less rich in gold than the northern tracts. But, on the other hand, Flora has more lavishly endowed it with a diversity of flowers. The rhexias, in particular, are a great ornament. There is an endless variety of species, all low shrubs; the numerous, thin, profusely-leaved stalks, are covered with beautiful red and violet-coloured blossoms. Stately stems of blue vellosias and gay barbacenias*, the representatives of the liliaceous plants, principally adorn the stony eminences. Of the family of the gentians, there are many species of lisianthus, which call to mind the equality of the diffusion of certain families, through very remote countries.

At the bottom of the valley, we crossed the little river Ingahy, which, as well as the Capivary which joins it, carries the tribute of its waters to the Rio Grande. The solitary spot was just then animated by numerous caravans, conveying bacon from the interior of Minas to Rio de Janeiro, and which had encamped in the valley. This branch of trade is carried on, chiefly from the country about Pitangui, to a great extent with the capital, which it partly indemnifies for the want of fresh butter. We had scarcely reached a rancho near these strangers, and had the baggage piled up round us, when we were invited by the inhabitant of the only hut in the valley, to share his dwell-

* *Vellosia aloæfolia* (Mart. nov. gen. tab. 7.), *Barbacenia tomentosa* (Ibid. tab. 11.).

ing with him. His unanswerable argument, that the roof a Portuguese soldier was preferable to any encampment in the open air, were it even in Paradise, could not fail to induce us to accept his offer. The old man, who had served forty years in the line, and had taken part in many an incursion (*entrada*) against the Cajapós Indians in Goyaz, and the Puris in Minas, was a model of loyalty, and thought himself happy to be able, in this solitary country, to exercise the police out of pure love for his king and country. Several of the leaders of the caravans encamped here laboured under chronical diarrhœa from rheumatic causes, against which they had in vain tried the guarana; this is a paste of the fruit of a hitherto nondescript plant*, and the general remedy used by travellers, who are connected with Goyaz and Matto-grosso, against similar attacks, dysentery, &c., of which we shall have occasion to speak at length, in the course of our narrative.

The road to S. Joâo d'El Rey, goes N.N.E. obliquely over the mountain of Capivary, the N.W. declivity of which is much less steep than the south-eastern. On that side near to a chapel, granite occurs with yellowish felspar, black mica, and white quartz, instead of the white quartz-slate, which is always much decomposed. In a deep narrow part of the valley, we came to the Rio Grande, the

* Paullinia sorbilis, Mart.

source of which is not far off to the S. E. in the mountain of Juruóca. The stream, which at this place is not more than five toises in breadth, is confined in a high rocky bed, surrounded by the most pleasant campos and hills, and here forms a very considerable cataract, the thundering noise of which re-echoes in the valley. Immediately above the cataract is a wooden bridge, which is in constant danger of falling in the fury of the torrent. At this place, called Ponte Nova, which must be passed on the way from S. Paulo to the principal places of Minas and Goyaz, a frontier custom-house has been erected, in the neighbourhood of which a few settlers have established themselves The frequent frauds upon the customs, and particularly the exportation of gold dust and diamonds from Minas, seem to have given occasion to this precaution. When at some future time, with the increase of the population, the commerce of Minas and Goyaz shall become more considerable, this point may become important as the staple place of the navigation of the Rio Grande. From this place you may not only proceed on the great river towards the south, namely to Paraguay and thence to Buenos Ayres, but it is possible, by means of the rivers which fall into it on the north, to reach, within a few miles, Villa Boa, the capital of Goyaz. The branches of the Rio Grande, which descend from the north, namely from the Montes Pyreneos, and the neighbouring Serras de S. Martha and Es-

calvado, are not yet sufficiently known; however, the voyage undertaken by Captain José Pinto in the year 1816, from Villa Boa, to find a way by water to S. Paulo, has so far cleared up the geography of those countries, that a communication between the principal sources of the Rio Grande and the streams of Goyaz may now be anticipated. For, if a person embarks in the harbour of Anicuns, twelve leagues from Villa Boa, the capital of Goyaz, on the Rio dos Boys, the rapid stream of the Rio Turvo and the Rio de Pasmados, into which it falls, will bring him in a short time into the Rio Paranahyba. Three leagues below the junction of those rivers with the latter, the boats have a great waterfall to pass, as far as which the wandering Cajapós Indians who dwell on the lower Paraná, sometimes extend their incursions. The junction of the Paranahyba with the Rio Grande, from which the stream takes the name of Paraná, is stated by Captain Pinto to be only twenty leagues from that cataract, and the navigation up the Rio Grande, as far as Ponto Nova, to be indeed difficult, on account of the strong current, but not interrupted. The almost boundless extent of the inland rivers, and the numerous collateral streams, hold out the most favourable prospect for the inland trade of these fruitful countries.

While the naturalist is highly interested in considering the geography of the Rio Grande and its collateral streams, on which he contemplates the

probability of a future extensive inland trade, he is especially attracted by the nature of the country through which it flows. The whole system of the rivers, which it and its collateral, the Paranahyba, receive during the whole of their extensive course, descends from mountains which are distinguished, above many others, as much by their height and extent, as by their especially belonging to that formation which contains such immense quantities of gold. On the east, the picturesque Serra Mantiqueira forms the principal boundary; towards the north-east the Serra Negra, Da Canastra, Da Marcella and Dos Cristaës, constitute the boundary between it and the Rio de S. Francisco. On the north side the principal mountains of Goyaz, namely, the Montes Pyreneos, and their branches, divide the great valleys of the Araguaya and the Tocantins from that of the Rio Grande. All these mountains, which are chiefly composed of quartzy mica-slate, contain on both their declivities the richest stores of that metal. They form the principal stem of all the Brazilian mountains of the interior, and in them arise three mighty streams, the Tocantins, the Rio de S. Francisco, and the Paraná, which flow in three very different directions to the sea. The country through which the latter flows, which extends from 17° to 28° S. latitude, and from the meridian of S. Joâo d'El Rey (47° 55′ W. of Paris) to that of Buenos Ayres (60° 51′ 15″ W. of Paris), and comprehends a great part of the capitanias of

Minas Geraës, S. Paulo and Paraná, has nearly the same physical character through this great extent. Only the north-eastern tract, from which the river rises, and the eastern boundary, are traversed by those mountains, among which we had hitherto travelled, and the nature and formation of which we have attempted to describe. Farther to the west the land is either level, or broken only by gently rising hills and insulated mountain ridges, through which, for the most part, that quartzy mica-slate (flexible quartz) is diffused, constantly accompanied by iron, platina, and gold. On the east side, the river is joined by several considerable streams, the Tieté, Paranapanema, and the Iguaçu or Curitiba, all of which have a rapid course frequently interrupted by cataracts; the Rio Pardo, which rises in the mountains of Camapuâo, is the only considerable collateral stream on the west side. The low lands, and particularly the banks of those rivers, are covered with thick, but not very high forests; the other, and by far the greater part, of the surface, is overgrown with bushes and grey-green hairy grasses, and forms those boundless plains, the pasture of numerous herds of cattle, to which the inhabitants, on account of their uniformity and extent, have given the name of Campos Geraës. Among the bushes, which here and there occupy great tracts in these plains, the matte or gongonha shrub (*Cassine Gongonha*, Mart.), the dwarf acajú (*Anacardium humile*, Mart.), and innumer-

able species of malpighia, myrtles, and guava (*Psidium*), are the predominant and characteristic forms.

The rocks, according to the accounts which we were able to obtain, resemble, in the greater part of this tract, what we had ourselves observed on our road; namely, primitive, *i. e.* mica-slate or granite. Lime is said to be very rare; for which reason the inhabitants of the province of Paraná use, in erecting walls, a kind of clay (*tabatinga*) which forms strata here and there by the side of the rivers, and which is burnt white in the fire. In the character of its climate too, this whole river district has the greatest uniformity; as the elevation above the level of the sea, in the most northern and mountainous part, makes up for the greater distance of the southern part from the equator. Neither the heat nor the cold are excessive in this healthy district; but hoar-frost is not unfrequent upon the mountains during the cold months (from May to October). The mean heat of the year appears to be rather below than above 15° or 16° Reaumur's thermometer. The difference between the temperature of the water and the air, as well as that by day and by night, is proportionably greater than in the lower latitudes. Thunder-storms generally come from the N. and N.W., and the prevailing wind, during the cold season, S.W. and W. The cultivation of the sugar-cane succeeds in the low grounds near the rivers, but is not extensive; very few attempts have hitherto been

made in coffee planting; on the other hand, maize and several kinds of beans, and, in the more southern parts of the country, wheat, corn, and flax, produce a plentiful crop. Fruits of Caucasian origin, particularly apples and peaches, thrive, as well as all European vegetables.

A traveller who goes from S. Paulo to Villa Rica, will easily perceive, on accurate observation, that the general appearance of the country gradually changes when he has passed the boundary, from which the waters flow southwards to the Rio Grande, and northwards to the Rio de S. Francisco. While the Rio Grande, with the thundering noise of its fall, here takes leave, as it were, of its native mountains, to flow to the lower countries towards the west, it at the same time prepares the wanderer for grander scenes of nature, which await him as he advances farther to the north. The mountains become more lofty and more steep; the valleys deeper; massive rocks, on the summits or in the vale, more frequently interrupt the verdant slopes and plains; the streams flow with a more rapid course; sometimes he finds himself on elevated spots which command a sublime prospect of manifold insulated mountain tops and profound valleys, sometimes he is enclosed between steep and threatening walls of rock. All objects assume more and more the features of a romantic or Alpine country. We advanced north-east from the passage of the Rio Grande, upon hills which form a con-

necting branch between the Serra de Capivary and Serra de Viruna, and have many loose fragments of iron-stone, among which is hematite, lying on their surface. The country is poetically rural, but lonely and desolate. The great and extensive forests which run along the declivities of the valleys, and bound the feeding places of the several fazendas, are almost the only indications that the land is inhabited, as the farms are, for the most part, concealed in side valleys. At one of these fazendas, called Vittoria, where we passed the night, is a large rancho built of stone. The arrangement of these houses is similar to that of the caravanseries in Persia and India. Every traveller has a claim to the use of them, for which he gives nothing to the owner, except that he usually pays him a trifle for every mule which is put for the night in the enclosed pasture.

From this place the road leads N.N.E. over several rounded mountains, either wholly bare or sparingly covered with some composite flowers, rhexias, and grasses, and which connect the main branches of the Serra Mantiqueira that run from S.E. and N.W. A short distance before we reach the last of these high mountains, Morro de Bom-fim, we passed the Rio das Mortes, which winds through the pretty broad swampy valley with its black waters, and having received some tributary streams, joins the Rio Grande twenty miles from S. Joâo d'El Rey. It was in this val-

ley that the Paulistas once, quarrelling from lust of gold, destroyed each other in a sanguinary contest, from which the river has derived its name. The Morro de Bom-fim is very steep, and therefore very difficult of ascent for beasts of burthen; it consists of strata of flexible quartz, and on its bare, broad, long-extended ridges, has an abundance of fragments of quartz. From its summit there is a noble prospect over the whole valley of the river; and as soon as we descend at the other end of it, of the Villa de S. Joâo d'El Rey, formerly Villa do Rio das Mortes, which lies at the foot of the bare mountain Lenheiro, only half a mile from the river from which it derived its former name. The many mountains by which this little town is surrounded, the numerous dazzling white houses, and the little river Tijuco which flows through the middle of it, and is often nearly dry, give it a pleasant romantic appearance. A great number of country houses, scattered on the declivity, lead to the solid stone bridge, which is thrown over the abovementioned river, and unites a part of the town lying along the eminence with the larger portion in the plain. The stranger, especially after such long privations on a journey in the interior, is rejoiced to find himself in a little commercial town. Paved streets, stately churches, adorned with native paintings, shops well stored with all European articles of manufacture and luxury, various work-shops, &c., announce the

thriving state of the place, which, on account of its inland trade, is one of the most lively in Brazil. The Villa de S. Joâo d'El Rey, so called after King John V., is, like Villa Rica, Villa do Principe, Sabará, and lately, Paracatú, one of the capitals of the five comarcas in the capitania of Minas Geraës; namely, of the comarca das Mortes, which is about fifty miles in diameter. The town itself has a population of 6000 inhabitants, only one third of whom are whites, a supreme judge (*Ouvidor*), a gold-smelting house (*Casa de fundiçâo do oiro*), a Latin school, an hospital, a house of correction, where for the most part murderers are confined, several chapels, and four churches, among which, the handsome metropolitan church is distinguished. Though the environs of the town are very mountainous and bare, and seem also to be thinly peopled, yet in the clefts of the mountains and the valleys many fazendas are scattered, which furnish the necessary supplies of maize, mandiocca, beans, oranges, tobacco, and likewise a small quantity of sugar-cane and cotton, above all, cheese, cattle in abundance, swine, mules, and, together with the streams that are full of fish, provide them with sufficiency of food.

In former times, the chief occupation of this people was searching for gold. They obtained it partly by washing in the stream, partly out of some shallow trenches (*calderoês*) which are cut

principally in the massy parts of the quartz veins of the mountain Lenheiro, which consists of white elastic quartz. The fruits of this labour having now become uncertain and trifling, less regard is paid to it; and only the poorer people now continue to wash gold dust from the gravel of the stream, in order, by the sale of it, to provide the most urgent necessaries for their subsistence. The greater part of the gold dust which is melted into bars by the smelting house here, comes from the Villa de Campanha, and the neighbouring S. Jozé; in both which places it is washed from the loam which abounds there. Instead of the gold mines, it is now the inland trade which daily increases the prosperity of this little town; we were told that the comarca was formerly indebted 40,000 crusadoes to Rio de Janeiro, but that since the arrival of the king it had not only discharged this old debt, but had put out to interest there a large capital of its own. What a brisk trade is carried on here appears from the fact, that four constantly employed caravans, each of fifty mules, annually go backwards and forwards to the capital, conveying thither, bacon, cheese, some cottons, beaver hats, horned cattle, mules, fowls, and gold bars, for sale; and bring back, in return, European goods, chiefly Portuguese and English, such as calicoes, handkerchiefs, lace, iron-ware, wine, porter, liqueurs, &c. Here, as everywhere in Minas Geraës, the rich people are very obliging to strangers,

especially when they bring letters of recommendation from their acquaintance. However singular it appears, it is yet certain and observed by every traveller, that the inhabitants of Minas are entirely different both in character and person from those of the other capitanias, and particularly from the Paulistas. The Mineiro has in general a slender lean figure, narrow breast, long neck, oblong face, black lively eyes, and black hair on the head and breast; he has naturally a noble pride, and something very delicate, obliging, and sensible in his outward behaviour; he is very temperate and seems particularly to be fond of a romantic way of life. In all these features, he much more resembles the lively Pernambucan, than the gloomy Paulista. Like the former, he seems to have a certain predilection for foreign productions and dress. Like the Englishman, the Mineiro is very fond of clean linen and white garments, particularly on holidays. His usual national costume differs from that of the Paulista. It generally consists of a short jacket of calico or black velveteen, a white waistcoat with gold buttons, the smallclothes of velvet or velveteen, long boots of undyed leather, which are fastened above the knees with buckles, and a beaver hat with a broad brim, serves at the same time instead of a parasol; the sword, and often the musket, together with the umbrella, are his inseparable companions whenever he goes any distance from home.

Their journeys, however short, are never made but on mules. Their stirrups and bits are of silver, and the handle of the great knife, which sticks in the boot below the knee, is of the same metal. In these excursions the women are always carried in litters, either by mules or negroes, or dressed in a long blue pelisse and round hat, sit in a kind of arm chair fastened upon a mule. Their dress, except the head, which is only protected by a parasol, is in the French fashion, the borders of their white robes are frequently ornamented with embroidered or printed flowers, and gallant verses.

We did not stay long at S. Joâo d'El Rey, because we expected that everything relative to the gold-washing, and the geognostic particulars of the mines might be examined with more advantage at the capital, Villa Rica.

The road from this place leads towards the N.E., on the western declivity of the Serra do S. Jozé, which, on the whole, has a barren appearance, and takes its direction from S.W., to N.E. Beyond this mountain stands the little town of S. Jozé, which has nothing particularly remarkable, except its principal church, which is the handsomest in all Minas. Some of the inhabitants in this valley have planted European fruits in their gardens with great success, they have likewise made trials of oats, barley, and rye; the latter species of corn seems however not to thrive so well, running up

into stalk, rather than forming ears, which, besides, ripen at different times, or bring the grain suddenly to maturity so that it falls to the ground. On this side of the mountain, along the road, no trace of agriculture was to be seen, but all the campos lay dry and desolate as far as to the fazenda of Canduahy, three miles from S. Joâo, and to the place called Lagoa Doirado, which is at the same distance, in the vicinity of which there are several gold-washings, that were formerly very rich. It happened to be a fair or holiday. Some booths had cottons, calicoes, hats, iron-ware, gunpowder, &c., for sale; the negroes who were present formed groups, and played their miserable music on a wooden instrument with some twisted silk strings, accompanied by two sticks, which, by being rubbed together, produce a grating sound. The neighbours by degrees arrived upon mules, to go to mass; but they seemed to be more interested by the purchase of the goods offered for sale, to supply their domestic wants, than by the common amusements. After divine service was over, we continued our journey, and to our great joy, got out of the dry campos, which were much exposed to the sun, into a low forest, some miles in length. As soon as we had passed this, we found ourselves in a romantic spot. The campos, diversified by grass, shrubs, and some small trees, sometimes rising in hills, through which narrow valleys wind, sometimes covered with fragments of rocks, resembling ruins, became more and