inches long. The hair upon the temples and thence round the head is shorn, like that of the Franciscans. Among them too, the Payés, who are met with in all the Indian tribes in Brazil, and are called in their language Vünägenetó, are greatly respected. These latter are physicians, conjurers, and exorcists of the evil principle, which they call Nanigogigó. Their cures of the sick are very simple, and consist principally in fumigating or in sucking the part affected, on which the Payé spits into a pit, as if he would give back the evil principle which he has sucked out, to the earth and bury it. The Guaycurús differ from most of the Indians of South America, in not burying their dead near the abode of each individual, but in common burying grounds. The accounts of the number of this tribe are in general exaggerated. It is certain, that the whole nation does not at present consist of more than twelve thousand persons, and this number daily diminishes from the unnatural custom of the women, who till they have attained the thirtieth year, procure abortion, to free themselves from the privations of pregnancy, and the trouble of bringing up children.

The third powerful nation, the Payagoâs, who at the time of the discovery of the country were particularly formidable to the Paulistas by their fleets, are now rare in the waters of Upper Paraguay, *i. e.* above the narrow part of the river, at the mountains Feixe dos Morros. As constant rivals and enemies of the Guaycurús, they did not

unite with them, till the occupation of their country by the Portuguese; and have hitherto proved the implacable enemies of the latter, menacing them sometimes with open hostility, sometimes by well-contrived surprises and robberies, in which they never spared the vanquished. When they separated in the year 1778, from their allies, the Guaycurús, they disdained to remain in a country, which they could no longer dispute with foreigners, and withdrew to the Lower Paraguay, near Assumcâo, when they submitted to the Spaniards. Unsettled and fugitive, faithless, cowardly, and cruel, despised by the powerful Indian tribes, and feared by the weaker, they act exactly the same part in the waters of the Paraguay, as the Múras in the Madeira and the river of the Amazons, in describing whom we shall return to them. Besides the Cayapós and the Guaycurús, travellers by those rivers hear also of the Icquatôs Indians as inhabitants of Matto-grosso.

Our experienced host at Porto Feliz, had just received orders from the government at S. Paulo, to prepare several large canoes, to convey ammunition down the Tieté to Cujabá. As for a long period, all military stores had been sent to Matto-grosso by way of Minas and Goyaz, this method surprised the inhabitants, who puzzled themselves with conjectures, respecting the object of these consignments. Some imagined that they were destined for Paraguay, to be sent to the Portuguese, who were at war with Buenos Ayres; others

thought of an expedition against the eastern province of Chili. In a country, cut off from the neighbouring states, nay, even from the capital, where political events are seldom heard of, every military movement, however trifling, produces general fear and alarm.

At Porto Feliz, the bad construction of the low houses, the walls of which are often covered with a saline efflorescence, the nearness of the woods and of the rivers, which are frequently covered with thick fogs, cause goitres, intermitting fevers, dropsy, and catarrhs, which are almost endemic. We found the grown up persons bloated; and the children of our host, and some neighbours were suffering from a malignant hooping cough (*Tosse comprida*), which we were told not unfrequently ends in consumption. But the same causes which prove injurious to the animal economy, greatly promote the growth of plants. Maize and rice thrive in perfection, and generally produce two hundred and fifty fold. Rice is sown in the hollows, and particularly not far from the rivers, by rows in tufts. On our return from Porto Feliz to Ypanema, we met with a marshy spot in the wood, which was thickly grown with the *Canna indica*, an agreeable discovery, because it removed all doubts respecting the original country of this universally spread elegant plant.* In all these low woods, we observed numbers of a beautiful black crane with a purple

* Rob. Brown, in Tuckey's expedition to explore the river Zaire, p. 477., likewise considers it as American.

neck (*Corvina rubricollis*, Vieill.), and three species of pies, azure blue and white coloured (*Corvus cyanopogno*, Neuw.); parrots, as well as monkeys, became scarcer in this latitude, which may be chiefly owing to the proportionably less heat of the climate. From the Rio Ypanema, the grassy plains, interrupted by a little wood, extend southward to Curitiba, and into the capitania of S. Pedro, which is similar in the nature of the soil, its elevation above the sea, and vegetation, and is adapted to the same purposes of rural economy. In the whole of this extensive part of South America, they follow, in general, the same system of farming which Azara describes as practised in the pampas of Buenos Ayres.

The breeding of cattle is the principal occupation of the inhabitants. Every landholder possesses, according to the extent of his farm, from several hundred to two thousand, nay, even forty thousand head of cattle. They generally reckon from three to four thousand head on an estate which has two square miles of good pasture. All these roam at liberty in a wild state. But every farmer keeps, besides, as many tame draught oxen and cows, as he requires for the purposes of agriculture, and for milk, which is partly made into cheese. The attendance on the wild cattle gives but very little trouble, all that is required is to brand them with the mark of the owner, to castrate the bulls, and to catch the animals intended to be slaughtered. From four to six servants, under the direction of a

chief cowherd, perform all these services; they prevent the herds from straying beyond the boundaries, and defend them against the attacks of the ounces, wolves, and wild dogs. These people are almost always on horseback, as their office compels them to ride twenty miles or more in a day; every year the whole herd is collected, at different times, in a place in a high situation, and sometimes fenced in; on this occasion, the mark of the owner is branded on the hind-quarter of the beasts one year old, of which they reckon a thousand annually for a herd of five or six thousand; those two years old are castrated in a very rough manner; and those of four years old and more are selected for slaughter. The catching of these latter, a frequently troublesome and dangerous employment, is executed here as in the pampas of Buenos Ayres, by means of long leathern nooses, which the

the ground by means of short pegs, a little salted and dried in the sun. The flesh cut into thin strips, rubbed with salt, and dried in the air, is an important article of exportation, from the harbours of S. Paulo and Rio Grande do Sul, to the cities in the north, particularly to Rio de Janeiro, Bahia, Pernambuco, and Maranhâo, where, under the names of Carne seca do Sertâo, Passoca or Carne charqueda, it constitutes an essential part of the subsistence of all the Brazilians, but especially of the negro slaves.

Besides the breeding of oxen, that of horses and mules likewise occupies several farmers in the capitania of Paulo; but is carried on upon a far more extensive scale in Rio grande do Sul; for it may be taken as a fact, that from forty to fifty thousand horses and mules are annually exported from that province to the north of Brazil. The horses of S. Paulo are of a middling size, of slender make, and if they are attended with care, acquire a pleasing and elegant carriage, and become excellent racers. During our stay, a horse-dealer came from Curitiba to Ypanema, when several horses were daily caught out of the herd, and tamed according to the fashion of the country. In general, twenty or thirty of these wild animals herd together, and hardly ever separate. It took some hours before the servants could drive a number of them together into a corner, and by means of their nooses catch some of them. The animals so taken, sometimes trembling with

fear, sometimes full of impetuous fury, endeavour by the strangest contortions, and the most desperate leaps to defend themselves against the riders. When the latter have at length succeeded in holding an animal fast, by the ears and lips, with a pair of tongs, in putting a halter over his head, and a sheep-skin by way of saddle on his back, one of the servants mounts him, and endeavours to overcome the obstinacy of the horse by means of the whip. After many violent motions and leaps, it is at length so far subdued, that it runs furiously away with its rider, and after a long course, it in some degree yields to the bridle. After being thus humbled, it stands still with its head hanging down, on which all the others separate from it. The next day the same exercise is repeated; and in a few days more the horse is broken and fit for riding. The common Paulistas, and particularly the Piâos (the herdsman's servants), make use of a very small flat wooden saddle, which is often not even covered with leather; their stirrups are so small that they will only admit the great toe. The spurs are fastened to the naked heel. The dress of the Piâo consists of a short jacket, narrow trowsers, and a flat round hat fastened with a strap, altogether of brown leather, made of deer or capivara hides, and is very well adapted to protect him against the thorny hedges through which he must force his way when pursuing wild animals.

The horses are driven together from time to time,

in the same manner as the horned cattle, partly to show the farmers of the tithes (*contractadores*) the annual increase of their herds, partly to brand the animals in the first year, and to castrate them in the second. The wild horses are most frequently of a brown colour, very rarely white or piebald, and by their disproportionably short thick heads, and small stature, generally betray their extra European breed. The mules are here handsomer made animals than the horses; they are commonly equal in size to our European horses; their colours are black, brown, fallow, or striped like a zebra. They are preferable to the horses, especially on long journeys, because they can better endure hunger and thirst; and carry with greater security heavier burdens, on an average eight arrobas. At every farm in this part of the country, some common asses are also kept, but this race of animals is by no means so much esteemed here as in the Rio Grande do Sul and in Buenos Ayres, for which reason we had no opportunity of making more particular observations, which we must therefore leave to future travellers in these countries.

We have already mentioned, that in consequence of the general custom throughout Brazil, of using for tillage only places in the woods after the trees have been felled and burnt, agriculture has not been extended so much as it deserves, particularly in the province of S. Paulo, which has such extensive campos. The mandiocca root does not thrive;

and soon rots in the heavy, clayey, and colder soil of the low grounds that are covered with wood; maize, on the other hand, everywhere produces in abundance large and mealy grain. The soil and climate of this country are peculiarly adapted to the pine-apple; the plants often grow wild, covering extensive spots of ground, and in some plantations about the fazendas, the fruit attains an extraordinary size and delicious flavour. They very frequently make part of the dessert, either fresh or preserved in sugar, and a very pleasant and wholesome wine is made of them. A light and agreeable wine is also prepared from the fruits of the jabuticaba (*Myrtus cauliflora*, nob.), which the settlers have taken from the woods on the Tieté and Paraiba, and cultivated in their gardens, and which is one of the best fruits in the country. Our host boasted of his skill in the art of making American wine, and our repast was generally concluded with some glasses of his manufacture. Besides all the members of the happy and patriarchal family, every neighbour or stranger of their acquaintance, who happened to pass that way, partook of the meal. The dinner consisted of simple, but abundant dishes, with boiled beef or pork, a roasted joint of the cavy or the armadillo, &c., which the sons of the family had brought from the woods, then the favourite dish canjica, lastly, a great variety of preserved fruits, which in Europe would be articles of the highest luxury. Sometimes, just

before the cheerful company broke up, a guest rose to compliment by some extempore verses one of the company, and particularly the ladies, and the whole party then broke out into the praise of the poet, and of those whom his elegant address had celebrated.

Senhor Ferreira proposed to us to accompany his wife on a journey to Curitiba, where she had to make some domestic arrangements in a fazenda belonging to him. This plan offered us many temptations. The southern part of the province of S. Paulo is for the most part mountainous along the coast; it was formerly diligently worked for the sake of the gold, and offered us an opportunity for the most interesting researches, no less than the part situated farther to the west, which, according to the accounts of the Paulistas, possesses in a high degree all the beauties of the campos. The abundance and variety of the plants, which are besides much more easily gathered and preserved than in the woods; and the number of large beasts of prey, particularly of the family of the ounces, of which we were told; and lastly, the salubrity of the climate would probably have induced us to extend our journey still farther to the south, into countries hitherto unknown and unvisited by any European traveller; but we feared that we should have too little time left to examine the proper mine country, and the capitania of Bahia, or that we should miss the best season of the year.

Besides these reasons we were chiefly induced by the wish speedily to become acquainted with the original inhabitants of Brazil, a wish which we could not easily gratify on a journey to the former countries: for the Indians, who possessed this district before the occupation of S. Vicente and S. Paulo by the Portuguese, have all disappeared, except a few whom we met with in the mission of Aldea da Escada, or who live in the parishes of Pinheiros, S. Miguel, Itapearica, and Carapicuyba, (in S. Paulo,) of S. Joâo de Peruibe (in Itanhaem), or lastly, of Tocoaquecetúba (belonging to Mogy das Cruces); and the savage nations who dwell between the Tieté and the more northern Rio Grande, as well as the Camés in the plains of Guarapuáva on the Rio Curitiba, are in very small numbers, and engaged in continual excursions through the forests, where they very unwillingly meet the more powerful Cajapos coming from Goyaz. It will not appear surprising that the number of the aborigines is so inconsiderable, when it is remembered what dreadful ravages the diseases introduced by the Europeans have always made among them. Even when Anchieta and Nobrega exerted themselves with such paternal care, and so much judgment, to promote civilisation among the Indians on the Piratininga, an epidemical small-pox suddenly carried off two-thirds of the population. * Soon after this,

* Southey's History of Brazil, vol. i. p. 294.

famine, the system of slavery practised with increased cruelty, similar contagious diseases returning from time to time, and the destructive germs of other disorders, which came in the train of the foreign settlers, were powerful causes to extirpate the population of these countries, which was never considerable. Excursions against the Indians, who roam about in the north-western part of the capitania, to make slaves of them for the service of the fazendas are now strictly prohibited by the government, and are no more undertaken; the Paulista is still used to distinguish this unhappy race, whom he calls Bugres, with an accessory notion of contemptibleness and lawlessness, from the tame or civilised Indians (*Indios mansos*). Those fugitive bands, on the other hand are kept at a distance from the descendants of their oppressors, by invincible aversion, and will, perhaps, become quite extinct in a few centuries.

During the fortnight that we remained at Ypanema, the weather was more favourable for our occupations than we had reason to expect. It rained almost every day it is true, but the violence of the showers continued but a few minutes. The air was remarkably more dry than at S. Paulo. This circumstance we partly attributed to the land-wind which prevailed, and which the signal-flag, erected in front of the house according to the custom of the country, showed to be south-west. Some days too were very sultry, those especially

when it did not begin to rain till the evening, during a thunder-storm. But even on these days, we could not perceive any change in our electrometer; the thermometer varied between 12° and 20° Reaumur; the mornings and evenings were usually cool. The vegetable world, revived by the rain, began gradually to put forth, and the trees, in the campos in particular, began to be covered with flowers. The number of animals to be found at this season, was in proportion small. The only monkey we saw, was the brown howling monkey; and of the mammalia, the long-nosed tapir, the agouti, the little armadillo, the papamel, and the forest deer; of birds, hardly any parrots, but toucans, and several kinds of red-necked and blue ravens (*Coracina scutata*, Temmink; *Corvus cyanoleucos*, *cyanopogon* Neuw., *decristatus* nob.); of insects, many large beetles (*Copris*), which live at a considerable depth under ground. As we advanced from this place towards the north, we could not avoid observing that the diversity in the animal as well as in the vegetable kingdom increases towards the equator. Before we departed from this place we sent all the collections we had hitherto made, in chests, by way of S. Paulo and Santos, to Rio de Janeiro; and on the 10th of January, 1818, left the pleasant Ypanema, our kind host, and the honest Swedes, whom, being from the north of Europe, we almost considered as our countrymen.

NOTE TO CHAPTER II.

The following plants are generally known in the capitania of S. Paulo on account of their uses:—

1. Ayapána. Even L'Heritier, who has described it as *Eupatorium Ayapana*, (Willd. sp. 3. 1769.) recommends it as a very powerful antidote against the bite of venomous serpents and malignant insects. The mode of applying it is this:—A quantity of the leaves bruised, which is to be frequently changed, is laid on the scarified wound, and some spoonfuls of the expressed juice are from time to time administered to the patient, till he is found to be free from the symptoms, particularly the dreadful anxiety.

2. Erva da cobra. *Mikania opifera*, Mart. (*Glabra, caule angulato scandente, foliis lato-ovatis acuminatis, cordatis, repando-dentatis vel subintegerrimis, adultis obtusiusculis, floribus corymboso-paniculatis.*) Allied to *M. scandens*. The expressed juice is used externally and internally; the bruised herb, moistened with oil, is applied as a poultice to wounds caused by the bite of venomous serpents. It is said to effect a crisis, especially by promotion of urine. See on this subject, Gomez, in the Memoirs of the Royal Academy of Lisbon, 1812. ii. p. 23., where this plant is described as *Eupatorium crenatum*. The family of the *compositæ* has many species which seem to

act as specifics against the bite of serpents, and it deserves, on that account, to be more accurately examined. We will here mention only the *Mikania Guaco*, described by Humboldt, resembling our plant, the *Prenanthes serpentaria* Pursch; *Liatris scariosa* and *squarrosa*, W.; and *Milleria Contrayerva*, L.

3. Mil homems. *Aristolochia ringens*, Sw.; *Aristolochia grandiflora*, Gomez, loc. cit. p. 64. tab. 6. The root, which has a very penetrating, disagreeable smell, like that of rue, and a strong, bitter, aromatic taste, produces almost entirely the same effects as the Virginia snake-root (*A. serpentaria*). It is very frequently used in the country against ulcers, paralytic affections of the extremities, dyspepsy, impotentia virilis, in nervous and intermitting fevers, especially those in which a predominant disorder of the pituitous membrane, or the whole lymphatic system has been observed, and, lastly, against the bites of serpents. According to Gomez, loc. cit. the powdered root is given in doses of a scruple, from four to six times a day; the decoction is ordered in doses of four to six ounces, and the juice expressed from the leaves, of one to two drams daily.

4. Jarrinha. *Aristolochia macroura*, Gomez, loc. cit. p. 77. tab. 4. The root and the herb itself surpass in strength of smell and taste the preceding kind of birthwort, and are applied in the same manner.

5. Caiapia*, incorrectly called *Carapia* in the language of the Brasilians, in Portuguese, *Contrayerva*. *Dorstenia brasiliensis*, L. (not *Dorstenia Contrayerba*, as generally supposed). The tuberous root is used like the Serpentaria against nervous fevers and general debility, as well as against the bite of serpents, and when quite fresh, is said to operate

* From *Caá* folium and *Capyà* testiculus, from the resemblance of the root to the latter.

more powerfully than that, but more speedily to lose its virtue. Sometimes also it serves as a gentle emetic. This plant is frequently confounded with other species of dorstenia, all which, however, are inferior to it in salutary virtue. It is not to be doubted that the *Contrayerva* of the chemists' shops would always have retained the reputation it once enjoyed, if, instead of the weaker Mexican and West Indian species, this Brasilian kind had become an article of commerce. It grows in strong clayey soils, in the mountainous parts of S. Paulo and Minas, whereas the other species prefer the shade of moist woods, and rich mould. In this plant, as is the case with several in Europe, which grow both on low grounds and on eminences; it is observed that those from the mountains are more powerful.

6. JABORANDI. *Piper reticulatum*, L. The roots (and in a less degree the ripe catkins) are used as stimulants on account of their aromatic pungent qualities. The root is a very powerful Sialagogum (promoting salivation), and often cures nervous tooth-ach. The leaves bruised are applied with success to the bite of serpents.

7. PARATUDO. *Gomphrena officinalis*, Mart. (*Hirsutissima, caule adscendente folioso, foliis ovatis acutiusculis mucronatis, floralibus approximatis in involucrum polyphyllum, capitulis hemisphæricis terminalibus, bractearum carina dentato-cristata, calyce basi lanato bracteas æquante. Bragantia Vandelli.* p. 50. ed Roem.) The deep red shining flowers which this plant bears at the end of the low stalk, render it one of the most splendid ornaments of the plains. The thick club root is used by the peasants as a universal remedy against general debility, dyspepsy, cramp in the stomach, intermitting fevers, diarrhœa, &c. In the family of the amaranths, to which it belongs, the appearance of so salutary a plant is remarkable, as very few species of that family possess medicinal virtues.