

THE PHYSICAL BASIS OF THE ARGENTINE NATION

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The point of view which is accepted in this paper is that of a study in evolution, involving the well established principle that any organism on migrating into a new region becomes modified by adjustment to its environment, and develops activities suited to the conditions of life by which it is surrounded. As applied to all the lower ranks of animals, the bearing of this principle of adaptation is not questioned, nor does its validity need to be argued in applying it to races of men, or even to nations. Let me illustrate the point by referring to the migrations of Asiatic tribes into Europe, where several thousand years ago new nations were born and civilization began that evolution from which we are developing. It was in the new environment that the human race made progress. Once more, and for the last time, when Columbus led the Europeans to the American continent a similar great opportunity offered itself to humanity. Under the tremendous stimulus of modern forces we already see progress toward the evolution of a higher type of man, the Pan-American.

In all parts of the Americas the American type is becoming distinct in physical and mental characteristics from the European stocks from which it originated. Everywhere evolutions are going on, in each region according to the racial factors of the colonizing peoples and the physical factors of the environment into which they have migrated. From the snowy north lands of Canada, through the fertile savannahs of the United States, in the tropics of the Isthmus and the Amazon, on southward across the vast

river flats of the Paraguay, over the breezy Pampas to the misty channels of Magellan, under all the varied conditions of plain and mountain, of sunny grass lands and shady forests, the European races have spread and are evolving new types of men, developing new nations. Their evolution reflects the influence of local environment. Reciprocally, their environment is being changed by them, as they cultivate the soil, introduce great herds of domestic animals, establish lines of communication, and exploit the natural resources for their own use and benefit.

In the temperate zone of South America is a people sprung from the same stocks as the North Americans, occupying a land in many respects similar to that of the United States. A hundred years ago that people freed itself from Europe. During the succeeding decades it fought its way to national unity. In the last thirty years it has made great progress toward developing the resources of the land for the service of mankind. It has gained independence, has defined its domain, has developed individuality. Having secured high rank among the progressive powers of the world, the Argentine nation stands on the threshold of a great future. Conscious of its strength it looks confidently forward. Scarcely conscious of any limitations it pays little heed to those conditions of environment which will inevitably determine its character and prosperity, yet it can not escape them. As Channing said of individuals, so of nations: "Life is inexorably conditioned and conditions us." And that nation will go forward most securely on the path of progress which early takes account of the resources and limitations that constitute the physical basis of its civilization.

In the Old World the exploitation of the natural resources went on for centuries wastefully until scarcity resulted, and compelled care-taking, renewal, and conservation. In the New World waste also has been excessive and still goes on, but recently we have been roused to the possibility of national poverty in forests, waters, and soils, and having taken an inventory, we in the United States are striving to establish the principle of conservation of the natural

resources for the use of future generations as well as for the benefit of this one, in order that our nation may be prosperous in the future as it is now.

Argentina may be said to stand in national development in relation to the resources of the country somewhat in the stage which had been reached by the United States in 1860, and in the extension of railways, the disposition of her public lands, the exploitation of forests, and the activity of her people, there are many features which remind one of the period of material progress on which the United States entered after the Civil War. The tide of immigration rises and sinks in her ports, great wealth is accumulating in private hands, corporations of immense resources are extending their power over railways and lands, her statesmen are carrying out public works of great cost and proportionate promise of utility. Yet of Argentina as the home of a nation, as the seat of a great world power, men know accurately scarcely as much as they knew of the United States forty years ago. Explorers' sketches direct railway extensions. There surveys are needed. Guesses are the starting points of reclamation projects that involve millions of dollars. There surveys and long continued measurements of streams are essential. Public lands of vast extent are to be settled for agriculture or to be leased for grazing. There surveys, investigations of water and soils, comparative studies by trained specialists are wanted. The list of national enterprises and necessities might be extended; but enough. If in sketching the country, I seem to speak knowingly, remember that I speak with but partial knowledge.

To outline the physical basis of the Argentine nation we may take a glance at the country itself. The total area is 1,500,000 square miles or one-half that of the continental United States. It is a country long from north to south, wider in its northern and warmer section, and tapering to the point of Cape Horn. If we place the map of South America over that of North America, so that the latitudes of the southern hemisphere coincide with the same latitudes of the northern, Argentina is seen to reach from Hudson's

Bay to Yucatan, and the greater part of the country falls in the zone of the Gulf of Mexico and the lower Mississippi Valley between New Orleans and St. Louis.

By this comparison we suggest that there is an extreme range of temperatures comparable with that between the tropics and southern Mexico and the semi-arid conditions of northern Canada, but this is not wholly true, because the oceans moderate the temperatures of the narrower continent, making the heat less torrid and the cold less severe. Buenos Aires lies in the latitude of Memphis, Tennessee, and has a mean annual temperature equivalent to that of South Carolina or Alabama. The curve of the same mean temperature—about 60 degrees Fah.—swings south through the Province of Buenos Aires and westward across the Territory of Rio Negro to the Province of Mendoza, through districts which resemble Texas, Arizona, and the Valley of California. Thus we may say that the central region of Argentina corresponds closely with the southern gulf states and the southwest. Northward the temperatures are somewhat higher, and in the extreme northeast of Argentina we find conditions resembling those of southern Florida and the coast of Mexico. There the winter temperature rarely touches frost, and the maximum in the western arid region is as high as that of the Yuma desert.

Turning to the far southern portions of the country, we are apt to think of severe conditions around Cape Horn, but on the east coast they are not so extreme as is generally supposed. The mean annual temperature on that coast is equivalent to that of the southern coast of Maine, but the minimum is not lower than that of Puget Sound, while the maximum is that of Nova Scotia. In the fiords west among the glacier covered mountains the local conditions are often far more rigorous and snow squalls are common even in summer. Farther inland in the high plateaus of southern Patagonia, the cold winds from the Andes give the winter conditions of northern Texas or Kansas, while the summer temperatures are those of southern Canada and Alberta.

Thus Argentina, which reaches from within the tropics

almost to the Antarctic Circle, experiences a range of temperatures less than those found in the United States, and must be characterized as a region of mild, temperate or sub-tropical climate throughout the greater part of its extent.

Next to temperature, rainfall claims our attention, because absence or scarcity of water determines the use of the lands for crops or herds, and the activities of the people. Argentina lies between two regions of excessive rainfall, and includes a margin of each one. From across Uruguay and tropical Brazil blow the humid trade winds, bringing rain to all the northeastern provinces. In the southwest of the country the Argentine Andes catch some of the heavy rains with which the constant west winds soak the misty forests of southern Chile and cover with snow fields the western ranges of the Cordillera. Between the two humid districts lies a drier zone which stretches diagonally across the continent from the south Atlantic coast of Patagonia northwesterly past Mendoza to the Pacific coast of northern Chile.

Where the amount of annual precipitation is as much as 500 millimeters (20 inches or more) agriculture may generally be carried on without special methods for preventing evaporation or supplying water to the crops, but where the rainfall is less than 20 inches, dry farming or irrigation becomes necessary. In Argentina about two-fifths of the land has a rainfall exceeding 20 inches, whereas the other three-fifths have less than that amount of annual precipitation. Here is a factor which at once distinguishes the northeastern district of greater rain and warmer climate from the western and southern districts of lower rainfall and in general cooler climate. The northeastern comprises all that portion of the country which borders the Rio de la Plata and its confluent streams, the Uruguay, the Paraguay, and the Parana, and which extends back from these rivers beyond the limits of Argentina and westward nearly across the provinces of Buenos Aires and Sante Fe to San Luis, Cordova, and Tucuman. The drier southwestern more extensive region includes the southern and western parts of the province of Buenos Aires, all the provinces of the north stretching along the foot of the Andes, and into the Cordillera, and also the

plateaus of Patagonia east of the Andes. The southwestern humid zone is confined to the Andean belt and its foothills.

The agricultural products of the country vary with the conditions of temperature and rainfall so briefly sketched. Were farmers of the United States transplanted to Argentina they would find congenial climates and products to accord with their experience at home in different sections of the country. The orange grower of Florida and the cotton grower of the Gulf States would be at home in the northeastern part, in Corrientes, Entre Rios, Sante Fe, El Chaco, and Formosa. The corn planter might till his fields in the northern part of Buenos Aires province and the wheat farmer in the central and southern parts. The sugar grower from Louisiana would find cane and the sugar monopoly at Tucuman, the orchardist of California could grow grapes and fruits under irrigation in the valleys at the foot of the Andes about Mendoza. The cattlemen of northern Texas and the sheep-herder from Arizona and Wyoming might duplicate their ranges from Cordova south to Santa Cruz, and in the far south, in Tierra del Fuego, the web-footed Oregonian would find congenial gray skies, mists, and rain.

After this general survey it is desirable to distinguish more clearly the nucleal region of Argentina. The river provinces that range along both sides of the navigable Parana and Paraguay on the north and east are Entre Rios, Corrientes, and Misiones; on the south and west Buenos Aires, Sante Fe, and the territories of El Chaco and Formosa. These form the nucleus of the Argentine domain about which the other provinces and territories are grouped. Here are the rich delta lands and the pampas favored by climate, soil, and facile communication with the world. Here will gather a dense population and will always be the seat of Argentine wealth and commerce—the heart of the Argentine nation.

The tourist landing in Buenos Aires and proceeding west or south over the Pampas, fails to see this river region which we may learn to know best by a trip up the Parana and Paraguay. From the broad muddy estuary of the Rio de

la Plata we pass into the channels of the islands of the delta of the Uruguay and Parana. Proceeding up either river we find the banks rising in bluffs of brown earth to 100 feet on one hand or the other, opposite wide groups of low verdant islands. According to the geographers the banks should continue rising as we penetrate into the continent, till the plains should pass into hills and the hills into mountain ranges, but we would need to travel far toward the Andes and toward the Amazon before we should reach the normal aspects of river valleys. Five hundred miles above the delta of the Paraguay the banks are lower, the islands and swamps more extensive. One thousand miles from the river's mouth we still see on either hand the vast lowlands of the interior of the continent. Delta-like in all its aspects, the immense basin in which the great rivers gather from the uplands of Brazil and Bolivia is in fact a delta—a delta in the heart of the continent. The basin is a sinking land, the rivers are filling it with sediment; it has sunk deeply and the alluvium has accumulated to a corresponding depth. Here are immense plains now widely flooded by the tropical rains, but a slight change of level would convert them from swamps into rich extensive agricultural lands.

If from this excursion up the Paraguay we return to the Pampas of Buenos Aires with a knowledge of the inland delta lands now forming on the upper river, we may recognize the delta formed long ago but now raised above the reach of the rivers by which it was accumulated. Beneath the plains of the Pampas lies the immense mass of alluvium of ancient rivers that flowed from the Andes in earlier epochs. At Buenos Aires it is 3000 feet deep. It forms the lobe of the continent south of the Rio de la Plata and extends to distant hills in the south in Buenos Aires, and in the west to those of San Luis and Cordova.

Although this soil is alluvium and therefore of the same origin as the great class of alluvial soils throughout the world, it differs from those with which the farmers of Europe and the United States are most familiar. Soils like it are found in small districts on the Rhine and the Danube, and

are more extensive in the valley of the Missouri. In the great plain of China, the Yellow River has spread a formation very like that of the Pampas. The common condition which brings all these soils in distant regions into relation with one another is in their origin as wind-blown material. They belong to the type which has received the name of loess, and are derived either from the wind-drifted dust of deserts or from the fine silt ground beneath glaciers. Their common characteristic is extreme fineness of grain and a large amount of undecomposed mineral substances. The soils of the Pampas differ from those of the other regions named in that they contain a very large proportion of volcanic dust, rich in the essential elements of plant food. A peculiarity of the loess soils is their capacity to store up water and to retain their fertility under cultivation. The Chinese fields have been tilled for more than 4000 years without exhaustion, and there is every reason to believe that the fields of the Pampas, under intelligent culture, will also remain practically inexhaustible.

On the west and south of this nucleal region is the marginal zone of the districts less favored with rainfall and therefore more limited in agricultural possibilities. It is here that water plays a more important part than soil and that the great irrigation projects of Argentina will be developed as the nation grows. Mendoza set the example more than thirty years ago and has become rich through her vineyards and orchards. All along the foothills of the Andes similar conditions exist in many rich valleys as far south as the Province of Chubut, the conditions changing, however, with the latitude, the amount of sunshine, and the date of early and late frosts. The lands which may be irrigated are so extensive that they might use far more water than flows even from the snow-capped Cordillera and in time every possibility for the storage and regulation of the streams will be developed.

Eastward beyond the reach of the Andean streams, in the territories of central and southern Argentina is the great area of land which must always be devoted to grazing, and in large part to sheep raising. In the northern and

drier regions of Patagonia the fine woolled Merino finds a congenial home, and there may be grown the wool suited to the manufacture of fine clothing and knitted goods. As we go south into the colder and moister districts toward the straits, the Merino gives place to the heavier and coarser English breeds, which are bred rather for mutton than for wool, and there already are located the freezing establishments which prepare mutton for the European markets. At the present time cattle and sheep herding are still carried on on a large scale in the provinces of Buenos Aires and Sante Fe as well as in Entre Rios and Corrientes. By far the larger proportion of the 20,000,000 head of cattle and the 80,000,000 sheep of the republic are to be found in these territories; but that condition is not one which will persist when the ranges shall be turned into farms. Where it is practicable it is more profitable to grow wheat and corn than to grow beef and mutton, and the economic advantage will in time displace the less profitable industry. Then the farm lands, which are now held in large tracts, will be divided into small farms worked by the owners themselves. The conditions of sheep and cattle raising will change as they have changed in Iowa and Illinois, and become subordinate to agriculture, while the lands which lying beyond the great agricultural regions must always be devoted to grazing, will be enhanced in value through the greater demand for their products.

Agriculture, grazing and commerce are the activities clearly indicated as those which the Argentine nation must develop on the basis of the physical resources of the country. May we add to them manufacturing industries? Argentina has no coal and throughout nine-tenths of her territory no large amount of water-power which can be utilized for manufacturing. Here she is definitely and narrowly limited, and must always be dependent for manufactured products upon countries more fortunately conditioned. But she is not entirely without resources which may be developed as a competing factor to relieve her of absolute dependence upon other nations. There are two districts in which water-power may be applied to manufacturing

on a scale sufficient to affect the welfare of the nation. One of them is in the far northeast where the falls of Iguazu may yield twice the power of Niagara, and the other in the southwest where many streams in the valleys of the Cordillera will afford power to attract a manufacturing population that will there find a congenial climate in a region of great beauty and healthfulness. The power of Iguazu is near the great centers of commerce, being situated on the Parana and capable of transmission down the valley of the river to within reach of navigable waters. The falls are fortunately included within a national reservation, and the government will be able to control their exploitation. The Cordilleran district is as far from Buenos Aires as St. Louis from New York, or Rome from London, and at present is still isolated for lack of communication; but railways are in process of extension toward it, and it will soon be brought within reach of freight and also of tourist traffic. Three raw materials of prime importance—wool, hides and wood—are immediately available in the district itself and the surrounding areas, and there will eventually be established important manufacturing industries to supply the great agricultural provinces.

The review of the physical conditions which form the basis of development of the Argentine nation confirms the generally accepted opinion that it has a great future as an agricultural and pastoral people, which shall continue to supply the less fortunate countries of the world with grain and meat. It is also clear that the material resources offer no other prospect, and therefore the prosperity and leisure which are essential to high intellectual development depend upon the exploitation and conservation of the soils and waters of the Argentine domain.

Exploitation and conservation are by many considered to be contradictory terms, exploitation being taken to mean exhaustive utilization for immediate profit, and conservation representing the idea of preservation for future use. But this view has often been shown to be incorrect. Exploitation of natural resources with due regard for prevention of waste and reproduction of crops is conservation.

Conservation means that that which is ripe shall be used, whereas that which is not ripe shall be neither used nor destroyed, but shall await the time of maturity. This applies to all things that grow, to grass and to trees. The things that do not grow, such as soil and waters, are conserved in preventing their waste and promoting their highest utilization.

From this point of view the Argentine conditions present certain definite problems in conservation. To define them we may take specific instances. The forests of Argentina are limited. They fall into two very distinct classes, those of the tropics and those of the temperate Cordillera, which differ not only in the kinds of trees but also in their utility. In the tropics are various useful species, of which two, the quebracho and the maté yerba, are the most conspicuous. The quebracho forests have almost entirely passed from government control and in private hands are rapidly being cut to make quebracho extract for tanning. The maté, or Paraguayan tea, which takes a more important place in Argentine life than coffee does with us, is a small bush from which the leaves may be picked as tea leaves are in China and Japan, without injury to the plant if due care is taken, but the Yerbales are being seriously injured by wasteful methods of gathering the leaves to reduce the cost and increase the profit. The government is awake to these conditions and high officials are striving to correct them, but it remains to be seen whether the Argentine congress can pass and the Argentine executive enforce laws that shall protect young quebracho trees or insure their planting, and prevent the destruction of the maté yerba.

In the Andean forests there is a different problem. Most of them are still in the hands of the government and by the organization of an efficient forest service may be brought absolutely under government control. A reorganization of the forest service is in progress and if the program which is now proposed be adequately supported the question will be solved. At the present time protection against fire is the most urgent necessity, since these forests lie on the

borders of Chile within reach of the wandering cattle herders whose long established habit is to set fire to the forests in order to clear away the undergrowth and utilize the grass, which springs up among the burnt tree trunks. Thorough police control, constant watchfulness, easy communication, and an awakened public spirit are needed in the Cordillera. The important service for which these forests should be conserved is that of regulating the streams which flow from the Cordillera across the eastern semi-arid region of central Argentina. They cover the mountain ranges where the annual precipitation is very heavy and a large part of it falls as snow. The dense growth of the Andean beeches, cedar, and bamboo protects the ground and prevents the rapid run-off in the streams. Even as it is there are great floods and in summer proportional scarcity of water. But if these forests be stripped from the steep slopes of the Andes the floods will be greatly aggravated and the waters available for irrigation will be so diminished that the valleys which should become the seat of a dense and prosperous population will be left to the solitary sheep herder and his flocks. This being the condition it is fortunate that the forests, as they now stand, have not in themselves great intrinsic commercial value. The cipres, or cedar, a good lumber when well grown, is not very abundant nor often free from knots or defects. The coihue, or Andean beech, the most common tree, is in general over ripe, as is apt to be the case in virgin forests, and a large proportion of the trees are unsound. The wood is exceedingly heavy, will not float in the streams or lakes, and is expensive to transport to market. It therefore offers little temptation to exploit it commercially. Yet means must be found gradually to replace these old over-ripe forests with cultivated stands of useful lumber varieties. Thus the conservation problem of the Andean forest comprises three questions: how to prevent fires, how to remove the natural growth to the best advantage without destroying its effectiveness in controlling the waters, and how to replace it with more valuable species. These problems will not be solved in one generation, but the Argentine administration is taking

steps toward fire protection and recognizes the necessity of forest reserves. In this direction it is making an excellent beginning.

The conservation of the waters and their utilization to the greatest possible extent of economic service is the most important factor among the natural resources. Lands suitable for irrigation are very extensive throughout the three-fifths of Argentina which must be described as semi-arid, and the waters available for irrigation are quite inadequate to cover more than a small fraction of the appropriate areas. The irrigation problem centers in the streams that flow from the Andes and the valleys along their courses. The greatest of all, the Rio Negro, is already being developed by the construction of a dam on its northern branch, the Neuquen, to irrigate lands in the valley, and irrigation is practiced in the vicinity of Choelechoel on the river. Studies are in progress of the lake basins in which the waters gather before they leave the Andes, and the general question of the complete utilization of the waters will be developed along the lines ably outlined several years ago by the Italian engineer, Cipoletti. Irrigation works of more or less local importance are in progress in various other parts of Argentina, partly under government auspices and partly under contracts between the government and the great railroad systems. Yet it must be said that no adequate study of the great problem of conservation and utilization of the waters of the country is being made. There is no other resource of equal importance to Argentina, yet there is no organized service engaged in mapping the watersheds and measuring the rivers. The engineers who plan costly public works are obliged to proceed upon very inadequate guesses of the volumes of water which they may have to handle, and without maps of the watersheds from which the streams gather. Under these circumstances any irrigation project is likely to be a costly experiment and there can be no wise selection of the lands and waters which may be most economically and most advantageously developed at the present time. To emphasize this point I need but cite the experience of the reclamation service of the United States,

which was that only one in ten of the projects for storage and utilization of waters for irrigation in the United States gave such promise of a reasonable return upon the cost of construction under government supervision that it could be undertaken on the condition that it should eventually pay for itself. The works carried out by that service are more important to the people of the United States and they involve engineering questions as difficult as those of the Panama canal. They have been based upon thorough topographic and hydrographic studies and so upon definite information of the nature of the territory and the conditions of supply of the water in each case. In Argentina further progress in the development of her water resources should be based upon like studies covering the Andean Cordillera and the streams which flow from it.

One of the results of a survey of the water resources of the country will be the determination of the available water powers. Here in the United States, where we reckon that we shall not exhaust our coal supplies for a century and a half, we, nevertheless are anxious that the nation shall retain control of the inexhaustible power which the falling streams can be made to yield. How much more urgent is that control of waterpowers in Argentina, where there are no other sources. The laws already reserve to the government rights over the streams and their banks, but it is none too early to direct attention to the fact that whatever manufacturing may develop will be entirely dependent on the water powers and subject to the control of whoever owns that power.

In a country where lands are still held by individuals in enormous tracts and where cultivation of the soil has not yet displaced the pasturing of great herds of cattle and flocks of sheep, the question of soil conservation has not presented itself, nor is it a question which will in the great agricultural regions of Argentina soon be an urgent one. Erosion on the plains of the Pampas is confined to scouring by the winds, and where the soil is deep does not inflict much injury. Some districts there are, especially in the southwestern part of the Province of Buenos Aires and adjacent

regions of the Pampa Central and Rio Negro, where there is a hard layer of limestone at moderate depth below the surface. In some districts the depth of soil is less than a foot, and elsewhere there are bare surfaces of limestone forming stony plateaus. These were once covered with soil which has been swept from them by the wind, and where the limestone is not deeply covered the same result must follow if the surface is not protected by vegetation. In these districts in both grazing and cultivation every precaution should be taken to keep the soil from blowing away. The greatest injury now being done to such areas is due to overgrazing and the destruction of the grass that holds the soil in place.

Grazing being an industry which in Argentina takes rank in importance with agriculture the entire nation is interested in the grasses on which the herds and flocks pasture. Where private lands are stocked for absentee owners there is danger that they may be overgrazed, and where squatters pasture their flocks on public lands there is practical certainty that the grasses will be severely injured. A difficult situation is apt to arise through fluctuations of the rainfall from year to year. With the greater moisture of wetter years the number of sheep carried is increased to the limit of richer pasture and when leaner years follow the range is grazed to the grass roots before the flocks are reduced by forced sale or starvation. For these conditions on private lands there is no remedy save that of resident ownership and intelligent management. On public lands there is a reform as practical as it would be profitable; that of bringing the public ranges under a leasing law, by which the irresponsible squatters would be replaced by responsible lessees. This is not the place to consider the terms of such a law, further than to suggest that Australia has set a successful precedent, which proves that long term pastoral leases may be satisfactory alike to the government and the sheep owners; but it may be said that in Argentina a first step has been taken this year in imposing a tax on all sheep and cattle grazing on public lands. The owner who is taxed will acquire certain rights. The rights will be recognized

by permits, and under a plan like that now being worked out in the United States or under a law of pastoral leases on the Australian plan, the grazing on public lands will come under government regulation.

Control and regulation of grazing will not, however, be effective without better knowledge of the grazing plants than is now available. They have been collected, classified, and named. The number of species of grasses known from Patagonia is very large, but their nutritive value, conditions of growth and reproduction, relative abundance, and other characters bearing on their value as fodder plants remain unknown. Here is work for the botanist who is willing to follow the sheep and from its habits learn the lesson of conservation in the arid plateaus. In the United States it has been shown that such studies have practical value, inasmuch as by abstaining from grazing certain lands during the flowering and seeding season of the pasture plants, the pasture may be made richer instead of poorer, even though heavily stocked during the rest of the year.

From whatever side we approach the problem of conservation in Argentina, we are met by the lack of knowledge of the natural resources and conditions of development. While it is true that South America has been known longer than North America it has been a shorter time and less effectively studied scientifically. The world is still ignorant of facts that vitally affect its availability as the environment of new races.

The Argentine is predominantly a Latin race. Of four million immigrants in the last half century, three million were Spaniards and Italians, and although many of these were laborers who return home each year, they still constitute the dominant strains. The peoples of northern Europe, especially the English and German, exert a great influence in commerce, but they can not be said to determine the trend of racial development. The native Argentine of Latin descent of three generations or more in the country is stamped with the qualities of independence and self respect which mark the American who has outgrown the servile conditions of the poorer classes in Europe. Poor he may be,

but a man he is, and conscious of a man's rights. He is enduring, hardworking, temperate in his language, and except for occasional excesses, in his habits. In him is the promise of a strong people. Mingling of the Spanish and Indian bloods in the north has produced a laborer who is sought for his strength and endurance in the tropics, though he is quick to resent arbitrary control. In the southwest the Indian blood is of that indomitable race, the Auracians, who resisted the Spanish soldier for centuries, and in Chile have won recognition as an important and valued element of the Chilean people.

Between the Argentines of the poorer class and the class that by virtue of intelligence, ability, education, and wealth rule the country, is a great gulf, to be filled in the future by the agricultural population that will occupy the immense estates now held by a relatively small number of great families. In the evolution of the people, the selection of that farming class is of the highest importance to the quality of the future race. The conditions are not now favorable for immigration is unrestricted, selection is not thought of. Neither is the number of smaller farms growing rapidly, for lands are expensive and their subdivision proceeds slowly. But there are forces working inevitably toward changes which in another generation will strengthen Argentina by establishing the prosperous middle class of citizens she now lacks.

Among the leaders of the nation stand the heads of those families who won their right to leadership in the long warfare for independence and national unity. That struggle ended when Mitre and Roca mutually relinquished their opposing aspirations to the presidency and placed the welfare of their country above party service and ambition. The generation which was then in its boyhood now governs and grapples with the problems of national development that have assumed stupendous proportions. I do not refer to the political questions that divide conservatives and radicals of various degrees, but rather to those which relate to the development of the national domain by national or by private enterprise. Here we touch the conditions that will affect

the destinies of Argentina long after the factional strife of the hour is forgotten. There are in the counsels of the government far-sighted statesmen who are striving with intense devotion to meet the issues of the hour in the way that shall guard and promote the future greatness of the nation. Their difficult task is rendered more difficult still by conditions incident to the development of the young nation. The lack of knowledge of the country and its resources is one. Another is the lack of trained investigators of Argentine nationality, which is due not to want of ability but to disinclination of the able young men to enter on scientific careers, other than that of medicine. In the latter as in law they have demonstrated brilliant ability. It is to be hoped that they will soon prove themselves equally competent in engineering and the natural sciences. Argentina needs them.