

plant is estimated at about two and a half pounds throughout all parts of the republic where the berry is cultivated; though there are districts of Mexico in which it is said that three or four pounds are yielded. This probably depends very much on the size, age, or quality of the tree. Mr. Ward states that he knew of a single tree, in the garden of Don Pablo de la Llave, at Cordova, which produced *twenty-eight pounds!* The slope of the eastern Cordillera is supposed to be best calculated for coffee estates, and it is believed that Yucatan and Tabasco will ultimately, under favorable circumstances, become the centres of a lucrative trade in this article, if the Indian population can ever be trained to agricultural labors, or made productively industrious in a land where the wants of nature are so few and so easily supplied. The plantations in the interior must long be excluded from foreign markets for the same reason that we have assigned in regard to sugar. Roads and improved transportation are the fundamental and primary elements of commercial civilization, and until these are obtained permanently, Mexico must look chiefly to her domestic market for agricultural recompense.

TOBACCO.

In a country in which all the men, and nearly all the women are habitual and even constant smokers, tobacco, must necessarily be an article of national importance. So valuable is its production that the government has continued to maintain the monopoly of its sale, and, previous to the revolution, managed to obtain an annual *clear* revenue of from one to two millions and a half of dollars, with a *gross* income, occasionally, of over seven millions and a half. In the cigar factories of Oajaca five millions of packets of paper *cigarritos* of thirty in each were prepared, besides sixty thousand packets each containing seven *puros* or ordinary cigars.

Tobacco grows well in a small district near Orizaba and Cordova, but the best article produced in the republic, comes from Simojovel in the state of Chiapas and from some districts of Oajaca. In Yucatan and Tabasco, the plant is also cultivated successfully, and produces a mild and fragrant leaf which is not included in the national monopoly. A large portion of the tobacco sold in the republic is contraband; for the ridiculous and greedy restrictions and exactions with which a plant of such universal consumption is surrounded, necessarily dispose the people to violate laws which they feel were only made to impair their rights of production and trade under a constitution professing to be free.

INDIGO.

Indigo was cultivated and used by the Mexicans previous to the conquest. The plant was known by them under the name of *Xiuhquilitzahuac*, and the particles from which the dye stuff was made, as *Mohuitli* or *Tlacoahuilli*. At the close of the seventeenth century the production of this article had already greatly decreased. The chief part of it, required for dyeing the cotton cloths which are generally used for home consumption by the Indians and lower classes of *Mestizos*, has been brought from Guatemala. It is found in Yucatan, Chiapas and about Tehuantepec in the state of Oajaca, and grows wild in some very warm localities in Tabasco. In this last named region there is every reason to believe that it may be profitably cultivated, inasmuch as the indigo plantations of San Salvador, in the neighborhood of Guatemala have been known to produce one million eight hundred thousand pounds of the article, valued at two millions of dollars.

The production of *WAX*, according to the *Memoria Sobre el Estado de la Agricultura y Industria*, of Don Lucas Alaman in 1843, is gradually augmenting in the republic. Attempts have also been made to cultivate *FLAX* and *HEMP*. The first of which has been successfully raised by Mariano Aillou in the neighborhood of Tenancingo, and the latter, in the southern districts of the state of Michoacan, where it grows even spontaneously and is known under the name of *guinary*. The product is very large, the extent of territory covered by it very great, — and the thousands of pounds annually raised in that district, are made up into garments whose quality is highly approved throughout the republic.

COTTON.

In consequence of the high price of imported goods, owing to restrictive tariffs as well as to the costliness of transportation a number of intelligent persons began some years ago to establish factories for cottons and woollens. The stimulus of domestic factories it was supposed would naturally increase the culture of the raw materials, and, accordingly, the national industry was aided from the beginning by prohibitions or excessive duties, which either excluded the foreign raw material altogether, or fostered the contraband introduction of cotton twist and woollen thread.

Cotton was among the indigenous products of Mexico at the time of the conquest; and the early adventurers not only found it to constitute the common vesture of the masses of the people, but also

that the most delicate and luxurious articles of dress were made of it. The Aztecs possessed the art of spinning it to an extreme degree of fineness and of imparting to it the beautiful and brilliant dyes for which they were celebrated; but both these mysteries were entirely lost in the general destruction of aboriginal arts and records by the Spaniards. Notwithstanding the natural anxiety of Spain to furnish her colonists with her manufactures, she could never prevent the people from weaving and wearing this spontaneous product of their soil. And, although the cultivation of the raw material was neglected or not pursued with the ingenious industry that would have made it a great staple product, it is nevertheless estimated that the annual value of the domestic manufacture in Mexico amounted to about \$5,000,000. After the consummation of national independence, foreign nations hastened to seize the trade of Mexico and to fill the markets with an abundant but costly supply of European and American stuffs. The drain of the precious metals which this caused from a country that possessed no other article of export to pay for the imported merchandise by exchanges, soon alarmed the financiers of Mexico, and accordingly a higher scale of duties was adopted for the encouragement of domestic manufactures. This, for a long time, served only to augment the cost of apparel to the Mexican consumer, whilst it had no other material effect upon the fabrics of the country except to seduce a number of wealthy landholders into the erection of factories, which have cost them, at least, ten if not twelve millions of dollars. Unluckily, however, this amounted merely to the creation of vast establishments which could not rely upon the resources of the country for their supply, for the factories were built *before* the farms were opened by which they were to be furnished with the staple!

It is a fact, therefore, not very generally known, that Mexico has become a manufacturing country. The water power which is abundant in many parts of a mountainous region like that of Mexico, affords great facilities for such establishments.

In 1843 there were 53 cotton factories in the republic with a total of 131,280 spindles, and it was estimated that, — looking to Mexico alone for the supply, — there would be an annual deficiency of a large quantity of the raw material. This calculation, it must be remembered, does not include the consumption of cotton by hand looms, an immense number of which are in constant use through the republic.

In consequence of this evident deficiency, and the prospect of

the firm establishment of a manufacturing system, many persons were induced to commence the cultivation of cotton. But their failure was signal. It is true that in Mexico the proportion of small farmers and rural tenants is small, and that the great majority of the owners of the soil are large landholders who might sometimes change the character of their cultivation. But these men belong to the pastoral rather than the agricultural age, and delight in the easier tending of their flocks and herds. In addition to this we must take into consideration the well-known characteristics of the southern races enervated still more by the genial climate of Mexico. Those races are governed by traditions. As their fathers wrought—so *they* work. Their antipathy to change is proverbial, and it is by no means uncommon to see the spirit of an anecdote related by Bazil Montague, realized every day in Mexico.

“In a particular district of Italy,” says he, “the peasants loaded their panniers with vegetables on one side, and balanced the opposite pannier by filling it with stones, and when a traveller pointed out the advantages to be gained by loading both panniers with vegetables, he was answered that their forefathers, from time immemorial, had so carried their produce to market; that they were wise and good men, and that a stranger showed very little understanding or decency who interfered in the established customs of a country.” Such are the difficulties to be encountered in the habits and prejudices of all old nations, and the embarrassment, in the present instance, would not be so much in creating a body of gentlemen planters, as in finding laborers to work the plantations when they had been acquired.

Brought up as most of the Indians are, on small pieces of land, or in little villages among the mountains, they find that the fruitful soil produces, almost spontaneously, enough for their frugal support. A skin or two, together with a few yards of cotton or woollen cloth, suffice, every few years, for their requisite covering. The broad leaves of a plantain, or, a palm with its matted vines, afford them shelter during the day, whilst a kennel on the ground, keeps off the rains or night dews. And thus, a servile contentment with traditionary occupations or idleness, roots them to the soil where they were born, and makes them, in fact though not in name, the hereditary slaves of the estates on which their ancestors have worked for centuries. These men are, of course, not to be suddenly diverted from their tastes; and the worthy persons who have commenced the cultivation of cotton in suitable districts of the country where the Indians are numerous and unemployed, have

been obliged to abandon their enterprises from the fact that their laborers speedily deserted under the plea that they were not used to such occupations, and, with less toil, had ample food and raiment in their goats and gardens at home. The reasoning of the Indians is quite natural and even wise under the peculiar circumstances of their actual life. *Money* is no object to them, for they have no object upon which to expend it, and their isolated existence affords them no comparative scale of society in which they might advance to a higher degree of civilization by the possession of wealth. Why then should they toil to acquire that which to them has not even the value of a *counter*? Possessing without labor all that is needed for mere existence, their toil can only be beneficial to their employers. In this, they perceive by their native sagacity, that there is no recompense and no equality of interests.

Whilst such are the reasons why a new agricultural population cannot be created in Mexico, the reverse is precisely the case with regard to a new manufacturing population. Factories are generally erected in the neighborhood of large towns, or in populous districts where the surplus of *females* is continually in the greatest indigence. These people have neither pieces of land, nor gardens, nor goats, nor means of livelihood except beggary or the prison, and consequently they flock with eagerness to every factory that affords the hope of employment and support. Thus, whilst the tendency of the agriculture of Mexico is to produce servitude, that of its manufactures is to create a feeling of honest independence.

These speculations seem to indicate clearly, first, that the fixed policy of Mexico is to establish a national system of manufactures; and, secondly, that the cultivation of the staple which is to supply these factories will not be largely increased; or if it be increased at all, its augmentation will not be proportionate to the number and demand of the factories.

The connexion between the production of cotton and its use is so close that we have been unable in the preceding passages to avoid anticipating some statements which will be more amply set forth in our section on Mexican manufactures. We shall now turn our attention to the cultivation and annual production in the republic.

Throughout the cotton growing districts of the United States the cotton plant is of annual growth. Frost destroys it, and the planter is obliged to renew the seed for every crop. But, in the tierra

caliente of Mexico, this is not requisite, as the tree propagates itself, and the laborers are only required to keep the fields clear of extraneous plants which spring up so rapidly and luxuriantly in tropical climates.

Notwithstanding the advantages offered by the erection of the factories in Mexico, the best data obtained by Don Lucas Alaman in 1843, presented only the following meagre returns of the proximate quantity of cotton raised in some of the states of the republic, excluding, of course, the small parcels raised by Mestizos and Indians for their private consumption:

	ARROBAS.	LBS.
In the state of Jalisco,	1,000	or 25,000
“ “ Sonora,	3,500	“ 87,500
“ “ Durango,	3,044	“ 76,100
“ “ Oajaca,	21,583	“ 539,576
“ “ Puebla,	3,738	“ 93,450
“ “ Vera Cruz,	14,496	“ 362,400
	47,361	“ 1,184,025

In this estimate the cleaned and uncleaned, or ginned and unginned cotton are averaged together. It is generally considered, however, that the whole country really produces at present about seventy thousand quintals or seven millions of pounds.

The quantity, and consequently the value of the Mexican cotton crop has been very variable. At Tepic on the west coast, in whose vicinity there are many valuable factories, it has been sold as low as fifteen dollars per quintal; while at Vera Cruz on the east coast it has risen to twenty-two and twenty-four dollars, and, in Puebla and the city of Mexico it has reached even to forty and forty-eight dollars. Cotton gins have been established at Alvarado, at Cosamaloapan, and Tuxtla on the northern and eastern coasts, and at Tepic, on the west; but they are not sufficiently numerous throughout the country to supply even the present limited production.

VAINILLA.

Mexico is generally considered the native country of the delicious vainilla bean, which grows wild along the eastern coast amid the endless variety of parasitic plants with which the forests are filled. It is a native of Vera Cruz, Oajaca and Tabasco. On the wooded mountain or hill slopes of the latter it has been discovered in great quantities; but throughout Mexico this pleasant

and valuable product has been left almost entirely to the care of Indians. Its cultivation is exceedingly simple. A shoot of the plant is inserted in the ground at the foot of a tree intended to support the future vine, which, if properly freed from the encumbrance of other parasites, soon embraces the trunk, and yields beans during the third year. This hardy and fruitful plant lasts from a quarter to half a century, according to the attention that is bestowed on it; and it is remarkable that its cultivation has not engaged the attention of foreigners who might safely reside in the beautiful and healthy regions of Jalapa.

JALAP.

JALAP, like vainilla, is a parasitic plant; but its root instead of its fruit is used for medicinal purposes. Its leaves resemble the ivy and its beautiful red flowers open only at night. Growing plentifully in the neighborhood of Jalapa, whence it takes its name, it is usually sent abroad through Vera Cruz, where the commercial returns show that more than three thousand quintals are rarely exported.

CACAO.

The use of chocolate is so universal in Mexico and throughout Spanish countries, that it might naturally be supposed the cultivation of cacao was largely and carefully attended to in the republic. Such, however, is not the case. The cacao of Soconusco, and of the low grounds of Caraccas, Guatemala and Guyaquil, was found to be so superior to the Mexican article, that its production has been almost abandoned except in the neighborhood of Colima, or on the Isthmus and in the states of Tabasco and Chiapas.

COCHINEAL.

The OPUNTIA, or Indian fig, a species of cactus is the food in Mexico which supports an insect from whose body the dye known as COCHINEAL is made. It is found also in Brazil where it nourishes the *grana sylvestre* which affords a dye that is greatly inferior in color as well as durability to that produced by the *grana fina* of Mexico.

The *grana fina* resembles a small bug in size and color, covered with a whitish mealy powder, through which the rings or cross stripes on the back of the insect are distinctly visible; the female alone produces the dye; the males are smaller, and one is found sufficient to impregnate three hundred females.

The cochineal bug feeds only on the leaf of the *opuntia*. The process of rearing is complicated and attended with much difficulty. The leaves of the nopal upon which the seed is deposited, must be kept free from all foreign substances, and, in the cochineal districts the Indian women constantly tend the plants, brushing them lightly with a squirrel's tail.

In a good year one pound of seed deposited upon the plant in October, will yield in December, twelve pounds of cochineal, leaving a sufficient quantity of seed behind for a second crop in May. The plantations of the cochineal cactus are confined to the district of the Misteca, in the state of Oajaca and in the valley of Oajaca at Ocotlan.

Some of the Haciendas de Nopales contain from fifty to sixty thousand plants, arranged in lines like the aloes in the Maguey plantations already described, and cut down to a certain height, in order to enable the Nopaleros to clean them more easily.

In the year 1758, a government registry-office was established in Oajaca, in consequence of the complaints of British merchants, who had received cargoes of adulterated cochineal. This bureau kept an accurate account of the production and value of the article, within its jurisdiction, and a tabular statement of the result has since been published in the Memoria Estadística de Oajaca, &c. &c., of Don J. M. Murguia y Galardi, who was a deputy to the Cortes from that province. By this document, and subsequent returns, it appears that from 1758 to 1832, inclusive, — or in 75 years, — 44,195,750 pounds of cochineal were produced in the state of Oajaca alone, which were worth \$106,170,671 at the market price.

SILK.

After the independence of Mexico was secured the Mexicans in the neighborhood of Zelaya, and in a few other places, attempted the cultivation of the mulberry tree, for the purpose of feeding silk worms. But this agricultural speculation failed. The planters did not possess the Chinese mulberry, which is universally adopted as the best in all silk producing countries.

In 1841 an association under the style of the "Michoacan Company," was organized, in the capital of Michoacan, for the encouragement of silk culture. The members of this body labored diligently to introduce the Chinese tree, and spread it far and wide through the states of Vera Cruz, Puebla, Mexico, Queretaro, Jalisco, Aguascalientes, San Luis Potosi, Sonora and Michoacan. These labors were performed by thirty-six *Juntas de fomento*, or com-

mittees of encouragement, and although the trees have most generally grown well, it is to be feared that the enterprise resembled the wild speculations in that species of mulberry which, about the same period, both made and lost so many fortunes in the United States. The cultivation of silk has been warmly urged by Don Lucas Alaman, as exceedingly suitable for the state of Oajaca, where, in the course of time, it may replace the cochineal whose product it is said is beginning to fail in that district.

FRUITS.

The finest fruits of Mexico are commonly found in the *tierra caliente*. The orange, lemon, lime, pine apple, banana, chirimoya, sapote, ahuate, tuna, granadita, are produced in great perfection. The apples, peaches, cherries, grapes and gooseberries do not possess the high flavor, nor are they found in the same varieties, as in the United States; but the pears, especially those known as Gamboa pears, are exceedingly delicious. Nearly all these fruits are consumed in their natural state, yet immense quantities are preserved and form the extraordinary varieties of *dulces* without which no Mexican table is considered properly set forth. It is very probable that if horticulture and agriculture were scientifically studied by Mexicans, or if North American and European gardeners were to emigrate to the country, even the fruits which are now inferior to ours, would improve in quality, size and flavor under their skillful management.

AGRICULTURAL PROSPECTS.

From all that we have already stated in regard to the Indian or laboring population of Mexico, the nature of the seasons, and the want of irrigation in many districts, except by artificial means, it will be perceived that the agricultural progress of the country is extremely doubtful. In addition to this, the land belongs to a few proprietors, many of whom own estates of twenty, thirty, forty, fifty, and even a hundred leagues square, which are chiefly devoted to *herds* instead of *agriculture*. Mexico is thus rather in the *pastoral* than the *commercial* age, and must pass through the transition state of independent sub-divided labor before she can stand, naturally, upon the same platform with northern and European nations.

The early Spanish settlers were eager monopolists of mines and land. Their object was to realize fortunes speedily; and by a liberal *repartimiento* of Indians they were enabled to found large estates upon which those Indians either toiled as husbandmen or

tended uncounted herds. The prolific soil soon yielded, with little labor, the required quantity of vegetables and cereal products; domestic markets were wanted for the sale of the surplus, and the Spanish government did not open its harbors for exportation. Agriculture was thus early limited to the mere animal wants of the *gleba adscripti* and emigrant Spaniards, and as the Indian never labors except when compelled by force or necessity, he soon preferred the idle and wandering life of a herdsman to that of a farmer. Many of these estates now number from ten to twenty thousand head of cattle. Besides this the Spanish laws presented the Indian no prospects of independent agricultural rights. The foreign landholder enjoyed the exclusive ownership of the vast freehold. There was no encouragement or hope given to small farmers who might emerge from the servile race, and the consequence is that Mexico, until she becomes an exporting country, receives an augmented population by immigration, and sub-divides her immense territorial manors, under the demands of trade, will, in all likelihood remain stationary in every thing pertaining to agriculture. It is the multiplication of freeholders under the stimulus of commerce, that promotes freedom, industry, and personal independence. Competition is continually excited by the wants of a numerous nation, or by the prospect of selling the results of our labor to others abroad who are not so well supplied or do not produce the articles we cultivate and manufacture. But Mexico, as at present constituted, is an exceedingly small white *civilized* nation, if we exclude her four and a half millions of Indians. She is not increased annually by immigration from the crowded countries of the Old World, nor does she encourage the advent of strangers. Her population therefore is substantially confined within the narrow limits of natural increase by birth alone. These singular facts exhibit the anomalous condition of all the Spanish settlements upon the virgin and inviting soil of America; and until the Chinese exclusiveness of these various western nations is abandoned as an absurdity in the nineteenth century, we do not believe that the Arab plough will be replaced by the civilized implements of North American agriculture, or that the Mexican shepherd will turn into an enlightened farmer. We have seen that even the stimulus of domestic demand for cotton, has been unable to produce a new agricultural class among those who were devoted to other traditional toils. What hope, then, can there be of an improvement in cereal cultivation, when the country is already supplied, and owns neither a navy nor merchantmen?