. The issue has been as follows:—

Date.	\$ in circulation.
June 1890.....	800,000
January 1891.....	2,500,000
September 1892...	5,500,000

The rate of exchange in 1892 has varied from \$30 to 35 per £1 sterling, leaving the paper-dollar worth 7 or 8 pence English.

The revenue in 1890 and 1891 shewed thus:—

	1890. \$ currency.	1891. \$ currency.	1891. £ sterling.
Import dues.....	990,000	275,000	= 8,200
Export "	220,000	440,000	13,200
Stamps.....	100,000	100,000	3,000
Sundries.....	420,000	50,000	1,500
Revenue.....	1,730,000	865,000	= 25,900
Expenditure.....	3,240,000	1,700,000	51,000
DEFICIT...	1,510,000	835,000	25,100

It appears from the foregoing statement that during the last two years the expenditure was double the revenue. The expenditure in 1891 was thus:—

	\$ currency.	£ sterling.
Army.....	920,000	= 27,600
Government...	780,000	23,400
TOTAL..	1 700,000	= 51,000

The deficits of 1890—91 have been covered by the issues of inconvertible paper-money before mentioned.

The Paraguayan foreign debt consisted of two loans negotiated in London in 1871—72 for £3,000,000 sterling, but the only sum that ever reached Paragnay was £180,000. The business was a very disgraceful one, and the bondholders consented to reduce the debt to £850,000 sterling in 3 per cent bonds and £1,500 000 in land warrants. Each of these warrants for £100 entitled the holder to 150 acres, and the Government ceded 2,200,000 acres for the purpose. In order to turn the lands to account the Paraguayan Land Co. was formed, capital £250,000, but only £51,000 is actually paid up. The Paraguayan foreign debt is now

in default; the interest would be £25,500 per annum which is equal to the total revenue of the republic.

The form of Government is similar to that of Uruguay or Chile, the Legislature consisting of 20 Senators and 40 Deputies. The army numbers 600, and costs £40 a man. The President and Vice are elected for 6 years. There are 200 public schools, with 9,000 children: annual expenditure for education \$130,000 or £4,000 sterling.

The post-office returns shew very rapid development, viz:—

Year.	Letters etc.	Telegrams.	Receipts \$ currency.
1880	92,000	—	—
1888	530,000	22,600	20,600
1890	1,004,000	28,300	26,300

There are two agricultural colonies; that of San Bernardino, composed of Germans, on the banks of Lake Ipacaray, 20 miles from Asuncion, and a settlement of Irish families near Caazapá, where the railway ends. The families receive free farm-lots of 32 acres, besides a free passage from Buenos Ayres and provisions for 6 months, with seeds, plough and three cows.

Asuncion, the capital and centre of commerce, is situated on the left or eastern bank of the river Paraguay, in 25° 16' 29" South lat. and 57° 42' 42" West long., at an elevation of 182 feet over the city of Buenos Ayres, from which it is distant 970 miles. It was founded on the feast of the Assumption of the Blessed Virgin, August 15, 1536, by the Commander Ayolas at the head of 300 Spaniards. It is therefore much older than Buenos Ayres, but preserves to-day much of its mediæval character, and during the last

three centuries its population has perhaps never exceeded 30,000 souls, although Du Graty estimated it in 1860 at 48,000: at present it is barely half this number. The situation is picturesque, about 50 feet over the river, which is here 605 yards across: the depth of the Rio Paraguay varies from 20 to 72 feet, with a current of 2 miles per hour, and Commander Page registered a fall of $13\frac{1}{2}$ feet between October and February. The arsenal is the first part of the city which is seen on approach; it was built for Lopez by Messrs. Whitehead & Grant in 1861, and for some time occupied 300 men, including the saw-mill attached. There were 30 English mechanics, besides a few French or Germans, the rest being natives; in three years they constructed 7 mail-steamers, which used to ply to Montevideo, besides cannon, stoves, bells, etc. The public buildings are very fine, especially the Government-house, cathedral, railway-station, Lopez's palace, custom-house, theatre, etc. The streets are, as in all Spanish towns, chessboard fashion, the city being cut into blocks of 80 yards square, with streets 15 yards wide. The Villa Mora tramway, which cost £40,000, is 10 miles long and belongs to Mr. Ogilvie: it has 32 cars and 230 mules, which ran last year 190,000 miles and carried 1,500,000 passengers. The market-place is an interesting sight at daybreak, crowded with country women selling their tobacco, fruits, etc. The shops are poor, but some beautiful gold rings are made, like those in China, which the traveller should buy. The arcades around the market are used for shops. The houses are not flat-roofed, but mostly tiled, as was common in the 17th century, with wide corridors. There are two daily papers published in Spanish. The railway from Asuncion traverses a most delightful

country for 40 miles, as far as Paraguari. On leaving the city the first object to attract notice is the house wherein the tyrant Francia lived and died. Close by is the quinta which belonged to the unfortunate Dr. Berjes, Minister of Foreign Affairs, shot by Lopez; here was a fine collection of exotics and rare plants, and at the foot of the cliff overlooking the river is the Chorro waterfall, a favourite bathing-place. The Trinidad church marks the place where old Lopez was buried, and after crossing Campo Grande we find ourselves amid mandioca plantations, succeeded by orange and palm groves as we approach Luque, 10 miles from town. Soon we get sight of the Cordillera, clad to the summits in luxuriant vegetation, and now bursts upon the traveller's view the magnificent lake of Ypacaray (covering an area of 40 square miles), which begins at the village of Arecuá. Now the line skirts the lake for some miles, passing the glorious peak of Ytauguá, at the foot of which was the summer palace of Mrs. Lynch during the Lopez régime. The "cajon," or valley of Pirayu, offers a charming spectacle, wooded hills rising up on either side, and appearing to close it in at the further end, where the Cerro Mbatovi lifts its head in the clear sky. There is a belief among the country people that St. Thomas the Apostle dwelt in a cave in this mountain, where a small chapel now exists. We pass Cerro Leon, where Lopez had his head-quarters when preparing for the war in 1865.

Paraguari, population 3,000, has a brisk trade in tobacco, and was for 200 years one of the Jesuit establishments, counting 30,000 head of cattle. Beyond Paraguari the line passes close to the graves of 160 "Lincolnshire farmers": the survivors, 840 in number, were rescued in 1874 by Mr. Frederic St. John and

the St. Patrick's Society of Buenos Ayres. Most of the so-called farmers had been recruited in Whitechapel and Houndsditch.

Villa Rica, population 10,000, is the best town in the interior and famous for tobacco. It is situated in the midst of a fertile country between the rivers Tibiquary and Tibiquari-Mini, the former navigable for small vessels. It stands 323 feet above Asuncion, from which it is distant 92 miles. The situation is picturesque, surrounded by tobacco and mandioca farms, with hills running east and west covered with noble forests of morosimo, tatayba, and other woods, like mahogany, very suitable for furniture. The old Jesuit church and college were destroyed by Francia. Captain Hunter Davison resides here and is most courteous to visitors.

The only other towns of interest in the interior are Yaguaron and Itá, within 30 miles of Asuncion, the first famous for its essence of orange-leaves, the second for pottery. Yaguaron was founded in 1536.

The river towns, from Humaytá to Salvador, are described in Route 43, page 233.

There is no town or place of note on the Upper-Paraná, except Itapua, formerly one of the most flourishing missions, but since used only for a military outpost on the Argentine-frontier of Misiones. The remains are seen of a stone church, once rich with statues of the twelve apostles in silver and fine wood-carving, which was first stripped by Francia, and pulled down by Lopez in 1846; the dimensions as stated by Captain Page are 320 feet long by 80 wide. The old Jesuit college is now used by the Comandante of the district, as found also in many of other ruined missions through Paraguay, the buildings being uniformly as perfect as when occupied by the Fathers.

The first Jesuit settlement was made by Fathers Field and Ortega, in 1557, and in 70 years the missions extended along the Upper Uruguay. But the Paulistas, having commenced a slave trade, made descents upon the peaceful Misioneros, and 60,000 Indians were sold in Rio Janeiro market-place, in two years (1628—30). Some of the Jesuits perished in defending their missions. Father Montoya collected 12,000 survivors of the Guayrá missions and moved down to Loreto, on the left bank on the Paraná, abandoning San José, Los Angeles, San Pedro, San Pablo, San Cristobal, Jesus-Maria, Sant' Ana, San Joaquin, Santa Theresa, San Carlos, Apostoles, and San Nicolas, where 100,000 converted Indians had perished or been carried off captives by the Paulistas. A new Christian Republic was established out of reach of the Mameluco slave-hunters. Each mission was built in a uniform style, with a great plaza in the centre, and here were erected the church, college, arsenal, stores, workshops of carpenters, smiths and weavers, all under the Fathers' immediate care. Church ceremonies were regularly performed every day, the children beginning with morning-prayer, followed at sunrise by Mass, at which the whole population attended. Baptisms took place in the afternoon; vespers were sung every evening as a close for the day's work. Marriages were celebrated on all holidays or festivals. Charlevoix describes the processions on grand fête days as magnificent. The Indians were excellent musicians and singers. The dress of both sexes was of native cotton, the men wearing shirts and short trousers, the women caps and loose gowns. The schools and workshops were admirably managed, and the wood-carving of the Misioneros of olden time still excites the wonder of the traveller.

The language spoken was Guarani, and printing-offices were established at Santa Maria and San Javier in the 17th and 18th centuries, from which issued many works, the following being still extant:—

“Temporal and Eternal” by P. Nieremberg, 1705.

“Jesuit’s Manual for Paraguay,” 1724.

“Guarani Dictionary,” 1724.

“Guarani Catechism,” 1724.

“Sermons and Examples,” by Tapaguay (probably a native Jesuit), 1724.

Two of the above are in possession of the priest at Villa Rica: two may also be seen at the British Museum.

The total population of the Jesuit reductions in 1740 was ascertained to be over 140,000 souls. In 1767 the jealousy of the Spanish Government decreed the expulsion of the Fathers, who offered not the least resistance. In 1801 a census was made by Soria, and the survivors of the 30 missions only numbered 43,639, having lost two-thirds of their population during 34 years. Many of them had taken to the woods; the plantations were abandoned; cattle, sheep, and horses were destroyed, and the traveller cannot but view with regret the crumbling remains of the fine monuments that once were the glory of a happy and industrious people.

Mines in the Argentine Republic.

The Director General, Mr. Hoskold, published a general review in June 1892, which is condensed thus:—

The legal area of a concession is as follows:—

	Acres.		Acres.
Gold.....	24	Coal.....	44
Iron.....	30	Nitrate.	247

In the 9 mining provinces there are 2,000 concessions of all classes, besides 1500 held from the National Government for minerals in the Federal territories.

Rioja. The Mexicana mines, in the Famatina range, are the best copper-mines in the republic. Some samples have given a yield of 44 per cent of pure copper, and about 30 per cent of sulphur. The ore is carried from a depth of 330 feet to the surface upon boy's backs: it is then transported by pack mules for 3 days' journey to the lower levels. The average obtained from a lot of 937 tons of crude copper mineral was:—

Copper	15 per cent.
Silver.....	67 oz. per ton.
Gold.....	1¼ » » »

The silver-mines of Rioja vary from 10,000 to 14,000 feet over sea-level, at Cerro Negro, Tigre and Caldera. Samples from the Cerro Negro in 1881 gave:—

Silver.....	27 per cent	Zinc.....	4 per cent
Iron.....	14 » »	Nickel....	3 » »

Native silver has been found in masses at Cerro Negro, two samples bought for the Museum of Mines yielding 87 per cent of pure silver. Coal has been found at Paganzo in this province, and samples shewed 65 per cent carbon. Four borings were made, but only thin bands of bituminous shale were discovered.

Catamarca. The principal copper-mines are at Capillitas in the north-east, where the Restauradora has been worked for 27 years to a depth of 1,000 feet; large samples shew 20 to 30 per cent copper. A sample from the Hoyada mines (little worked) in the north west of the province gave:—

Copper.....	11 per cent
Silver.....	183 oz. per ton.
Gold.....	10 » » »

This province possesses the largest smelting-works in the country, the establishment of Mr. Lafone Quevedo at Pilciao. The ore is conveyed thither from Capillitas by pack-mules in two days. Wood is used for fuel. It takes 25 tons of firewood to reduce 15 tons of ore, the wood costing 40 pence English per ton. The copper bars usually contain 90 per cent of copper metal, 200 to 300 oz. silver and 10 to 15 oz. gold. As a rule the ore from Capillitas yields 30 per cent of copper.

The Romay iron mine in this province has a titanic ore, yielding 48 per cent of metallic iron. The Co. proposes to use charcoal in the blast furnaces, made from the wood on their estate. The Co. has a Government guarantee of 5 per cent per annum for 10 years on a capital of \$1,000,000, say £60,000 sterling, too small for working

Salta. This province is also noted for its copper mines. That of Chacabuco has been worked several years, samples shewing 48 per cent of copper and one per 1,000 of silver. San Antonio gave the following:—

Copper	40 per cent
Silver	0.57 "

besides one-sixth of an ounce of gold per ton.

Jujuy. There are several galena mines yielding silver, also gold mines that average half-an-ounce per ton, and some gold-washings. The Mendoza Petroleum Co. made two borings in Jujuy for petroleum, but without success.

Tucuman. The mining district runs northward from Capillitas, in Catamarca, and the following assays were reported in 1882:—

Copper ore.....	38 per cent copper
Silver ore.....	18 to 25 per cent silver

The above are on the authority of a report published by the Government of Tucuman.

Cordoba. Copper and galena mines were worked on various occasions, but so badly managed (as in the Rara Fortuna mine) that they did not pay for working.

San Luis. The Carolina mines are best known. There are two English companies, with £26,000 and £10,000 respectively, of paid-up capital. Local statistics affirm that the gold mines yield 5 oz. of gold per ton of ore.

San Juan contains mines of gold, silver, copper, iron, lead and lignite. Copper samples yield from 9 to 44 per cent of copper metal. A few mines of various kinds are worked on a small scale. The working of coal (properly lignite) proved a failure. Mr. Hoskold, however, thinks that San Juan will one day prove a great centre of mining industry.

Mendoza. Samples of copper are found to yield 20 to 40 per cent of the metal, besides 1 per 1,000 of silver. Thin seams of bitumen have been found in many places, of no value, but samples from a new coal-field near San Miguel have been analysed by Dr. Kyle, and found to have from 48 to 60 per cent of carbon, with a calorific power of 5,405. Some borings for petroleum, to a depth of 650 feet, were successful, and a 4½ inch iron pipe was laid down 22 miles, to the nearest railway station, where the petroleum was used as fuel.

Neuquen. An extensive coal-field is reported in this territory and samples result as follows:—

Carbon	50 to	54 per cent
Coke	57 »	61 » »
Calorific	4,570 »	4,636 » »

This is supposed to be a continuation of the San Rafael coal-field. Concessions have, moreover, been taken out for working mines of gold, silver, copper, lead, petroleum and nitrate in this territory.

Santa Cruz. Gold has been frequently discovered along the coast of Patagonia and Tierra del Fuego, the heavy seas washing up gold on the beach, and this has led to the belief that an immense quantity of the precious metal is deposited in the trough of the sea.

Chubut. Gold washings have been discovered and exploring concessions granted.

Misiones. The mountainous part seems rich in minerals. It is known that the Jesuits had copper mines in this territory, and some companies have been formed to revive the old works.

Tierra del Fuego. Lignite exists in large quantities, of a superior kind, with 48 per cent of carbon.

APPENDIX.

Agricultural products of Argentina. The latest estimates of exports (1892) compare with the averages of preceding years thus:—

	1886-91.	1892.	Value, £ sterling.	
			1886-91.	1892.
Wool, tons	128,700	152,000	6,680,000	7,900,000
Sheepskins tons ..	30,300	27,000	1,200,000	1,080,000
Meat »	51,500	90,000	1,880,000	3,240,000
Tallow » ..	15,100	35,000	360,000	840,000
Hides No.	3,730,000	4,120,000	1,860,000	2,060,000
Pastoral products	—	—	11,980,000	15,120,000
Wheat, tons.	193,000	448,000	960,000	2,240,000
Maize »	410,000	700,000	1,330,000	2,100,000
Linseed »	37,300	40,000	450,000	480,000
Hay »	17,300	30,000	35,000	60,000
Tillage	—	—	2,675,000	4,880,000
Grand total ..	—	—	14,655,000	20,000,000

The total estimate of products in 1892 was:—

	Home consumption £ sterling.	Export £ sterling.	Total £ sterling.
Pastoral products . . .	9,840,000	15,120,000	24,960,000
Tillage »	13,200,000	4,880,000	18,080,000
TOTAL	23,040,000	20,000,000	43,040,000

The republics of Argentina, Chile and Uruguay compare as follows:—

	Acres tilled.	Value in £ sterling.		Yearly product £ sterling.
		Farms.	Cattle.	
Argentina...	8,200,000	183,200,000	51,400,000	43,000,000
Chile.....	7,050,000	50,200,000	7,800,000	9,800,000
Uruguay....	1,120,000	27,400,000	15,100,000	9,800,000

The ratio of product to the capital employed in agriculture shews thus:—

	Capital £ sterling.	Product £ sterling.	Ratio.
Argentina.....	234,600,000	43,000,000	18 p. c.
Chile.....	58,000,000	9,800,000	17 "
Uruguay.....	42,500,000	9,800,000	23 "

Andine Peaks. Some of the highest in or adjoining Argentine territory are:—

Height, in feet over sea-level.

	Height, in feet over sea-level.		Height, in feet over sea-level.		Height, in feet over sea-level.
Aconcagua..	22,450	Juncal.....	19,610	Tronador..	15,100
Tupungato..	22,140	Nevado.....	16,250	Tontal....	13,200
Famatina...	19,880	Villa-Rica..	16,050	Peteroa ...	8,880
Cachl.....	19,700	Aconquija..	15,480	Antuco....	8,870

Andine Passes. The are 24 well-known and more or less in common use, viz:—

Height of Passes, Feet over Sea-level.

Pass.	Lat. S.	Long. W.	Feet.	Pass.	Lat. S.	Long. W.	Feet.
Báridoche . . .	41°20'	72°20'	2,770	Estanzuela . . .	28°10'	68°80'	14,150
Antuco	36°50'	70°20'	6,930	Total	28°00'	66°10'	4,510
Planchon	35°20'	70°10'	8,225	Aconquija . . .	27°25'	66°10'	7,230
Damas	35°00'	70°10'	8,800	Atajo	27°20'	66°20'	10,520
Cruz de Piedra .	34°30'	70°00'	11,360	San Francisco .	26°20'	70°00'	14,400
Portillo	33°50'	70°00'	13,860	Antofagasta . .	25°30'	67°80'	14,300
Potrero	33°19'	70°00'	13,410	Oblispo	24°50'	65°80'	11,060
Uspallata	33°00'	70°00'	12,870	Acaj	24°20'	67°10'	14,000
Patos	32°30'	70°10'	13,200	Humahuaca . . .	23°20'	64°30'	14,060
Laguna	30°50'	70°00'	15,290	Zenta	23°10'	64°20'	14,890
Doña Ana	29°36'	70°00'	14,680	Despoblado . . .	23°00'	67°80'	13,900
Pircas	28°25'	70°00'	14,390	Cortaderas . . .	22°20'	65°20'	13,090

Arsenal. Messrs. Gibson of Ajó have obtained a concession from the Argentine Government to build a port at San Clemente, inside Cape St. Anthony with a minimum depth of 30 feet of water, and an arsenal for the Argentine Navy.

Books on the River Plate.

1559	Conquest of La Plata.....	Schmidel.....	Madrid
1759	Missions of Paraguay.....	Muraturl.....	Rome
1774	Patagonia and La Plata....	Falkner.....	London
1809	Travels in Paraguay.....	Azara.....	Paris
1816	History of La Plata.....	Dean Funes.....	B. Ayres
1828	Ride Across the Pampas..	Capt. Head.....	London
1838	Letters on Paraguay.....	Robertson.....	»
1839	Documentos Históricos....	De Angelis.....	B. Ayres
1852	B. Ayres from Conquest..	Parish.....	London
1856	Travels in La Plata.....	Page.....	New York
1862	Confederation Argentine...	De Moussy.....	Paris
1862	Republique du Paraguay..	Du Graty.....	Brussels
1863	Handbook of River Plate.	Mulhall.....	B. Ayres
1864	Historia Argentina.....	Domínguez.....	»
1870	War in Paraguay.....	Thompson.....	London
1877	English in South America.	Mulhall.....	B. Ayres
1878	Life of Belgrano.....	Mitre.....	»
1882	Amazon and Andes.....	Mrs. M. G. Mulhall	London

City Taxes. There are two taxes collected by the Nat. Government in the city of Buenos Ayres: the Contribucion or Property-tax, and the Patentes or trade licenses:—

Year.	Contribucion. \$ currency.	Patentes. \$ currency.
1885	1,259,000	778,000
1886	1,599,000	833,000
1887	2,038,000	859,000
1888	2,151,000	1,091,000
1889	3,147,000	1,531,000
1890	4,246,000	1,593,000
1891	3,449,000	1,908,000

It must be observed that the Government receives only 30 per cent of the Contribucion, the Board of Schools taking 40 per cent and the Municipality 30 per cent. As regards the Patente tax the Government gets only 65 per cent, the remainder going to the Municipality”.

There is also the Water-tax, which averages \$20 currency per month on each house, say \$6,000,000 currency or £360,000 sterling.

Cordoba finances. Governor Pizarro in August 1892 published the following report.

The public debt of the province amounts to £5,000,000 sterling (including £540,000 coupons in arrear unpaid) and \$32,600,000 currency; altogether 115 millions currency. All this debt (except \$200,000) has been contracted since 1876, and is accounted for this:—

	\$
San Roque breakwater...	4,300,000
Theatre.....	850,000
Penitentiary and hospital.	1,100,000
Suburban land-lots.....	4,140,000
Bank of Cordoba.....	34,230,000
Sundries.....	700,000
Unaccounted for.....	69,680,000
TOTAL.....	115,000,000

Gas-works. In 1888 Newton Chambers & Co. of Sheffield built the La Plata gas-works and in 1890 the Co-operative Gas factory at the Corrales, close to Buenos Ayres, the superintendent being Arthur Gibson and the engineer G. Stevenson. The latter are the largest gas-works in S. America and have been recently taken over by the Argentine Gas Co.; manager W. Woodgate, engineers W. Whittaker and J. Rowbotham; which Co. would now be able singly to light B. Ayres.

Distances. The distances from Buenos Ayres in English miles are as follow:—

Asunción.	1,115	Goya	676	Rioja	711
Ayacucho.	206	Guamini.	270	Rio Janeyro. . .	1,220
Azul.	198	Horn C.	2,030	Rio Cuarto . . .	390
B Blanca.	447	Itapua	1,050	Rio Segundo. . .	410
Bella Vista. . . .	738	Juarez.	300	Rosario.	190
Bragado.	130	Jujuy.	942	Saladillo.	113
Campana.	51	Junin.	160	Salta.	930
Catamarca	754	La Paz.	530	Salto B.O.	306
C. Gomez	234	La Plata.	35	S. Antonlo. . . .	74
Chascomus.	72	Las Flores. . . .	130	S. Borja.	580
Chivilcoy	100	Lisbon.	6,150	S. Cruz.	1,520
Chubut	995	London.	7,260	S. Juan.	752
Concepcion	202	Luxan.	42	S. Luis.	490
Concordia.	302	Mar Plata.	250	S. Blas.	630
Cordoba.	430	M. Garcia.	40	Santa Fè	405
Corrientes	832	Mendoza.	654	S. Nicolas	150
Curumalan.	334	Mercedes	61	S. Vicente	26
Curumbá	1,985	Montevideo	120	Tandil	247
Cuyabá.	2,505	Necochea	352	Tigre	20
Dolores.	127	N. Julio.	165	Tortugas.	259
Esquina	590	Olabarria.	230	Trenquelaуquen	278
Falklands.	1,620	Oran.	1,122	Tres Arroyos. . .	360
F. Bentos	130	Paraná	410	Tucuman	777
F. Muerto.	311	Paysandú.	220	Valparaiso	860
Gallegos.	1,640	Patagones	660	Villa Maria	345
Gen. Acha.	430	Pergamino	144	Zarate.	59

Finance report. Mr. Emilio Hansen, Minister of Finance, in his report (September 1892) to Congress gives the following particulars.

Revenue and expenditure in 1891 were as follows:—

	\$ currency.	£ sterling.
Revenue.	75,500,000	= 4,160,000
Issue of notes.	5,000,000	270,000
Sundries	4,900,000	270,000
Total receipts.	85,400,000	= 4,700,000
Expenditure	124,300,000	6,800,000

The receipts were made up thus:—

	\$ currency.	£ sterling.
Import dues.....	47,990,000	= 2,640,000
Export »	5,380,000	300,000
Warehouse etc. dues	1,910,000	110,000
Stamps.....	3,280,000	180,000
Property-tax.....	3,450,000	190,000
Licenses.....	1,910,000	110,000
Post-office.....	2,250,000	120,000
Excise.....	4,520,000	250,000
Bank-tax.....	800,000	40,000
Central Arg. shares.	900,000	50,000
Sundries.....	8,010,000	440,000
Small-note issue....	5,000,000	270,000
TOTAL.....	85,400,000	= 4,700,000

The expenditure was as follows:—

	\$ currency.	£ sterling.
Madero Docks.....	9,000,000	= 500,000
Army and navy.....	18,700,000	1,040,000
Schools.....	7,600,000	420,000
Finance dept.....	51,200,000	2,800,000
Civil service etc....	37,800,000	2,040,000
TOTAL.....	124,300,000	= 6,800,000

The amount of foreign capital in Argentine investments is stated by the Minister thus:—

	£ sterling.
National loans.....	41,100,000
Provincial and Municipal	33,500,000
Railways.....	62,500,000
Banks, tramways, etc...	10,000,000
Cedulas.....	20,000,000
TOTAL.....	167,100,000

The following is a general statement of all the banks in the Republic (paper items being reduced to gold at 333 to 100):—

	Private (98 banks) \$ gold.	State (14 banks) \$ gold.	Total (52 banks) \$ gold.	£ sterling.
Capital.	36,100,000	66,700,000	102,800,000	= 20,500,000
Deposits.	54,400,000	33,000,000	87,400,000	17,400,000
Discounts.	51,100,000	70,200,000	121,300,000	24,000,000
Profits.	960,000	4,600,000	5,560,000	1,100,000
Cash	24,000,000	2,100,000	26,100,000	5,200,000

The above does not include the old National Bank in liquidation, which (reducing paper to gold as before) shews thus:—

	\$ gold.	£ sterling.
Deposits.	44,200,000	= 8,800,000
Discounts.	51,500,000	10,200,000
Cash.	570,000	100,000

Elevation. The position of various places over sea-level is as follows:—

	Feet.		Feet.		Feet.
Arrecifes.	132	Famatina.	3,530	Rio Cuarto.	1,440
Asuncion.	290	Frayle Muerto.	427	Rioja.	1,780
Azul.	456	Galvez.	180	Rosario.	115
B. Blanca.	20	Inca's bridge.	8,695	Salta.	3,860
B. Ayres.	48	Jujuy.	4,030	San Isidro.	65
Catamarca.	1,680	Lobos.	93	San Juan.	2,106
Chascomus.	40	Melincué.	300	San Luis.	2,380
Chivilcoy.	176	Mendoza.	2,393	San Martin.	60
Concordia.	139	Montevideo.	92	San Pedro.	92
Cordoba.	1,377	Nogoyá.	150	Santiago.	615
Corrientes.	230	Paraná.	125	Sunchales.	315
Cosquin.	2,380	Pergamino.	220	Tucuman.	1,470
Dean Funes.	2,300	Quilmes.	63	Uspallata.	5,680
Devoto.	80	Rio Segundo.	1,133	Villa Maria.	670

Flour-mills. The provinces of Santa Fé and Entre-Rios have the following:—

	Mills.	Tons flour daily.
Santa Fé.	55	650
Entre Rios.	22	200

There are no returns for the other provinces.

Meteorology. The following table shews the mean monthly temperature (Fahrenheit) and the rainfall (in inches) of various places:—

	Asuncion.	B. Ayres.	Cordoba.	Montevideo.	Salta.	Tucuman.
January . . .	80	76	73	73	69	74
February . . .	83	74	70	72	70	74
March.	82	70	65	69	65	71
April.	74	62	58	64	62	68
May	68	57	53	58	55	58
June	60	52	50	53	59	53
July	70	50	47	52	55	54
August. . . .	74	53	54	52	58	61
September . .	78	57	60	56	64	66
October . . .	83	62	62	61	65	67
November. . .	82	68	68	65	68	74
December. . .	81	73	73	70	70	77
Year.	76	63	61	62	63	66
Rainfall . . .	82	33	31	44	—	42

The following table shows the rainfall in months (1875—80):—

	B. Ayres.	Rosario.	S. Juan.	Mendoza.
January.	2·4	4·1	0·5	0·4
February	3·0	2·8	0·4	0·6
March.	3·8	4·6	0·7	1·2
April	2·8	4·5	1·2	2·3
May	3·5	1·6	0·1	0·1
June	2·8	1·3	0·2	0·4
July	1·7	1·3	0·0	0·2
August.	1·9	2·2	0·0	0·2
September	2·6	3·4	0·0	0·3
October	3·9	2·1	1·2	0·9
November.	2·5	5·9	0·6	0·8
December.	3·7	5·4	0·6	0·6
	34·6	39·2	5·5	8·0

Manufactures. The Minister of Interior, in his report (1892) to Congress, says: "The growth of manufactures in the suburbs of Buenos Ayres is astonishing. There are now 296 factories, with 380 steam-engines, 6,500 horse-power in the aggregate, employing 8,500

men and 3,500 women. The Boot-factory near the Chacrita has 970 hands and turns out 400,000 pairs of boots yearly. The Retiro Cloth-factory has 200 hands and consumes 400 tons of wool per annum. The Zarate Paper-mill has 480 hands and produces 30 tons of paper daily. There are 8 match-factories, that of Barracas with a capital of \$2,000,000 currency and 7 minor ones.

Susana colony. This is one of the new colonies in Santa Fé, 6 miles from the Rafaela R.R. station. It comprises 600 farm-lots of 80 acres each, which were sold to settlers in 1889 at £1 sterling per acre, but the same are now worth \$25 or 30 shillings per acre. The settlers were mostly Italians, who have now nearly all paid in full for their farms. Mr. W. R. Brown has a farm of 1,000 acres, Mr. Alfred Miles 1,300 acres.

Port entries. The Argentine ports in 1891 had the following:—

	Tons.		
	Sea-going.	River.	Total.
Buenos Ayres ..	2,108,000	946,000	3,054,000
Rosario.	458,000	380,000	838,000
La Plata.	110,000	125,000	235,000
Concordia.	390,000	99,000	489,000
San Nicolas.	123,000	20,000	143,000
Various.	2,086,000	925,000	3,011,000
TOTAL.	5,275,000	2,495,000	7,770,000

Municipal Finances. The revenue and expenditure of the city of Buenos Ayres shew thus:—

	Yearly Revenue.	Yearly expenditure.		
		Ordinary.	Extraordinary.	Total.
		\$	\$	\$
1883—84	2,430,000	4,060,000	1,500,000	5,560,000
1885—86	3,530,000	4,190,000	800,000	4,990,000
1887—88	5,070,000	5,420,000	7,000,000	12,420,000
1889—90	6,960,000	7,850,000	11,000,000	18,850,000
1891	7,153,000	8,066,000	—	8,066,000

Railways. An official report compares the working of lines in Argentina in 1891 with 1887 thus:—

	1887.	1891.
Miles open.....	4,290	7,300
Passengers.....	7,975,000	10,820,000
Tons cargo.....	3,434,000	4,621,000
Capital £ sterling..	45,020,000	74,700,000
Gross receipts.....	3,300,000	3,070,000
Expenses.....	1,830,000	2,120,000
Net proceeds.....	1,470,000	950,000

Thus although in 4 years no less than 3,000 miles of new railways were opened the net earnings in 1891 were £520,000 less than in 1887. The net profit on every £1,000 of capital was £33 in 1887 and only £13 in 1891.

Dorrego or *Mostazas* is a new department formerly included in that of *Tres Arroyos*. It lies along the seaboard, and is mostly high land, watered by the *Sauce Grande*, *Mostazas*, *Cortaderas* and *Indio Rico*. Among the land-owners are *Robert Bruce*, *George Corbet*, *Daniel Kelly*, *Hardy*, *John Mahon* and *Miguel Villanueva*, the last of whom has 4,000 acres under wheat. The camps have fine grass (*trevol*), and the English *estancias* are fenced in and well stocked with cattle and sheep. The town of *Mostazas*, founded in 1890, stands on the site of an old post-house of *Martin Alzaga's*, 20 miles from the sea, on the *Mostazas* river. It is an important station on the (*G.S.R.*) railway from *Tandil* to *Bahia Blanca*, distant 365 miles from *Buenos Ayres* and 38 from *Bahia Blanca*: although not yet two years old it has hotels, shops and many fine houses. There is a fishing Co. at the mouth of the *Mostazas* which sends quantities of fine fish daily by rail to *Buenos Ayres* and elsewhere.

Viceroy and Presidents. The chief authority was held by the Governor of Paraguay down to 1618, in which year Diego de Gongora was made Governor of Buenos Ayres.

1535 Pedro de Mendoza
 1538 Domingo Irala
 1540 Cabeza de Vaca
 1542 Domingo Irala
 1558 Ortíz de Vergara
 1564 Ortiz de Zarate
 1575 Juan de Garay
 1584 Alonzo Vera
 1587 Torres Aragon
 1591 Hernando Arias
 1595 Fernando Zarate
 1604 Hernando Arias
 1611 Martínez Negron
 1615 Hernando Arias
 1618 Diego Gongora
 1622 Alonzo Perez
 1624 Francisco Céspedes
 1631 Pedro Avila
 1637 Cueva Benavides
 1640 Ventura Mujica
 1641 Luis Cabrera
 1646 Jacinto Lariz
 1653 Pedro Baigorrea
 1660 Alonzo Mercado
 1663 Martínez Salazar
 1666 Dr. Salcedo
 1674 Andrés Robles
 1678 José Garro
 1682 José Herrera
 1691 Agustín Robles
 1700 Manuel Prado
 1703 Juan Valdes
 1708 Manuel Velazco
 1714 Alonzo Arce
 1715 José Bermudez
 1717 Mauricio Zabala
 1735 Miguel Salcedo

1742 Ortiz de Rosa
 1745 José Andonaguy
 1757 Pedro Zeballos
 1766 Francisco Bucarelli
 1771 José Vertiz
 1776 Pedro Zeballos
 1778 José Vertiz
 1784 Marquis Loreto
 1789 Nic. Arredondo
 1795 Melo Portugal
 1799 Marquis Aviles
 1801 Joaquin Píno
 1804 Marquis Sobremonte
 1807 Colonel Liniers
 1809 Hidalgo Cisneros
 1810 Corn. Saavedra
 1813 Gervacio Posadas
 1816 Colonel Puyrredon
 1823 General Heras
 1826 B. Rivadavia
 1827 Colonel Dorrego
 1828 General Lavalle
 1829 General Viamont
 1830 General Rosas
 1832 General Balcarce
 1833 General Viamont
 1835 General Rosas
 1852 General Urquiza
 1860 Dr. Derqui
 1861 General Mitre
 1868 Dr. Sarmento
 1874 Dr. Avellaneda
 1880 General Roca
 1886 Juárez Celman
 1890 Dr. Pellegrini
 1892 Dr. Saenz Peña

Weights and measures.

Vara.....	=	34 inches or 0·87 metre
League.....	=	3·3 miles or 5·2 kiloms.
Fanega.....	=	220 lbs. or 100 kilos
Arroba.....	=	25 lbs. or 11½ kilos
Quintal.....	=	100 lbs. or 46 kilos
Cuadra.....	=	4·17 acres or 1·70 hectares
Square league..	=	6,666 acres or 2,720 hectares.

House property. The official returns of sales in the city of Buenos Ayres in 6 years ending December 31st 1891, reduced to gold values, gave the following averages:—

Parish.	\$ gold per square metre.			
	1886—87.	1888—89.	1890.	1891.
Merced.....	77	112	80	58
S. Ignacio.....	91	152	70	55
S. Miguel.....	59	123	86	38
S. Nicolas... .	50	59	41	29
Piedad.....	36	80	42	18
Socorro.....	32	53	38	20
Montserrat.....	32	55	32	17
San Telmo.....	21	31	22	12
Concepcion.....	17	28	21	12
Balvanera.....	9	17	14	5
San Juan.....	6	14	5	5
Santa Lucia....	5	7	7	2
Pilar.....	4	10	10	4
S. Cristobal....	3	7	5	4

The sum of the ratios corresponding to the 14 parishes was as follows:—

1886	350
1887	530
1888	605
1889	889
1890	473
1891	279

It would appear from the foregoing that the average value of property in 1891 was only 31 per cent of

what it represented in 1889. In other words there was a fall of 69 per cent. Central property suffered with the rest, the average for the first 3 parishes in 1889 having been \$152 gold or £30 per square metre, and in 1891 only \$50, shewing a fall of 68 per cent.

Paper-money. The old currency of Buenos Ayres suffered fluctuations during the suspension of specie payments from 1876 to 1881 as follows (25 par):—

	1876.	1877.	1878.	1879.	1880.	1881.
January.....	25·0	28·9	31·0	32·8	31·8	29·4
February.....	25·0	29·2	32·5	32·7	31·4	29·3
March.....	25·0	29·2	32·0	32·0	30·3	29·0
April.....	25·0	31·5	32·7	32·4	30·7	28·7
May.....	29·7	33·3	31·7	32·3	30·6	28·6
June.....	30·9	31·4	31·3	32·2	31·5	26·6
July.....	32·3	29·6	31·2	32·3	31·3	26·2
August.....	33·3	28·9	30·8	32·2	30·9	25·7
September...	31·4	28·5	31·2	32·1	30·3	25·5
October.....	29·0	28·5	31·0	32·0	29·7	25·5
November...	31·6	28·8	32·0	32·0	28·8	25·1
December....	28·1	29·8	32·5	31·8	28·2	25·0

Specie payments of the reformed currency were suspended in January 1885, and the price of 100 gold dollars has varied as follows:—

	1885.			1886.		
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.
January.....	128	113	122	145	141	144
February.....	131	124	127	152	144	147
March.....	138	130	133	157	149	153
April.....	165	139	146	160	153	155
May.....	145	133	136	158	153	156
June.....	134	129	131	154	143	149
July.....	140	129	133	143	131	137
August.....	148	134	142	134	128	131
September...	146	137	140	128	110	119
October.....	156	138	144	122	110	116
November...	153	142	148	136	122	128
December...	146	140	142	134	128	130
Year.....	165	113	137	160	110	139

	1887.			1888.		
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.
January	128	120	124	148	142	145
February	133	124	129	151	146	148
March	135	131	133	154	148	151
April	142	133	136	150	142	146
May	148	129	137	150	143	147
June	139	128	134	154	148	150
July	135	130	132	160	151	154
August	133	127	130	155	144	150
September	140	132	135	150	146	148
October	145	138	142	150	148	148
November	152	140	145	152	137	145
December	153	141	145	148	137	142
Year	153	120	135	160	137	148
	1889.			1890.		
January	154	148	151	235	211	225
February	157	154	155	245	215	225
March	160	157	159	272	241	254
April	166	156	159	315	233	266
May	160	156	158	246	213	234
June	174	160	165	260	226	239
July	176	169	173	314	227	286
August	184	174	177	315	225	255
September	242	174	203	252	235	241
October	226	199	213	262	245	253
November	234	212	221	317	257	291
December	240	222	233	326	293	311
Year	242	148	180	326	211	257
	1891.			1892.		
January	338	301	319	387	371	380
February	347	318	336	389	336	365
March	380	330	351	352	340	346
April	371	320	347	348	332	341
May	430	354	379	336	324	330
June	449	328	383	331	304	317
July	418	348	379	331	311	323
August	410	382	398	332	321	326
September	435	393	403			
October	461	393	437			
November	394	351	372			
December	386	367	373			
Year	461	301	373			

The New World.

	Population.	Area sq. miles.	Revenue. £	Trade. £	Railways miles.	Telegraphs miles.	School children.	Public debt. £
U. States..	65,000,000	3,604,000	81,000,000	320,000,000	182,000	240,000	7,850,000	220,000,000
Brazil.....	12,000,000	3,288,000	14,000,000	41,000,000	5,900	6,700	300,000	107,000,000
Mexico....	10,500,000	751,000	5,000,000	20,000,000	5,500	28,000	550,000	31,000,000
Canada....	5,100,000	3,372,000	8,000,000	42,000,000	14,200	31,000	510,000	49,000,000
Argentina .	4,950,000	1,212,000	5,500,000	24,600,000	7,300	19,600	250,000	61,000,000
Colombia..	3,900,000	331,000	3,000,000	3,500,000	200	3,200	80,000	11,000,000
Peru.....	3,200,000	405,000	1,600,000	3,600,000	1,700	2,000	50,000	55,000,000
Chile.....	3,120,000	257,000	5,000,000	14,000,000	1,900	10,600	90,000	12,000,000
Venezuela .	2,240,000	567,000	1,300,000	6,600,000	300	3,000	100,000	4,500,000
Bolivia. ...	2,100,000	472,000	500,000	3,000,000	100	1,000	30,000	4,500,000
Guatemala.	1,430,000	47,000	700,000	2,400,000	100	1,900	50,000	2,300,000
Ecuador... .	1,100,000	248,000	700,000	3,000,000	100	1,200	60,000	2,900,000
Uruguay... .	710,000	73,000	2,800,000	9,500,000	1,000	3,100	60,000	21,000,000
Salvador... .	660,000	7,000	500,000	1,600,000	100	1,500	30,000	1,000,000
Honduras... .	430,000	46,000	160,000	1,000,000	50	1,800	20,000	7,700,000
Nicaragua..	380,000	49,000	700,000	700,000	100	1,700	20,000	600,000
Paraguay... .	290,000	90,000	30,000	180,000	140	400	10,000	800,000
Costa Rica..	210,000	20,000	500,000	1,600,000	230	600	20,000	2,100,000
TOTAL..	116,420,000	14,839,000	130,990,000	498,280,000	220,920	357,300	10,080,000	593,400,000

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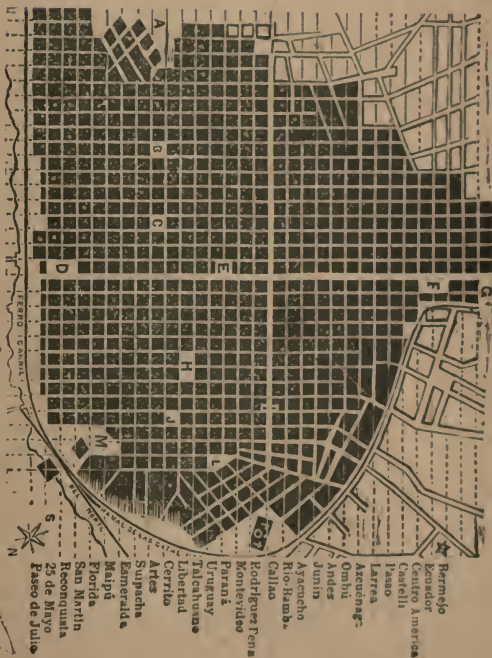
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A.M.D.G.

PLAN OF THE CITY OF BUENOS AYRES

- 24 Noviembre
- Caridad
- Riopa
- Calamarca
- Juyui
- Misiones
- Saavedra
- Alverri
- Mathen
- Pichincha
- Pasco
- Rimoon
- Sarandi
- Los Pozos
- Entre-Rios
- Salis
- Zeballos
- Lorea
- San José
- S del Este
- Salta
- Limia
- Buen Order
- Tacuari
- Las Piedras
- Fern
- Boliviar
- Delensa
- Balcerca
- Culion

- Caseros
- Brasil
- Garay
- Cochabamba
- San Juan
- Comercio
- Europa
- Estados Unidos
- Lujan
- Independencia
- San Lorenzo
- Chile
- Méjico
- Venezuela
- Delgrano
- Moreno
- Alsina
- Victoria
- IVADAVIA**
- Piedad
- Cangallo
- Cuyo
- Corrientes
- General Lavallo
- Tucuman
- Viamonte
- Cordova
- Paraguay
- Charcas
- Santa-Fé
- Arenales
- Juncal



- Berrejo
- Ecuador
- Centro America
- Castelli
- Pasero
- Larrea
- Arceñaga
- Omba
- Andes
- Junta
- Ayacucho
- Rio Hamba
- Callao
- Rodriguez Pena
- Konkwydeo
- Parrisi
- Uruguay
- Talchuvane
- Libertad
- Cerrillo
- Artes
- Supacha
- Esmeralda
- Malpa
- Florida
- San Martin
- Reconquista
- 25 de Mayo
- Paseo de Julio



London and River Plate Bank

(LIMITED)

**LONDON, PARIS, RIO DE JANEIRO, BUENOS AYRES,
MONTEVIDEO, ROSARIO, and PAYSANDÚ**

Authorised Capital.....	£ 2,000,000	Sterling
Subscribed Capital.....	1,500,000	„
Paid Up Capital.....	900,000	„
Reserve-Fund.....	750,000	„

OFFICES IN BUENOS AIRES

CORNER OF CALLE PIEDAD AND RECONQUISTA

Current Accounts opened with Commercial Firms and Private Individuals.

Customers have the advantage of having approved Bills discounted — of obtaining Loans upon Negotiable Securities, of Depositing Bills, Coupons, &c., for Collection — subject to a conventional Commission.

The Bank receives deposits either at sight, for fixed periods, or at thirty days' notice of withdrawal, interest on which is regulated by the market value of money, the Bank notifying any change in Rates, by Advertisement in the principal daily papers.

Letters of Credit issued to parties travelling abroad.

Letters of Credit issued to parties for the purpose of purchasing Goods in Europe, the United States, &c., the terms of which can be ascertained on application to the Bank.

Parties wishing to bring out funds to the River Plate can do so through the medium of the Bank's Chief Office,

Nº 52 MOORGATE STREET, LONDON, E. C.

BILLS OF EXCHANGE

Issued and Purchased on the following places:

LONDON, PARIS

And all the Principal towns of

ENGLAND, SCOTLAND, AND IRELAND

Also on all the Chief Cities of the United States, France, Germany, Spain, Italy, Brazil, Chili, South Africa, Canada and Australia.

R. A. THURBURN, Manager.

London and Brazilian Bank, Ltd.

BUENOS AYRES

Capital Subscribed.....	£ 1,500,000
Do. Paid up.....	» 750,000
Reserve Fund.....	» 500,000

HEAD OFFICE: 8 Tokenhouse Yard, London

BRANCHES

BRAZIL—Pará, Pernambuco, Bahia, Rio de Janeiro, Santos, San Paulo, Rio Grande do Sul, Pelotas, Porto Alegre.

Uruguay—Montevideo, Calle Zabala.

United States—New York (Agency.)

Portugal—Lisboa, Oporto.

Drafts issued on the above places, also on Paris, Hamburg, Madrid, and all the principal towns in Italy.

Letters of Credit issued for use of travellers or purchase of merchandise.

Stocks and Shares purchased or sold for account of third parties and Payments ordered by Cable.

A. F. ENNOR, Manager.

Buenos Aires, 1st. July 1892.

BANCO SUD-AMERICANO

CASA PRINCIPAL

PIEDAD 468, BUENOS AIRES

AGENCIA EN LONDRES

80, Winchester House, Old Broad Street

LONDRES, E. C.

Recibe depósitos en cuenta corriente, à la vista y á plazo fijo.

Descuenta letras y pagarés de comercio.

Recibe en depósito títulos de renta, cédulas hipotecarias, acciones de sociedades anónimas, encargándose del cobro de cupones, dividendos, Rentas ó alquileres, y haciendo adelantos sobre ellos.

Se encarga de invertir fondos por cuenta de terceros en anticipos ó préstamos con caucion de títulos ó valores.

Emite cartas de crédito para el uso de los comerciantes y viajeros.

Gira sobre Paris y Londres.

Banco de Italia y Rio de la Plata

436 — Calle Piedad — 450. Buenos Aires

Capital pagado oro \$ 8,000,000
 Fondos de Reserva y Prevision. " " 800,000

Recibe depósitos á interés en cuenta corriente disponibles á la vista y depósitos á plazo fijo de 30, 60, 90, ó mas dias.

Hasta nueva resolucion la tasa de interés será la siguiente :

ABONA

	m/legal	oro
En cuenta corriente á la vista	2 o/o anual	1 o/o anual
Á plazo fijo de 30 dias	3 " "	2 " "
do. do. 60 "	4 " "	3 " "
do. do. 90 "	5 " "	4 " "

COBRA

Por adelantos en Cuenta Corriente 12 " "

DESCUENTA

Pagarés de Comercio, letras y otros documentos á tipos convencionales. Presta sobre títulos de crédito negociables, admite títulos en depósito, encargándose del cobro de los cupones ó dividendos, y de remitir su importe á los interesados residentes en el Exterior.

EMITE

Letras y cartas de crédito sobre Londres, Amberes, Hamburgo, Madrid, y todas las principales ciudades de Francia, Italia, Suiza, y Austria-Hungria.

Servicio Especial de Giros á vista en todos los puntos de Italia, Suiza y España

CORRESPONSALES DEL BANCO

- LONDRES Baring Brothers & Co. Ltd., C. J. Hambro & Son.
- PARIS Heine & Co.
- HAMBURGO Conrad Heinrich Donner.
- MADRID E. Sainz é Hijos.
- AMBERES. Banque Centrale Anversoise
- VIENA y TRIESTE Oesterreichische Creditanstalt.
- ROMA y MILAN Banca Generale.
- GENOVA Bartol. Parodi & Fratelli, Pollinini Maccio & C.
- NAPOLES. Meuricofroe & Co.
- RIO DE JANEIRO, PER-
 NAMBUCO y LISBOA. The New London and Brazilian Bank Ld.
- VALPARAISO A. Edwards & Co.

HORAS DE DESPACHO:

de 10 á 3 y los Sábados y fin de mes hasta 4 p. m

EN LA
Papeleria Inglesa

DE
JORGE MACKERN

CALLE SAN MARTIN 125, al lado del Banco de la Provincia
ESTABLECIDO 1849

SE HACEN

Memorandums, Circulares, Carteles de Remate, Recibos, Títulos de renta, Cheques para Bancos, Diplomas, Acciones de Sociedades Anónimas, Vales, Libros impresos y folletos, Boletos de Ferro-



Carril, Planos, Mapas, Tarjetas de Visita y de Comercio, Polizas para Compañías de Seguros, Etiquetas para vinos y licores, Pagarés, Cuentas, Parciales de Aduana, Recibos para alquileres, etc., etc.

Grabados en madera, piedra y acero

MONOGRAMAS PARA TIMBRES EN COLORES

Papel, Sobres y Tarjetas

Especialidad en trabajos para Bancos y Ferro-Carriles

SELLOS DE GOMA

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Sistema Inglés

Mayor, Diario, Caja, Inventario, Copiador

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Travelling Trunks, Bags,
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&c., &c.



Club outfits, Sweaters,
Jerseys, Rowing shoes, Pyjama
Suits, Hosiery of every
description.

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588, 590, CALLE CANGALLO 592, 594, 596

BUENOS AYRES

PHENIX FIRE OFFICE
1782



Established 1782

Established 1782

LONDON
PHENIX.

LOSSES PAID £ 18,000,000

Agent for the Argentine Republic
Juan Wallace, Calle Piedad 559

Sub-Agencies:

ROSARIO: Juan Wallace, Calle Santa Fé 663

GUALEGUAY: Entre Rios, W^m Milne.

BAHIA BLANCA: W^m Barker.

THE ANGLO-ARGENTINE BANK, Limited

15 Nicholas Lane, LONDON

BUENOS AYRES: 486 Calle Piedad

MONTEVIDEO: 82 Calle Zabala

Authorized Capital	£ 1.000.000
Capital subscribed	„ 500,000
do. Paid up	„ 250,000

Current accounts opened, Deposits received at sight and for fixed periods, Bills discounted, negotiated and collected, Stocks and shares received on deposit for collection of coupons and dividends.

Bills of Exchange and Letters of Credit issued on London and principal European cities.

June 1892.

Charles Parry,
Acting Manager

LIBRERIA ANGLO - ARGENTINA

DE

JUAN GRANT

469 - Calle Cangallo - 469

BUENOS AIRES

JORGE LEECH & Cia.

ALSINA 541. BUENOS AYRES, ARGENTINE REPUBLIC

AND AT BIRMINGHAM, ENGLAND

Manufacturers' Agents for the Argentine and
Uruguayan Republics.

NUEVO BANCO ITALIANO

CAPITAL: \$ 5,000,000 m/n.

Casa Central: Reconquista N° 6, esq. Rivadavia. Plaza de Mayo

Sucursales: LA PLATA y SANTA-FÉ

Agencia: BOCA DEL RIACHUELO (Calle Pedro Mendoza No. 1331)

Corresponsal de la Banca Nazionale nel Regno d'Italia

OPERACIONES

Depósitos á la vista, á plazo fijo y en cuenta corriente.

Descuento de valores de comercio; anticipaciones sobre títulos de crédito y mercaderías. Préstamos á industriales, comerciantes y obreros; cartas de crédito y letras de cambio sobre las principales plazas de Europa y de America; compra y venta de títulos de renta por cuenta de terceros; custodia de títulos y valores; cobranza de cupones y dividendos, y remisión de su importe á los interesados residentes en el extranjero. Servicio de caja para particulares, asociaciones y compañías. **Envío de dinero á Italia pagadero en todas las oficinas postales del reino.** Caja de Ahorros. Libretas personales y al portador. Transferencias telegráficas de fondos sobre las principales plazas de Europa.

El Nuevo Banco Italiano

Da giros sobre sus sucursales de La Plata y Santa-Fé, sus corresponsales del Interior, Paraguay y Uruguay, de Europa, Africa y Asia.. Recibe títulos y valores en custodia, corriendo con todo lo referente á la percepción, de cupones y dividendos, cobro de cédulas sorteadas y canje de títulos.

PAGA:

Sobre depósitos en cuenta corriente.	m l. 2	o o anual
» » en cuenta corriente á la vista		
» » oro sellado		sin interés
» » oro sellado á retirar con 7 días		
» » de aviso	m l. 1	o o anual
» » á plazo fijo de 30 días.	» 3	1 2 »
» » » » » 60 »	» 4	1 2 »
» » » » » 90 »	» 5	»
» » » » » 6 meses	» 6	»
» » á mayor plazo		convencional
» » en Caja de Ahorros de 1 á 3000 pes. 6	o o	anual
Depósitos á premio á retirar con 30 días de aviso	4	»
» » oro sellado	2	»

Horas de Oficina:

Todos los días de 10 a. m. á 3 p. m., Sábados y fin de mes hasta las 4.

Los Domingos, de las 12 á las 2 p. m. para Caja de ahorros, Giros y Depósitos á plazo fijo.

Buenos Aires, 16 de Mayo de 1892.

M. DE LUCA, Gerente

BANCO ALEMAN TRANSATLÁNTICO

DEUTSCHE UEBERSEE-BANK

CAPITAL: 10,000,000 marcos

BERLIN—BUENOS AIRES

El "Deutsche Bank" en Berlin ha establecido el Banco Aleman Transatlántico para fomentar las relaciones comerciales con la República Argentina.

El Banco recibe depósitos á interés á plazos fijos, á la vista y en cuenta corriente, gira letras de cambio sobre todas las principales plazas de Comercio, tambien sobre todos los pequeños pueblos en Alemania, Suiza, Italia, España, Portugal, Francia, Inglaterra, Austria-Hungria, Rumania, etc. y manda hacer pagos telegraficamente. Encargase de comprar y vender títulos de renta, de guardarlos en custodia y de remitir los intereses á personas residentes en el Exterior. El Banco emite cartas de crédito para viajeros y para la importacion de mercaderias; descuenta valores comerciales, hace adelantos sobre títulos de renta y en general hace toda clase de operaciones bancarias.

G. E. MASCHWITZ,

DIRECTOR

Calle Reconquista 144

The New Zealand and River Plate Mortgage COMPANY, LIMITED.

Capital £2,000,000 Fully Subscribed, £200,000 Paid up.

DIRECTORS.

H. J. BRISTOW, Esq. (Messrs. BOWLEY & BRISTOW, Managers, New Zealand Insurance Company), 68 und 69, Cornhill, London, and at Bristol.

W. K. GRAHAM, Esq. (Messrs. W. K. GRAHAM & Co.), 85, London Wall, E. C.

ARTHUR M. MITCHISON, Esq., Benwell House, Sunbury.

SIR WILLIAM T. POWER, K. C. B., 8, Harrington Gardens, London, S. W.

THOMAS RUSSELL, Esq., C. M. G., 59, Eaton Square, London, S. W. Director of the Commercial Union Assurance Company.

SIR EDWARD W. STAFFORD, G.C.M.G., 19, Eaton Square, London, S.W., Director, New Zealand Loan and Mercantile Agency Company, Limited.

**Head Office—Leadenhall Buildings No. 1, Leadenhall Street,
London, E. C.**

Managing Director—A. M. MITCHISON, Esq.

RIVER PLATE DISTRICTS.

Chief Office—CALLE RECONQUISTA, 412, BUENOS AYRES

Local Director—ROBERT M. RAMSAY, Esq.

Manager—H. ALFRED C. COX, Esq.

H. P. BOARDMAN, Esq.
Agent in Rosario

J. J. HORE, Esq.
Agent in Monte Video

The Company makes Advances on Mortgages of real estate in the River Plate Districts, and undertakes all kinds of Agency business within or in connection with this locality.

Full information as to terms, etc., will be supplied at the Offices of the Company in London or Buenos Ayres; and, at the former, particulars of the Company's Debenture issue can also be obtained.

A. M. MITCHISON,
Managing Director.

The Equitable Life Assurance Society

OF THE

UNITED STATES

HEAD OFFICE: 120 Broadway, New York

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with power to issue policies and pay claims,
 CALLE FLORIDA, 377, BUENOS AYRES

Local Directory:

MIGUEL JEDIN	President
ADOLFO MANTELS	Director
R. INGLIS RUNCIMAN	"
Dr. PABLO BEECK	Medical Director
A. ROSSA CAVASSA	Secretary.

The Equitable's Tontine System
of assurance supplies the public
demand,

because it gives all the protection furnished by any
 other kind of life assurance,

and in addition,

gives large cash returns to those policyholders whose
 lives are prolonged, and who then need money rather
 than assurance.

English Drapery

TAILORING & HOSIERY ESTABLISHMENT

OF

BUENOS AYRES

Special Stocks of goods
imported direct from the first
Manufactories in England.

Albert Gebbie & Co.

189 CALLE DEFENSA 189

BUENOS AYRES

ROYAL MAIL STEAM PACKET COMPANY,



Incorporated by Royal Charter, 1859.

Under contract with her Majesty's Government.

Brazil and River Plate Routes

THE COMPANY'S STEAM SHIPS are appointed to leave Southampton with Her Majesty's Mails on every alternate Thursday and Buenos Ayres every alternate Wednesday.

The Ports of call are VIGO, LEIXOES (Oporto), LISBON, CAPE DE VERDES, LAS PALMAS, PERNAMBUCO, BAHIA, RIO DE JANEIRO, SANTOS (homeward only), MONTE VIDEO, and BUENOS AYRES.

Passengers are booked at the Company's Offices, 18, Moorgate Street, London; and 29, Cosckpur St., S.W., and at the Southampton Office, by Mr. J. K. Linstead, and Buenos Ayres, at 412 Reconquista by Henry L. Green.

As regards the conveyance of Specie, Cargo, and Parcels, apply at the above Offices, or at the Company's Agencies, and see information in separate Handbook.

Liverpool, Brazil, River Plate, Chili
and Perú

LAMPORT & HOLT

LINE OF STEAMERS

Between { Liverpool, Brazil, and River Plate ports.
Antwerp, London, Brazil and River Plate Ports.
Liverpool, Antwerp, Hamburg, Brazil, River
Plate, Bahia Blanca and West coast ports.

Steamers specially fitted for Passengers

ARGENTINE STEAM LIGHTER Co.

in connection with above

Receiving and delivering cargo at River Plate, Paraná
and Uruguay Ports, Bahia Blanca and
Brazil coast ports.

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T. S. Boadle & Co., Buenos Ayres and La Plata.

C. R. Horne & Co., Montevideo.

Duncan Fox & Co, Valparaiso.

H. S. Ferguson, Rosario.

C. C. Cumming, Bahia Blanca.

Houlder Brothers & Co.

LONDON,
LIVERPOOL, GLASGOW

Regular Line of Steamers

TO THE

RIVER PLATE

SHIPBROKERS, ETC.

REPRESENTATIVE IN

BUENOS AYRES

G. MARRIOTT WOODGATE

CALLE CUYO 372

NELSON LINE

OF STEAMERS

between Liverpool and the River Plate

s. s. Highland Scot . . .	2010 Tons
s. s. Highland Chief . . .	1707 „
s. s. Highland Lassie . .	1606 „
s. s. Highland Mary . . .	1949 „
s. s. Highland Glen . . .	1939 „

AGENTS ;

H. & W. NELSON, LONDON & LIVERPOOL
and in Buenos Ayres

HUGH NELSON & C^o.

186 SAN MARTIN

WILSON SONS & Co., Limited

Merchants and proprietors

OF COAL DEPOTS

AT

LA PLATA

MONTEVIDEO
SANTOS
RIO DE JANEIRO

BAHIA
PERNAMBUCO
St. VINCENT, C. V.

also branch establishments at
CARDIFF AND BUENOS AYRES

HEAD OFFICE

7, DRAPER'S GARDENS, LONDON, E. C.

Stocks always kept of only very best descriptions of South Wales Steam Coal.

Tug boats at all the Depôt-Ports and every facility for giving quick dispatch to Steamers,

Coal discharged into Railway waggons at La Plata, and dispatched to any Station in the Argentine Republic.

Wilson Sons & Co., Limited

are the sole proprietors of the above Depots and Branches, and any enquiries as regards prices &c, should be sent to their addresses in the River Plate

at 365, Reconquista, Buenos Ayres
and 55, Solis, Montevideo
or to HEAD OFFICE, LONDON

British Bank of South America, LIMITED.

Formerly English Bank of Rio de Janeiro
Limited

Reconquista, esquina Cangallo

Established 1863

Capital subscribed	£ 1.000.000	
Do. paid up ..		500.000
Reserve Fund		300.000
		<u>£ 800.000</u>

LONDON, BUENOS AIRES, MONTEVIDEO, RIO DE JANEIRO,
SAO PAULO, and SANTOS

Current accounts opened.

Deposits received at sight and for fixed periods.

Commercial bills discounted.

Loans given against Bonds of the National International Loan and National Cédulas.

Advances made in gold against Warrants of the Central Produce Market.

Letters of credit issued, Telegraphic Transfers and drafts at sight, and up to 90 days' sight given, on its Head Office and Branches.

and on

London Joint Stock Bank, Limited, London.

Messrs. Heine & Co., Paris.

Joh. Berenberg Gossler & Co., Hamburg,

also on

Italy, Spain, Belgium, North America.

Transfers of funds to or from this country and Europe can be effected through the medium of the Bank's chief offices at 2^a Moorgate Street, London, E. C.

All kinds of Banking business done.

PAYS

	paper	gold
On deposits in current account and at sight up to 200,000 ps.	2 0/0 p.a.	1 0/0 p.a.
On the excess above 200,000	> 1 > >	1 > >

On deposits in account current at 7 days, notice.	ps. 3 1/2 0/0 p.a.	2 0/0 p.a.
Do. do. 30 days notice	> 4 1/2 > >	2 1/2 > >
Do. do. 3 months fixed	> 4 1/2 > >	3 1/2 > >
Do. do. 6 do. do.	> by arrangement	
Do. do. 12 do. do.	> >	

CHARGES

For advances in account current	ps. 12 1/2 0/0 p.a.	12 1/2 > >
Buenos Ayres, 1st. August 1892.		

F. M. MERIOT, Manager.

New English Bank

OF THE

RIVER PLATE, Limited

139 to 149 Calle Reconquista

Authorized Capital	£1,500,000
Paid up do.	» 750,000

HEAD OFFICE,
15, St. Swithin's Lane, London

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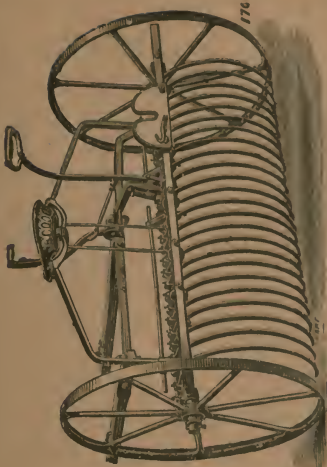
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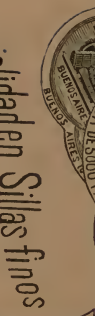
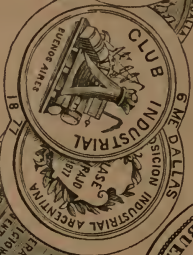
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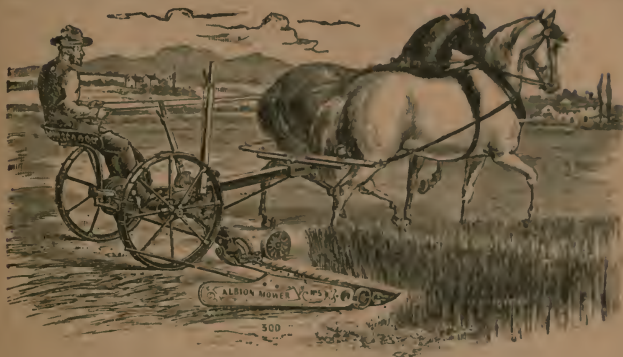
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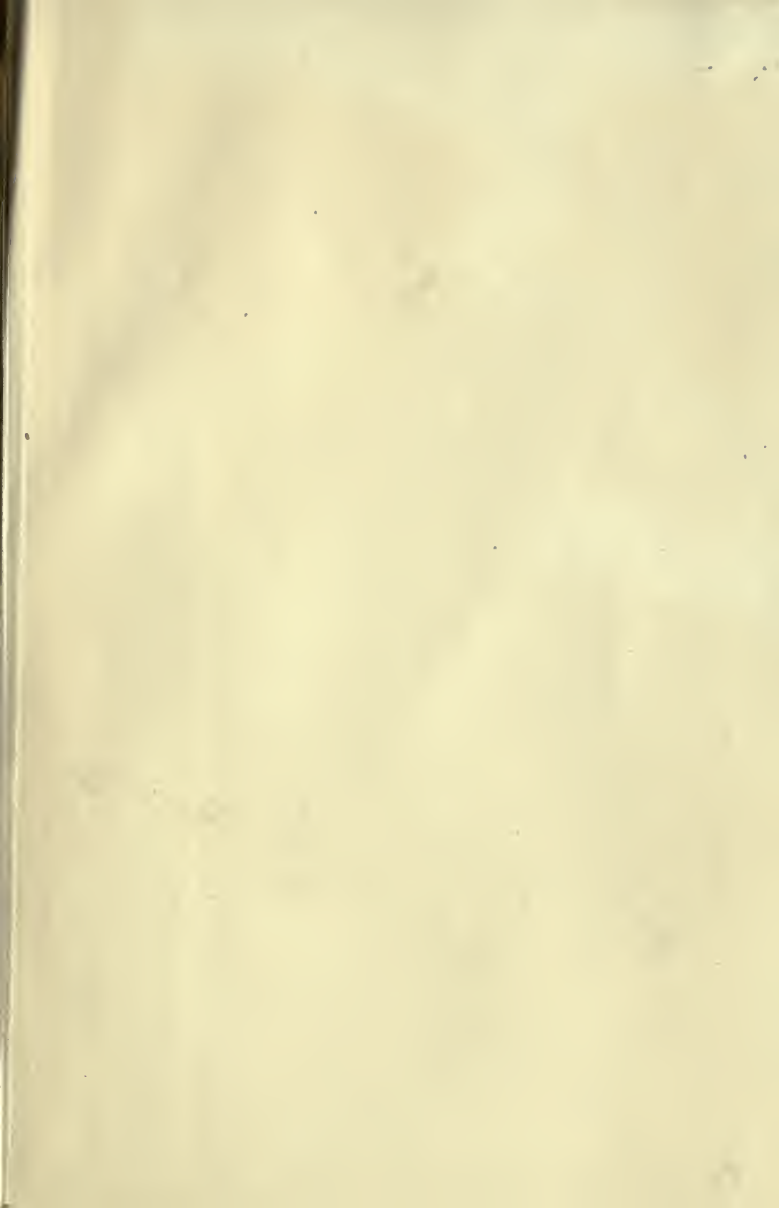
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