

XX.

AGRICULTURE AND AGRICULTURISTS.

(HACENDADOS AND RANCHEROS).

The flower of the Mexican population, and that which is healthy and original must be sought for among the agriculturists. It would be incorrect to say among the peasantry, for these do not exist in the European sense; the class of agriculturists and graziers in Mexico, who represent them, are far more independent. They live, it is true, by the sweat of their brow; but at the same time entertain the utmost contempt for a town life, for bureaucrats and clerks, or scribblers, as they term them. The agriculturist deems his occupation the noblest; he is proud of it, and rejoices if his sons choose no other profession. He has no opinion of mining, which, nevertheless, plays a prominent part in the country, because the result is too precarious. Hence the proverb. "De labrador a minero, gran majadero; de minero á labrador, gran Sennor", i. e.: from farmer to miner, a poor devil, from miner to farmer, a noble gentleman.

The agriculturist is conservative, that is to say, he seeks to keep and to increase his patrimony; he is attached to old habits, to patriarchal customs, to discipline and order in the house; he is religious, honest in his dealings, hospitable and liberal, but at the same time frugal and simple in his living. He has had little opportunity of learning, he is therefore ignorant and superstitious; he has not the refined manners of the city, and puts little restraint on his passions. Love and jealousy bring him into frequent scrapes, and even gambling sometimes attracts him, but only on festive occasions, when dancing and intoxicating liquors have excited him,

After wife and child, the farmer esteems nothing so much as his horse. He has bred it, and broken it in, it belongs to the family, he knows its every movement, he has done wonders and gained victories with it. The horse affords an inexhaustible subject of conversation, as often as two horsemen meet; each praises his own, and the virtues of its sire, its dam, and its ancestors, so that one can confidently affirm, that the spirit of the Arabs accompanied the Andalusians to Mexico. The agriculturists and cattle-breeders belong by descent to the class of Creoles and Mestizoes.

The soil of the republic is for the most part in the hands of private individuals or corporations; comparatively little is state property, and this chiefly in the northern districts. Mexico is a conquered country, the original conquerors selected large estates, and were confirmed in the possession of the same by the Spanish govern-

ment. The original Indian possessors were included in these grants, as serfs; but they were suffered to retain the soil they cultivated, on paying rent. Subsequently a law was promulgated for the protection of the Indians, that the country round each village, to the distance of 600 yards, measured from the church, should belong to the community. Many villages and towns had fought as allies of the Spaniards against the Aztecs, not only retained their lands, but were even rewarded with the confiscated lands of their neighbours. Churches and convents were endowed with landed estates, and wherever a spot was discovered without an owner, some Spanish official, soldier, or priest soon managed to obtain it as a fief. The soil being thus partitioned out, it was natural for large estates to become the property of individuals, especially in the northern, less populous provinces, where the conquest gradually proceeded, and the leaders had leisure to acquire the conquered lands for themselves and their followers.

The natural consequence of this partition of the land was, that the great proprietors, who had often hundreds of square miles, sold estates to the numerous immigrants, or if the property were entailed, they gave inheritable leases. Thus, for example, Ferdinand Cortes or his heirs had given the excellent district of Cuernavaca, in which there are at present many large and flourishing sugar-plantations, as pasture lands on inheritable lease, which even now pay merely the trifling rent of the sixteenth century. With the marquisate of Oajaca, also belonging to the family of Cortes (now Duke of Monteleone in Naples), in extent surpassing a German kingdom, it is the same thing. Even these smaller estates were often so immense, that only the smallest portion of them could be cultivated; it was therefore natural, that with the increasing population, the more distant portions were given to farmers, who paid their rent chiefly in produce. The estates belonging to the church, were also in part farmed, in order to increase the receipts as much as possible.

The large estates in Mexico are termed *haciendas*, which when intended for agriculture are called *hacienda de labor*, when for cattle-breeding: *hacienda de ganado*. The hacienda ought by right to measure 21,690 English acres; but the term is applied to every estate on a large scale with solid buildings. The large estates which exclusively carry on cattle-breeding, and often have a superficial area of upwards of fifty square Spanish miles, are usually parcelled out into several small establishments or *estancias*, which are under one management. All the smaller farms, whether for agriculture or cattle-breeding, are called *ranchos* (in Spain *cortijos*) and their holders *rancheros*. This name comprehends the small landowners, and the farmers.

The owner of a hacienda does not always live on his estate; he is generally considered a rich man, who passes a great part of the year in town, or in one of the larger villages. On the table-land we often meet with wonderful old carriages, drawn by six or eight mules, bristling on all sides with chests, bedding, chairs, and similar household furniture, accompanied by a troop of horsemen. The interior of the lumbering machine is sure to conceal the owner of a hacienda, who, with his family, is going into, or returning from the country. If girls are in the

carriage, or accompany it on horseback, and exhibit delighted faces, you may bet three to one, they are returning to town, and that they are charmed to get rid of their rural enjoyments. In the months of March, April and May, the estates are usually visited; often too in autumn when the rainy season is over (November); for during the rainy months the roads are too bad, and the frequent storms render excursions and journeys difficult.

Most of the old farm-houses look as if they had been built soon after the Conquest. They have the appearance of castles, with high walls, turrets and battlements, capable of defence. All the windows are furnished with strong iron gratings, and the gate is secured at night with heavy bars. This is customary on the plateaux only, and is unknown elsewhere. The master lives with his family and a few confidential servants in the centre of the building; outside the wall, the huts of the labourers form a little village. A garden is rarely attached to the dwelling house; but there is always a chapel, where mass is read every Sunday, and a shop, where the labourers can supply their wants. There is no wine-house; but strong liquors are sold at the shop, and not in small quantities.

If the master occupies himself with his own affairs it is usually limited to ordering the work and the control; his bookkeeper attends to the accounts and correspondence, his major domo sees that the work is properly carried out. The latter is the master's right hand, and much is entrusted to him. He appears in the evening, and gives an account of the day's labour, tells the clerk what requires to be written down, offers his opinion on the most important affairs, and receives his orders for the following day. He is at hand by daybreak, summons the labourers with the bell, and having read over their names, sings a morning hymn with them. They are then divided into groups, according to their different occupations, and, conducted by a sub-overseer (*capitan*), proceed to their work. He himself goes round on horseback, examines what is going forward, blames or encourages, and directs the principal labours. The major-domo is an important personage for the master, and therefore an old and tried servant, serious, active, strict and conscientious in his service. He is feared and respected by the labourers, as they are constantly under his eye.

We have already shewn that in consequence of the progressive elevation above the sea, a series of climates ensues, owing to which the Mexican is enabled to cultivate almost every plant on the face of the earth. In the coast-regions, therefore, to the height of 4000 feet, we find the tropical productions, such as cocoa, vanilla, indigo, sugar, coffee, rice, the banana, tobacco, etc. In these regions the cerealia of the old world will not flourish; they vegetate with extraordinary power, but produce no grain. Nature has replaced them by maize; for the organisation of this plant is so adapted for allclimates, that it ripens in plains level with the sea, and on mountains attaining an elevation of 5000 feet. In the torrid coast-regions, it requires four months to ripen, and yields from two to three hundredfold, whilst at the opposite limit it takes ten months to arrive at maturity, and produces from forty to fiftyfold

only. The cultivation of the potato, on the contrary, is confined to elevated regions, below five thousand feet it is no longer productive; but the warmer districts more than replace it by the manioc, the batate (*convolvulus batata*), yams and arum.

XXI.

AGRICULTURE ON THE PLATEAUX.

The immense plateaux extending from the 16th to the 30th degree of north latitude, which are from 5000 to 8000 feet above the sea, produce nowhere tropical plants. The plants of the old world are here met with, and maize, maguey and the cactus for breeding the cochineal. The climate of the plateaux is temperate, without the extremes of heat or cold. In winter the thermometer falls sometimes for a few nights to the freezing point; the mountains and even the plain are occasionally covered with snow; but before noon, snow and ice have disappeared. Agriculture is never hindered by the cold, often by drought. From the beginning of November till June, hardly a drop of rain falls; but from June till October the soil is well saturated, and abundant harvests result.

The husbandmen either resort to artificial irrigation, or sow during the rainy season. In the beautiful valleys of Chiapas and Oajaca, Perote, Puebla, Atlisco, Tlascal, Mexico and Toluca, in the rich lowlands of Rio Grande de Santiago, and in many plains of the northern states, the rivers and brooks, sometimes even the lakes are employed for artificial irrigation; and where this does not suffice, by means of immense dikes, elevated valleys have been converted into lakes, which fill during the rainy season, and supply the fields afterwards with additional moisture. Many haciendas are furnished with expensive aqueducts, which frequently convey the water for miles. All these estates grow wheat and maize, but on a larger scale than most European estates. The soil is ploughed for wheat in October, the grain is sown in November, and the water admitted to the furrows. The seed soon shoots up, is watered twice more during the winter, twice in spring, and ripens in May, or early in June. The threshing is performed by means of horses or mules, in the immediate vicinity of the fields.

Many of the estates have their own mills, and send the flour to the towns, where the consumption of fine bread is greater in proportion, than in Europe, whilst the coloured population of the villages consume chiefly maize-bread (*tortilla*).

Rye is cultivated here and there, oats nowhere; but barley to a considerable extent. Various sorts of maize are grown, which are doubtless varieties of one species, but must be selected according to the climate and the soil. On the plateaux the sowing takes place in a ploughed soil, which is often slightly irrigated. The harvest is in December. The top of the husk is removed as soon as the grain is firm, and when dry is used as forage for the horses; the leaves and stalks are crushed and employed for a similar purpose, the husks and roots serve as fuel, and the finer leaves of the fruit as covers for the cigaritos.

The regions that have a warmer climate than the plateaux, grow much maize, but not till the beginning of the rainy season, and nevertheless the vegetation is complete in from four to six months. The yield is infinitely greater, and there are some volcanic soils, where the yield is 400 or even 500 fold (*viz.* the plain of Yguala).

If, as is occasionally the case, the early crop of maize suffers from the cold, barley is planted in the rainy season to make up for it, by which means the forage keeps down in price; for barley, with the exception of the small quantity lately required for brewing, is used exclusively for feeding.

Of the summer-plants most grown on the large estates, none is so universal as beans, which are in great request throughout the country. To these may be added horse-beans, pease, lentils, pistachios, chile (*capsicum annum*, or Spanish pepper), the batata, and occasionally rape and the potato.

Olive-plantations and vineyards were forbidden during the rule of the Spaniards, and although soil and climate are well adapted for both, little has been done in this way. There are, indeed, a few larger olive plantations, which, however, do not produce the hundredth part of what is consumed, and little progress is made, the Mexican being no friend to plantations which become productive after some years only. It is the same thing with the culture of the wine; large sums are sent out of the country for Spanish and French wines, whilst the Mexican might supply the whole northern continent with wines of superior quality. The wine grown in Paso del Norte, Parras, Cedros etc. on the northern plateaux are equal to those of southern Europe, and even keep better than the Italian wines. These plantations require land capable of being irrigated. The cultivation of the maguey (*agave americana* or the great aloe), on the contrary, requires little attention, and the soil can do without artificial irrigation. The maguey-plantations have been called the Indian vineyards. On arid plains and mountains of the Mexican table-land, consisting chiefly of tufa, conglomerate and decayed volcanic matter, the maguey is planted in rows, more especially in the districts where there is a denser Indian population. The Indian surrounds his farm with the maguey, and plants several rows of it behind his house, but only enough for his own use. The plantation gives little trouble, for the soil is neither ploughed nor hoed; it has not to be protected against the damage

that might be committed by intruding animals, as both domestic and wild animals avoid coming into contact with it.

The plant requires from ten till fifteen years to arrive at maturity, according to the locality. When the lobes begin to close, this is a sign, that the moment has arrived when the sap may be withdrawn. The manner in which the Indians do this has already been described. In the towns and villages great quantities of it are consumed; pulque is the favorite beverage of the Indian and of the Mestizo population; and even the Creole of the plateaux is unwilling to dispense with it, as he considers it wholesome, nourishing and refreshing.

The maguey plant yields daily from four to eight bottles of sap, several months in succession. On an average, 600 bottles of sap may be reckoned for each plant, valued at four or five dollars. Many years, it is true, are requisite to bring the plantation to maturity. But as the planting is not expensive, as little time is required to attend to it, and the soil itself could only be used for pasture, the capital invested returns good interest, especially as and this — is the case with large estates — a further supply of several thousand is planted annually. This is absolutely necessary, as each plant produces once only, and then dies.

Brandy can be distilled from the juice of the agave, as from every other saccharine fluid; but it is never done. A kind of brandy, termed *vino mescal*, is distilled from the flesh of a small-leaved agave, growing wild on the mountains. The Indians prepare it by means of a still of the rudest description, and although much of the alcohol is lost in the process, they would not change the apparatus on any account.

The leaves of the agave contain strong fibres, of which ropes are made, more durable than those of hemp. But not the thousandth part of this excellent material is made use of, nor does any one think of making an export article of it. The wild agave produces the best fibres.

The plateaux are singularly rich in numerous species of cactus, which nature produces in the strangest forms. The *opuntia* alone are cultivated, partly for their fruit, partly for breeding the cochineal. The latter is limited to the southern states Oakaca and Chiapas, and chiefly occupies the small farmer, the Indian of the mountainous districts. There are, indeed, some large plantations managed by Creoles. Few plants are so easily propagated as the round-leaved cactus; without turning up the soil, the leaves are planted in rows five feet apart, they soon take root and send out fresh shoots. The cactus species required for breeding cochineal, is an artificial variety, originally the *cactus coccinellifer*. The *wild* cactus of this name has thick round leaves, yellowish fruit and blossoms; the *tame* cactus, on the contrary has long, fine leaves, red fruit and many thorns. Not only the plant, but also the cochineal is changed by cultivation. The wild cochineal is everywhere met with on the plateaux, but the insect is smaller and covered with almost invisible little feathers, so that a group of them has the appearance of down on the leaves. The tame cochineal is powdered white, as if it had lain in flour; the male has wings, and is

very small; the female is larger and stouter. There is usually one male to two hundred females.

Cochineal breeding requires much care and incessant attention. In April and May, the leaves with the young brood are cut off; they are kept twenty days in the house, and then under a shed till August. The insects are now full grown, the females teeming, and these in little baskets filled with soft moss, are hung up on the cactus plants in the open air. Their instinct directs them to the leaves, where each female lays about two hundred eggs, then creeps back into the basket and dies. The dead females are the first and inferior harvest.

The eggs are soon hatched, in four or five months the insects are full grown, are carefully removed from the leaves, killed in hot water, or in an oven, and dried in the sun, by which they lose two thirds in weight. This is the chief harvest, which, in warm and favorable situations is often succeeded by a smaller harvest. During the growth of the cochineal on the cactus great attention is requisite. Wind and rain, cold and heat destroy the young brood; the cultivator must sometimes construct roofs of matting or foliage over the plants, sometimes re-admit the sun; he must remove all the weeds, so that no enemy may find concealment, he must move about the plantation all day, to keep off or destroy mice and birds, lizards and spiders, wasps and bugs. The blossoms and fruit must be removed from the cactus, and the leaves cleaned with a soft little brush (a squirrel's tail), in order that the tender colonists may receive wholesome food. The work, to be sure, is not fatiguing, and can be performed by the feebler members of the family, by women and children: still it is attended with constant anxiety, as a single hail-storm, a waterspout, a storm, or a night-frost may annihilate the hopes of a whole year.

Mexico produces from a million to a million and a half pounds of cochineal, valued at from one and three quarters to two million dollars; it is packed in raw hides, and the export to the United States and Europe constitutes a valuable remittance for the merchant, who thus saves the 6½ per cent which he would have to pay for exporting coin.

In Mexico the soil is rarely manured, the mineral components being such, that their decomposition by air and water causes extraordinary fertility, and is constantly renewed. Many districts have been sown every year for centuries with maize, a plant that exhausts the soil more than any other, and still one constantly sees rich crops. If we regard the plains of Tlascala, Cholula, Toluca, Cuautla and others, we find the soil covered with decomposed volcanic matter, or consisting of ashes and lava, which by gradual decomposition maintain its fertility. Some districts are so very stony, that it seems impossible to plant anything in them, and still they are remarkably fertile. In some places the artificial irrigation conveys many decomposed salts to the soil, and even the heavy tropical rains not only precipitate much nitrogen, but convey fertilizing particles of the rock far into the cultivated plains. In the dry mineral violent whirlwinds perform the same service, as they constantly convey season particles into the plain.

In many districts less favored by nature, the soil is lightly manured by flocks of sheep and goats. The manure from the stables of horses and mules is heaped up in the yard as rubbish, and in autumn burnt. Only horses and mules are kept in stables, usually, indeed, none but the more valuable saddle-horses, when they are wanted for work; at other times they are in the pasture. The horned cattle never have the honour of living under a roof; they invariably live in the open air, and, after a hard day's work are at most permitted to rest in an uncovered enclosure. The forage of horses and mules in the stable is almost always dry, chopped straw mixed with maize or barley; in the dry season, the oxen get maize-straw, in the season green fodder, besides the grass of the pasture, which is insufficient during rainy the working season.

With rare exceptions, oxen are used for ploughing. Large estates often require two hundred yoke of oxen and even more, so as to be able to change once a day. The plough is still the ancient Roman one, customary in Spain, which merely furrows the soil instead of turning it up. The harrow is not much used; a thorn-bush replaces it.

Hand-labour in the fields is attended to by men only, and the remark holds good for the whole country, for large and small estates. During the maize harvest, however, the Indian women are actively employed, it being considered more as a holiday. All wish to take part in the *viuda*, and consequently do not absent themselves from the work. The *viuda* is the last ear that comes from the field. A tall stalk with the finest fruit is selected; it is ornamented with ribands and flowers, and conveyed in triumphant procession to the master's house, as an indication of the harvest being completed. A dance, or at least some bottles of brandy reward the attention of the servants.

On all the haciendas the work is performed by day-labourers, who live on the estate and serve voluntarily. They are not boarded; but receive their pay in money, and usually every week a ration of maize and pulse. They can procure the necessaries of life at the shop belonging to the hacienda on trust, which is then deducted from their wages. Should they be hindered from working by sickness, or if the master makes special advances for weddings, christenings or burials, they are forced to incur debt, and are naturally obliged to work it off.

The usual wages on the plateaux are two reals, or about a shilling, whilst wages towards the coast wages the increase to three and four reals. During harvest-time labourers are procured from the Indian villages, who come for a week or a fortnight, with their provisions and tools, and are usually conducted by a *capitan*, appointed by the village *alcalde*. These people (*cuadrilla*) are willing, moderate and enduring; but they are only to be obtained when they have finished harvesting in their own little plantations.

The land belonging to most of the haciendas is too extensive for the proprietor to cultivate even the fourth part of it; he devotes therefore the remainder of it to cattle-breeding, or lets it out to farmers.