

PERIPHERAL ITEMS IN THE ARGENTINE PATTERN OF
TERRENE OCCUPANCY

BY

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INTRODUCTION

The rich and youthful farming region of Argentina formerly known as the Pampas is characterized by uniformity of natural environment and by multiformity and changeability of land occupancy. Thus, for example, in the small district of Pirovano¹ in the interior of the province of Buenos Aires (fig. 1), the featureless fertile plain is occupied by a complex assortment of great estancias fattening beef cattle in alfalfa pastures, large farms fattening swine in corn fields, small farms raising wheat and other cereals, and minor sorts of productive activity. Moreover, these various activities all represent a change from the previous use of the grassy plain for extensive grazing and all show tendencies toward further changes in the future.

This superposition of variety of activity upon uniformity of environment is not unnatural but is based on uniform richness in the fertile plain, allowing success in various productive enterprises, easy success of one sort at the start and alternative opportunities for success in later stages of development in which final stability has not yet been attained.

These characteristics of the central farming region represent only one aspect of the Argentine pattern of terrene occupancy. At the margins of the region and beyond, the complex variety of land utilization gives way to simpler regional differences, by reason either of less richness or of greater maturity of development. The field studies reported upon herein are examples of occupancy in certain peripheral districts.

The greater simplicity of peripheral areas is less evident toward the shore than toward the interior margin of the central farming region. In fact, the shoreward margin may be considered to contain the very heart of the region, for settlement began along the shore, particularly

¹This paper is the sequel of one entitled "Pirovano: Items in the Argentine Pattern of Terrene Occupancy," delivered at the annual meeting of the Association of American Geographers, December, 1930, published in the *Annals of the Association of American Geographers*, December, 1931. Both papers are based on field study in early autumn (March and April) 1930.

the northeastern shore including the river front; penetration of the interior took place from here, and the interests of the region have continued to focus here.

VICINITY OF ROSARIO

Near this northeastern margin is the first of the items of occupancy to be discussed (fig. 1). The smooth rich plain extends to the very shore of the Paraná which here bounds the region. The land is, if anything, richer than that of Pirovano in the interior—the soil is more fertile, the rainfall more plentiful, the growing season longer, the winter milder, and the location close to the great port of Rosario is superior. No wonder that this margin—settled earlier and more densely than the interior and now somewhat more advanced in its development—should be considered the very heart of the central farming region.

The subdivision of property has progressed far (fig. 2). The great estancias, originally established as units of extensive grazing on the grassy pampas have all but disappeared. Even large properties which have not been divided in ownership are no longer functional units but are generally subdivided into tenant farms. Thus the present pattern of land division reflects organization of the area for cultivation of the soil in farms of a size to be operated by single families.

The form of land holdings reflects an original haphazard division of a featureless plain and more or less systematic subdivision thereafter, so that although there was no unity of orientation at the start, the later straight line boundaries generally form rectangular subdivisions.

One of the small subdivisions is the Chacra Zavalla (fig. 3), rented by an Italian immigrant from a larger property. It consists of a single cornfield 148 acres in extent, interrupted only by a 2 acre strip of alfalfa, a vegetable garden, and a corral grouped around the farm house.

The dwelling is a two-room brick hut located apparently at random in the midst of the flat cornfield (fig. 13). No other buildings are required. The farm machinery, ample modern equipment for producing the one crop, lies unsheltered behind the house. The eight farm horses are kept all year in the corral, fed on alfalfa or allowed to browse after harvest in the cornfield. No less important than the machinery and the horses is the farmer's family of seven children. With the farm all under one crop it is the family that supplies the concentrated demand for labor at harvest time.

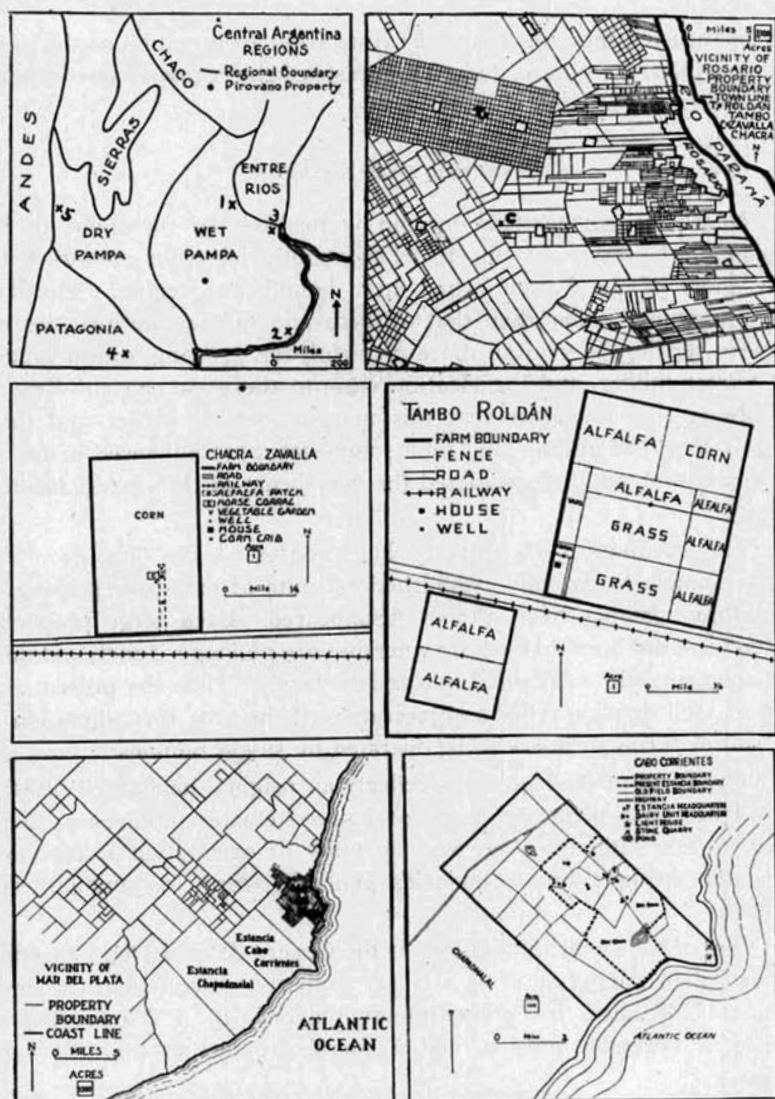


FIG. 1. Regional Map of central Argentina showing locations of the five peripheral studies: (1) Rosario, (2) Mar del Plata, (3) Paraná delta, (4) Choele Choele, and (5) Mendoza. The "Wet Pampa" is the Central Farming Region" referred to in the text. (Map based on Mapa de las Regiones Geográficas, Gastón Federico Tobal, Buenos Aires, 1928.)

FIG. 2. District No. 1, vicinity of Rosario (fig. 1). This and the other four district maps (figs. 5, 8, 10 and 11) show areas of approximately the same size, in each case about 900 square miles.

FIG. 3. Map of corn farm in the vicinity of Rosario (figs. 2, 13).

FIG. 4. Map of dairy farm in the vicinity of Rosario (figs. 2, 14).

FIG. 5. District No. 2, vicinity of Mar del Plata (fig. 1).

FIG. 6. Map of Estancia Cabo Corrientes in the vicinity of Mar del Plata (figs. 5, 15).

The land is fertile silt loam with light subsoil and has produced corn continuously for years. When the annual rainfall reaches the usual amount of near 40 inches, the yield is commonly about 40 bushels per acre, but occasionally, as in 1930, a summer drought reduces the crop. The ears are gathered in bags and taken by wagon to a crib of cornstalks (fig. 13) near the house to await the arrival of a sheller in its round of the community. Then the shelled, bagged product, flint corn of export quality, is hauled to the nearby railway station for sale and shipment to the port.

This simple specialization in the best marketable crop which the soil will produce is a natural mode of procedure for a poor family occupying the land temporarily. But the system involves risk in the uncertainties of the one-crop yield, irregularities in labor needs, and inevitable depletion of the soil. As there are other possible crops and other farmers who are better off, this is not the only type of farming.

A less simple item in the pattern of terrene occupancy is represented by the Tambo Roldán (fig. 4). It is rented by a Basque immigrant who has some capital. The land is similar to that of the Chacra Zavalla, but contains a slightly depressed area that is poorly drained.

In the 351 acres comprising the farm, corn occupies one field of 47 acres, marketed like that of the Chacra but grown in rotation (fig. 14); alfalfa occupies 188 acres in 6 fertile fields, growing luxuriantly and available for pasture throughout the year, or for 5 cuttings of hay in summer, and maintaining itself for 5 years before replanting; natural grass pasture occupies most of the remaining 116 acres in the two poorly drained fields.

This combination is the basis for a dairy establishment of 80 cows. Calves are kept with their mothers and the products of the establishment are fattened calves and a moderate amount of milk which is taken to a nearby factory for the production of cheese and casein for export.

The only building needed on the dairy farm is a small house for the farmer and his family. It seems natural that this establishment with its easily productive and accessible land should be a prosperous contributor to a world market.

The Tambo Roldán and the Chacra Zavalla represent characteristic land utilization in the vicinity of Rosario. Obviously the one-crop farm is not a permanent establishment, but it is a short step from this to some sort of stable combination of grain, pasture and livestock such as that of the tambo. Already the chacra has a few pigs. Thus the pattern of occupancy seems to be approaching the uniformity and

stability of mature development in this marginal heart of the central region. Let us pass to a second point in the periphery (fig. 1).

MAR DEL PLATA

The outermost cape of the Argentine coast is peripheral in a very literal sense, even though it lacks a peripheral spirit even more than does the district first discussed. Rosario at least is distinguished as a marginal focus, whereas the rural area of Mar del Plata has developed as an undistinguished part of the interior, reached by an overland journey from the northeast coast and only recently opened to secondary access through the port of Mar del Plata. Its pattern and stage of development are like those of the interior of the province.

The pattern of property division (fig. 5) almost duplicates that of Pirovano. The orientation is that of the distant northeast shore, the straight lines and right angles are those of the featureless plain, and there are both large properties of the old pastoral era and small properties of agricultural settlement. Like the interior, and unlike the Rosario margin, some large properties are still functional units.

Two large properties exemplify the pattern of occupancy. Estancia Cabo Corrientes carries the name of its ocean promontory (fig. 6). How sharply the Argentine plain meets the sea without intervention of other land forms is suggested here where smooth farmland extends uninterrupted to the lighthouse at the water's edge, even on this most prominent cape of the long coast (fig. 15). Cabo Corrientes marks the place at which a low ridge formed of underlying limestone succeeds the almost flat alluvial lands extending southward from the Paraná and Rio de la Plata. Thus the land of the estancia, like that adjoining it on the south and inland from this point, is an undulatory upland with rock but a few feet beneath its silt soil.

The estancia has an area of 18,000 acres, with a seashore frontage of 4 miles. It was founded 50 years ago as a grazing establishment, and continued so until recently. Now the rise of new opportunities has led to changes. The soil and climate are good for agriculture and under the market stimulation of the town and new port of Mar del Plata, 12,000 acres have been subdivided into small farms and rented to immigrant tenants. The larger of these subdivisions are grain growing enterprises, in some cases a single farm occupying one of the old estancia pasture fields with 1,200 acres as a maximum size. Wheat and oats, some barley and a little corn are grown for market. Smaller tracts, commonly 120 acres, are rented for the more intensive and soil-depleting crop of potatoes.

The remaining 6000 acres of the estancia have been kept intact by the Argentine owner to form a dairy establishment with a total of 2600 cows. The land is less suitable for alfalfa than are those of Rosario and the western interior of the region with their lighter soils and higher water table; but the natural grass is good pasturage and other available plants make excellent fodder for cows. The establishment has been organized into seven dairy farms, to eliminate the difficulties of inconveniently large herds and too extensive tracts of land (fig. 6).

The dairies are not all of the same size, but a typical one has 350 acres of land, 125 cows, and seven men. The only dairy building is a house for the men, beside which the milking pen and water tank complete the dairy headquarters. The cows remain in pasture throughout the year. As the natural grass is less efficient for milk production than selected pasture plants and is particularly poor during winter cold and summer drought, more than half of the land allotted to each dairy, adjacent to headquarters, is planted pasture. A mixture of barley, rye and oats is particularly good for winter pasture, and corn provides green summer fodder. The planted land is divided into six fenced fields, of an average size of about 40 acres, each used for about two months during the year. The dry cows, which need not be kept at the dairies on special fodder, are segregated elsewhere in large pastures of natural grass (fig. 15).

The estancia specializes in providing fresh milk to the Mar del Plata market, thus taking advantage of proximity to the city and of high grade production methods. Calves are not kept for fattening but heifers are reared to replenish and increase the herds.

The establishment is a profitable enterprise, and is expanding steadily over more of the old estancia property, displacing some of the small tenant farmers who hold leases for only one or two years. Thus apparently befitting its natural setting this new use of the old estancia shows evidence of stability.

Further illustration of land occupancy in the district is provided by the neighboring property of Chapadmalal, probably the most famous estancia in Argentina (fig. 7). The land is like that of Cabo Corrientes, in the same undulatory, fertile plain, originally grass covered and long used for extensive grazing. Of the 30,100 acres contained in the old estancia, 17,800 have been subdivided into small farms and leased, as at Cabo Corrientes, the remaining 12,300 acres being kept intact to form the present estancia.

It is not the land but the type of activity here engaged in which has distinguished the establishment. Chapadmalal has been developed by its Argentine owner for the breeding of fine livestock, pedigreed

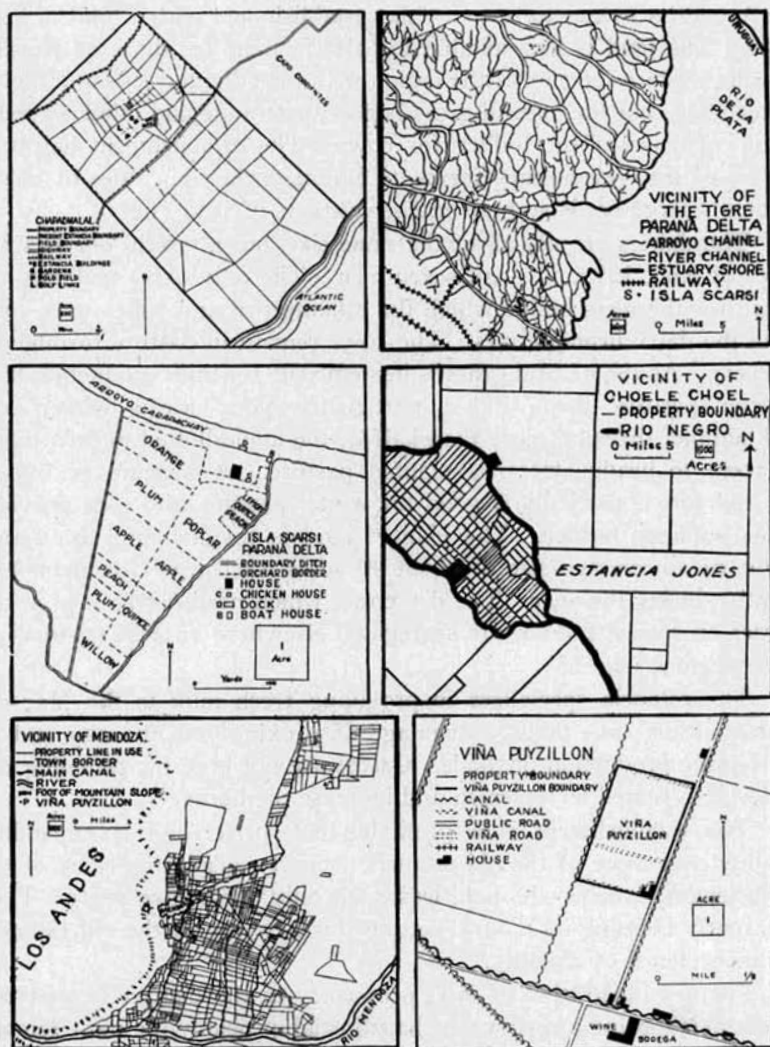


FIG. 7. Map of Estancia Chapadmalal in the vicinity of Mar del Plata (figs. 5, 16).

FIG. 8. District No. 3, vicinity of the Tigre or southern corner of the Paraná delta (figs. 1, 17).

FIG. 9. Map of fruit farm in the Paraná delta (fig. 8).

FIG. 10. District No. 4, vicinity of Choele Choele (figs. 1, 18).

FIG. 11. District No. 5, the north-central part of the Mendoza oasis (fig. 1).

FIG. 12. Map of vineyard in the Mendoza oasis (figs. 11, 20).

bulls and race horses (fig. 16). Ordinary beef steers, 2,000 or more in number, occupy large outlying pastures of natural grass, but chief attention is given to the less numerous but far more valuable pedigreed animals. These are carefully attended, pastured in small planted fields, and housed in stables. For pasturage 2,900 acres are planted with mixtures including rye grass, blue grass, and clover. For winter pasture 1,200 acres are planted in oats. The number of animals is only a little larger than at Cabo Corrientes, although the amount of land and the number of workers, 120, are twice as great.

The estancia sends many winners to livestock shows and horse races, selling its output at premium prices and maintaining a high reputation in a country where livestock is greatly esteemed. But it has been a costly venture, marked by considerable extravagance, so that it has passed under the control of creditor banks. Probably there will be changes of policy, but in general the establishment seems to be of a type befitting its natural setting, fulfilling successfully a special need of national significance, and enjoying the advantage of an established reputation.

Apparently there is a permanent place in the district for at least one fine breeding establishment, as well as for some beef cattle and some dairy establishments and farms utilizing the soil for agriculture. This suggests some approach to stability. But it seems unlike that of Rosario where intense and long continued activity has led toward mature development. Near Mar del Plata activity has been less and changes have been slighter from the livestock grazing of the original occupancy to the grazing of the present, part of it still on the natural grassland. Here, apparently, stability after less change accompanies less richness of opportunity. As the soil is unsuitable for alfalfa and less outstandingly productive for other crops, although supporting excellent grass pasture, there is no strong incentive for final change to intensive forms of agriculture and livestock fattening.

So much for the first two districts under discussion, both within the periphery of the central farming region and both sharing certain aspects of its complex variety of development.

DELTA OF THE PARANA

The remaining districts lie beyond the margin of the region and are different from it. One of these, the third in our discussion, is barely beyond the margin (fig. 1). It is so small that it would commonly be considered as an insignificant marginal appendage, and is so close to Buenos Aires, the urban focus of the region, that it is almost a part of it.

At Buenos Aires the lowland plain of central Argentina is bordered by a broad estuary, the Río de la Plata. A few miles northwest of the city the central plain ends just as definitely in a low *barranca*, but beyond its edge is a maze of islands and narrow channels, the delta of the Paraná, at the head of the estuary (fig. 8).

Here the pattern of occupancy is distinctive and unlike that of the adjacent plain. Instead of rectangular properties hundreds or thousands of acres in extent, here are irregular island properties, in many cases minute sectors of small islands.

Such a sector of an island is the Isla Scarsi (fig. 9), a property of 10 acres fronting on one of the river channels (fig. 17) and extending back to swampland in the center of the island. As its name implies, the Isla Scarsi is itself practically an island, bounded like its neighbors by drainage ditches. Only in recent years and only in a specialized way has this land been cleared and put to use, unsuited as it is to easy or extensive farming operations.

Under the conditions, horticulture has been found suitable. Intensive crops responsive to special treatment are favored here where the land is fertile, limited in extent, difficult to work and requires a system of drainage ditches. Moreover, frost hazards are lower on the delta islands close to warm river water from lower latitudes than on the open plains, and Buenos Aires, on the edge of the plains and close to the delta, provides a market for fruit. Therefore fruit is grown by the Italian settler at Isla Scarsi as well as by most of his neighbors. With the development of the district, marketing has been facilitated by the establishment of a cannery on a nearby delta island.

A natural levee near the river forms the highest part of the Scarsi land. Here is the oldest part of the orchard, started with a planting of oranges. Only hardy oranges can be grown and most of the Argentine supply comes from subtropical areas farther up the river. The middle latitude fruits are more important here.

Since the first planting at the Isla Scarsi, land progressively farther and farther from the river has been cleared, drained, and planted. The interior is not lower than the river except at times of very high water and usually the main ditches drain from the swamp into the stream. But secondary orchard ditches drain into the swamp.

Fruit planting has left only a small grove of willow trees at the swampy end of the property and a patch of poplars near the house. Willows and poplars, either planted or growing wild on the unimproved delta land, provide a fairly profitable harvest as fuel for the nearby metropolis on the coal-less and treeless plain. But the yield from fire-

wood is too low for good land and the larger amounts come from less developed outlying parts of the delta.

A final phase of delta development is as a place of recreation for the city, having attractions of waterways and woods unique in the vicinity. Accordingly the Isla Scarsi is an open-air restaurant and picnic ground, and the income from this source is almost as great as from fruit. All transportation, whether of fruit, firewood, or pleasure seekers, is by the network of waterways (fig. 17) connected with the outside world by a railway terminus on the delta margin.

In none of these respects are great changes in prospect for the delta district. In spite of close relations with the nearby urban complex relative simplicity and stability of development seem to have been readily attained in this area of special and limited possibilities.

CHOELE CHOEL

Upon turning from the shoreward to the landward side of the central farming region much greater areas of special and limited possibilities are in evidence. Bordering the central region is an expanse of semi-arid bushy plain. In this area far out beyond the margin of agricultural land is the 4th district to be considered (fig. 1).

The fact that this district is included in Patagonia and not in the dry pampa adjoining the farming region does not mean that it is different in itself from the rest of the semi-arid belt. In fact, northern Patagonia would probably be considered as an integral part of the semi-arid belt if it were not for the fact that it lies west of a semi-arid coast instead of a wet fertile coast and therefore has had a political history and regional relations different from the area immediately north of it. Practically it is now a coherent part of the dry western plain.

Choele Choel on the Rio Negro is unlike a great majority of places on the dry plain in having a concentrated source of water (figs. 10 and 18). The island of Choele Choel is a newly formed oasis in the semi-desert region, a floodplain area partly protected by dikes and recently irrigated by canals from the river. The relative intensity of its agricultural development is indicated by the subdivision of property; most of it is in farms of about 250 acres with alfalfa as the chief crop, and some of it is in farms as small as 12 acres devoted to apples, grapes and other fruits, like orchards of the Paraná Delta in size and products.

Except for this recent island development almost all the land in the vicinity is unirrigated. The pattern of property division suggests the contrast in land occupancy. Single properties are larger than the total area of irrigated land on the island. One of these land holdings offers an example of occupancy in the district.

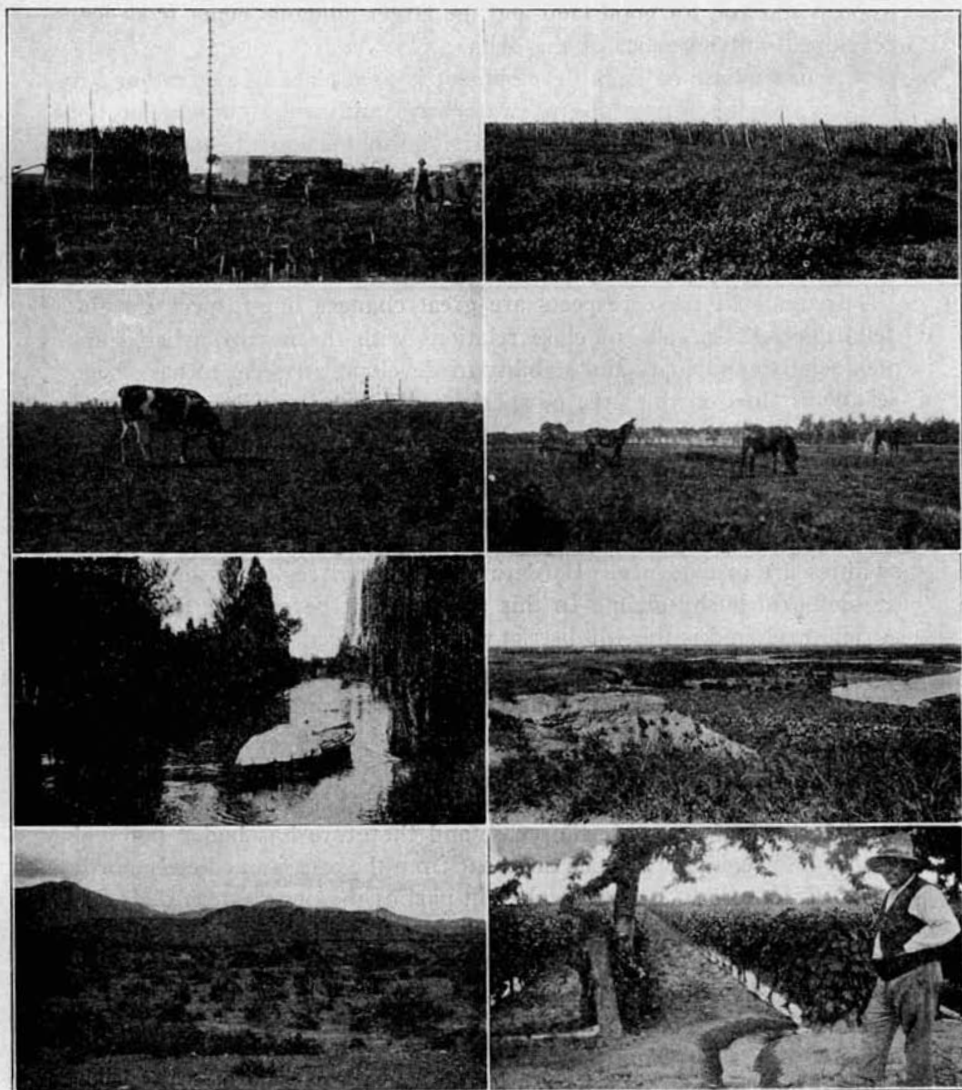


FIG. 13. Farmstead of the Chacra Zavalla. The house is in the background, the corn crib and loading device to the left (fig. 3).

FIG. 14. Fields of alfalfa and corn on the Tambo Roldán (fig. 4).

FIG. 15. Natural grass pasture, Estancia Cabo Corrientes, looking eastward toward the lighthouse and seashore (fig. 6).

FIG. 16. Pedigreed mares in planted pasture, Estancia Chapadmalal (fig. 7).

FIG. 17. Arroyo Carapachay, a minor channel of the Rio Paraná looking eastward from the dock of Isla Scarsi (fig. 8). The boat contains a load of delta produce.

FIGS. 18, 19, 20. See page 421.

The Estancia Jones has an area of 32,000 acres with a river frontage of 4 miles (fig. 10). Inland from the river the property includes a square mile of swampy pitted floodplain, 8 square miles of low terrace, a strip of valley bluff 80 feet high, and above this 40 square miles of almost flat plain. Terrace, bluff, and upland all are occupied by dry bush vegetation. A large proportion of the bushes are useless, but some have leaves and some berries edible for animals, and there is a little bunch grass, green after rain.

The estancia has 2000 sheep, 1 to 16 acres. Occasionally there have been three or four times as many in unusually moist years, but recently there have been dry years. The average annual rainfall is 10 inches with large variations from the average. The sheep graze in the upland when there is available pasturage there, ordinarily in the cool winter season. In dry periods, generally in summer and sometimes all year, they are confined to the valley where there is slightly more vegetation.

Improvements include a fence around the property, and two inside dividing fences, a well 100 feet deep with windmill and tank in the upland and two shallower wells in the valley, two houses at the lower edge of the terrace for the Argentine brothers owning the establishment, and at one of the houses a corral and a shed for shearing and wool storage.

Wool is the chief product. The sheep are sheared twice a year, the unwashed clip is bagged and taken by truck to the railway at Choele Choe station 15 miles away. Sheep are sold at irregular times, some fat ones when pasture is unusually good and some thin ones when the pasture is too poor to sustain them. Sheep for shipment are driven to the next station, 12 miles beyond Choele Choe, loading pens being provided only at every other station, presumably on account of the sheep's ability to walk long distances.

The estancia is not very prosperous and in a series of dry years seems almost worthless. Here multifarmity and changeability of land occupancy are unheard of under the limitations of scanty opportunity. The size of the Estancia Jones is similar to that of Chapadmalal, each

FIG. 18. View of north branch of the Rio Negro from the valley bluff, showing also the island of Choele Choe in the right background, the swampy floodplain in the center, terrace land and houses of the Estancia Jones in the left background, and a spur of the bluff in the left foreground (fig. 10).

FIG. 19. Dry plain at the foot of the Andes, close to the Mendoza oasis.

FIG. 20. Irrigation ditch in the Viña Puyzillon, looking northward from the road across the vineyard (fig. 12). At the right is the owner of the vineyard.

representing an old division for extensive grazing purposes, but unlike farms in the central region, the dry properties of the Choele Choel district all have remained large, and show no signs of changing to new forms of occupancy.

Even the advantage of estancias having unirrigable valley land seems too slight to be important. Northeastward across the plain from the Rio Negro to the edge of the central farming region there is very little variety in the pattern of occupancy.

MENDOZA

Far west of the central region where the dry plain ends at the foot of the Andes is the 5th and last of the districts to be discussed (fig. 1). Here the plain is even drier than at Choele Choel (fig. 19), and is not organized in a pattern of fenced and functioning estancias. But streams from the high Andes, particularly the Rio Mendoza, here breaking from the mountains provide water for an oasis much larger than the island of Choele Choel (fig. 11).

The pattern of land division suggests the sharply restricted form of the area reached by water from the river, and the intricate dissection of this area into small functional units which are irregular because of a long history of unsystematic development.

One of the very small units is the Viña Puyzillon in the midst of the oasis (fig. 12). Water from the chief diversion dam of the Rio Mendoza reaches it by way of a main canal and secondary canals by which finally its proportionate share is delivered to the little vineyard (fig. 20). The vines are irrigated every two weeks during the latter part of the growing period, and are fondly cared for by the owner during the rest of the year, with very little hired assistance for pruning, tying, cultivating, and fertilizing. The owner is a French immigrant who came as a laborer to the newly planted vineyard 36 years ago.

The property has an area of 11 acres sloping gently northeast, all of fertile silt soil, occupied by French wine grapes of one variety. The rows extend approximately north and south, as is customary in the district, probably in deference to prevailing winds.

Near the house is a patch of corn. Some vegetables for family supply are grown between the vines, and a few fruit trees grow along the north side of the vineyard road and the south boundary of the property, where they do not shade any of the vines.

The only building is the dwelling house, a well-built villa in a corner of the vineyard close to the public road. The establishment is too small to have its own wine press and the grapes are sold when

gathered, being hauled directly to a commercial wine *bodega*. The harvest is a concentrated effort requiring extra hired labor—fifteen people for ten days.

In the Mendoza district many vineyards are larger than the Viña Puyzillon and some produce other kinds of grapes, table grapes as well as wine. Vineyards are not the only kind of farm enterprise but wine is the leading interest and the Viña Puyzillon a typical small establishment, a final example of simple and stable development in a district of special and limited possibilities, a last peripheral item in the Argentine pattern of terrene occupancy.