BOOK II.

CHAPTER I.

Stay in Rio de Janeiro. - - *Page* 131—205.

Description of the city. — Population. — Influence of the residence of the court. — Library. — The press. — Schools. — Foundation of a chirurgical school. — Great want of a university. — Academy of arts. — The climate. — The mode of living of the people. — Character of diseases. — Hospitals. — The public promenade. — Slave trade. — Commerce. — Imports and exports of the capital, and the interior. — The bank. — Money. — View of the duties of customs in Brazil, and of the exportation from Rio de Janeiro. — NOTES: — A royal passport. — Duties of customs, &c.

CHAPTER II.

Excursions in the environs of Rio de Janeiro. *Page* 206—268.

Natural history of the environs. — The aqueduct of Caryoca. — Noble prospect from Mount Corcovado. — Tijuca. — Lake Camorim. — The coffee plantation of Dr. Lesesne. — Lagoa de Rodrigo Freitas. — Botanic garden. — Tea plantation. — Gunpowder manufactory. — Islands in the Bay of Rio de Janeiro. — Porto de Estrella, on the high road to Minas Geraës. — Stay at Mandiocca, the country-seat of Mr. Von Langsdorf. — Visit to the Serra

dos Orgaos. — Description of the forest, of the plants, and animals. — Rocks, their formation. — Way over the Serra to Corrego Seco, and as far as the passage of the river Paraiba. — Agriculture, and the obstacles to it. — Considerations and counsels for European settlers — The weather at Rio. — Preparations for the journey into the interior. — The arrival of Her Imperial Highness the Princess Royal of Brazil.

CHAPTER III.

Journey from Rio de Janeiro, to the city of S. Paulo. - - - - *Page* 269—327.

Departure to Campinho, and S. Cruz, the estate of the Prince Regent. — Chinese settlers. — Taguahy. — Last view of the sea-coast from the Serra do Mar. — Retiro. — Fazenda dos Negros. — Bananal. — S. Anna das Areâs, and the Indians there. — Tacasava. — Lorena. — The Serra de Mantequeira. — Beginning of the grassy Campos. — Rio Paraiba. — Guarantinguetá. — Pendamonhangaba. — The different forms of vegetation. — Taubaté, and its inhabitants, the first discoverers of the gold mines. — Frequency of goitres, especially in the women. — Causes and cure of them. — Jacarehy. — Aldea da Escada. — Indians there. — Description of the Cafusos descendants of Indians and Negroes, with natural perukes a foot high. — Mogy das Cruces.

DESCRIPTION OF THE PLATES

IN

THE FIRST VOLUME.

VILLA VELHA ..... *Frontispiece.*

A village consisting of scattered houses, a league to the south-west of the Villa do Rio de Contas in the interior of the capitania of Bahia. The grotesque mica-slate mountain, Serra do Rio de Contas, or de Brumado, forms the back-ground of this luxuriant landscape. In the foreground are palms, calabash and gum anime trees (*Carica*, Papaja, and Hymenea Courbaril); and negro slaves are employed in gathering cotton.

A BOTOCUDO and A COROADO ..... *To face page* 143.

We are obliged to His Serene Highness Prince Maximilian of Neuwied for this portrait of a Botocudo.

The Coroado is the portrait of our attendant, Custodio, who accompanied us on a great part of our journey through the interior. *See Vol. II. page* 264.

MANDIOCCA..... *To face page* 238.

The farm of M. Von Langsdorff at the foot of the Serra de Estrella, the continuation of the Serra dos Orgaos; on the north side of the bay of Rio de Janeiro, and on the road to Villa Rica, the capital of the capitania of Minas Geraës.

DESCRIPTION OF THE PLATES.

A MAMELUCA and A CAFUSA ..... *To face page* 316.

The Mameluca is a woman of the lowest class in the province of S. Paulo, descended from a father of the European, and a mother of the American race. The goitre is frequent in many parts of this province, and is almost considered as an ornament.

The Cafusa is likewise a female of the lower class in the province of S. Paulo. The Cafusos are a middle race, between the American and the Negro. The smooth hair of the former and the wool of the latter are modified in their mixed descendants into a high curly kind of peruke. The custom of smoking is general in this province, especially among the lower classes. *See page* 324.

TRAVELS IN BRAZIL.

BOOK I.

CHAPTER I.

PREPARATIONS FOR THE VOYAGE. — DEPARTURE FROM MUNICH; JOURNEY BY WAY OF VIENNA TO TRIEST.

America, which was unknown to us till within a few centuries, has, from the time of its discovery, been the object of the admiration and the regard of Europe. The advantages of its situation, the fertility and diversified riches of its soil, held out equal attractions to the European colonist and merchant, and to the scientific inquirer. This new country was rapidly peopled, and unfolded to our view, by the active intercourse with the mother country, and by the exertions of the learned men, who, animated by a laudable emulation, endea-

voured to make themselves acquainted with it by extensive journeys into the interior. In this respect we are infinitely indebted to many enterprising travellers of former times, but more particularly to those of the last half century, through whose immortal labours America has been more successfully explored than any of the continents of the Old World, Europe alone excepted. Notwithstanding, however, the great advances we have made in our acquaintance with this part of the world, it still offers so wide a field for research and discovery as would greatly extend the sphere of human knowledge. This observation is peculiarly applicable to Brazil, the heart of this new continent; and which, although it is the most beautiful, and most richly endowed portion, has been hitherto but thinly peopled and imperfectly known.

His Majesty the King of Bavaria, the generous patron of the sciences, sensible of the advantages which would accrue to them, and to the interests of mankind in general, from a more accurate knowledge of America, directed the Academy of Sciences at Munich, about the end of the year 1815, to draw up, and lay before him, a plan for a literary tour into the interior of South America. Among others selected for this expedition, were the two academicians, authors of the present narrative, Dr. Spix for zoology, and Dr. Martius for botany. The original plan was, to proceed from Buenos Ayres, by land, to Chili; thence to travel northwards to

Quito; and to return by way of Carraccas or Mexico to Europe.

Some difficulties, however, presented themselves, which obliged His Majesty's government to defer the execution of this project. But His Majesty's wish for the fitting out of this expedition being again revived, the marriage of Her Imperial Highness Caroline Josepha Leopoldina, Archduchess of Austria, with His Royal Highness Don Pedro D'Alcantara, Crown Prince of Portugal, Algarve, and Brazil, presented the most favourable opportunity for gratifying it. At the time of the conclusion of this alliance, which was to unite Europe more closely with the New World, His Majesty the King of Bavaria was at Vienna in person; and the Imperial Court having resolved to send some scientific men to Brazil, in the suite of the august bride, the king made arrangements for some members of his academy to accompany the Austrian expedition, with the same views towards the advancement of knowledge. The flattering choice fell upon us; and we accordingly received on the 28th of January, 1817, directions to repair, without loss of time, to Vienna, and thence to Triest; there to embark on board the frigates, which were already equipped for their voyage, to Rio de Janeiro. The Royal Academy of Sciences, at the same time, received orders to furnish us with instructions, not only respecting the principal departments with which we were specially charged, but also, generally, relative

to all that might fall within the sphere of our observations and researches, and to provide us with those instruments, the judicious employment of which, during the course of the expedition, might be productive of results particularly interesting to science.

In consequence of these commands, the travellers were recommended to direct their chief attention towards enriching the two departments of zoology and botany, and at the same time to keep in view the other branches of science, as far as time and circumstances should allow. Dr. Spix, as zoologist, engaged to make the whole animal kingdom the object of his observations and labours. With this view he had to observe the inhabitants, whether aborigines or colonists; to remark the different effects of climate upon them; their physical and intellectual powers, &c.: the external and internal conformation of all the indigenous animals; their habits and instincts, and the geographical limits in which they are found; their migrations: and, lastly, to investigate the fossil remains of animals, those most authentic records of the past, and most convincing proofs of the gradual development of the creation. Dr. Martius, as botanist, undertook to explore, in its whole extent, the vegetable kingdom of the tropics. Besides the study of the botanical families peculiar to the country, he was particularly to examine those forms which, by their affinity or identity with those of other countries,

lead to conclusions respecting their original country, and their gradual diffusion over the surface of the globe. He proposed connecting these researches with climatic and geognostic observations; and to this end to extend them to the most insignificant members of the vegetable kingdom, such as mosses, lichens, and fungi. He was likewise to observe the changes which both the native and exotic plants undergo, when exposed to certain external influences; and to investigate the history of the soil, and the method of cultivation there in use. An examination of the internal structure, and of the development of tropical plants, promised interesting solutions of the laws of vegetable life in general, as the observation of any traces that should be discovered of an earlier vegetation, now extinct, might afford materials for the foundation of a geognostic theory. Lastly, he conceived he should promote the object of the mission by an accurate investigation of the Brazilian materia medica, drawn from the vegetable kingdom, as well as of all other vegetable substances, the use of which might be interesting to arts and manufactures, and by carefully indicating the manner in which they are employed in their native country. But besides the observations and researches in the departments peculiar to each professor, in which reciprocal assistance and support were presupposed, they were particularly enjoined to complete, as far as possible, the collections of the academy, by send-

ing specimens of all the natural productions of the several kingdoms, as the best certificate of the observations made.

In addition to these instructions, each particular branch of study at the university had its peculiar claims upon the industry and observation of the travellers. With respect to mineralogy, they were instructed accurately to observe the geognostic relations in which the different formations of the mountain masses in general stand to each other; their succession, magnitude, thickness, and particularly their dip; and, farther, to examine the hitherto problematical production of gold, of diamonds, and other precious stones, as well as of all the more important fossils. In physics, they were to observe the declination and inclination of the magnetic needle; its daily variation; the phenomena of electricity, according to the several degrees of latitude and longitude; the transparency and colour, the phosphorescence, temperature, and saltness of the sea in different regions, and at various depths; the temperature of the atmosphere; the phenomenon of the *Fata Morgana;* the mean temperature and the differences of climate in various parts of the continent; the periodical oscillation of the barometer; the different elevations of the ground; the traces of the gradual receding or advancing of the sea, on the coasts; the currents, the local anomalies in the tides; the electricity of the fish, &c. The historical and philosophic-philological classes of the university recommended

attention to the different languages, national peculiarities, religious and historical traditions, ancient and modern monuments; such as writings, coins, idols, and, in general, whatever might throw light on the state of society, and the history both of the aboriginal and other inhabitants of Brazil, or which concerned the topography and geography of that hitherto so imperfectly known country. In order to satisfy, to the utmost of their power, these duties and wishes, the two travellers exerted themselves to provide every requisite for so great an enterprise, and to make, without loss of time, the necessary preparations. After every thing possible was got ready, and the books, instruments, medicine chest, and other travelling equipage, sent off direct to Triest, they set out from Munich on the 6th of February, 1817, for Vienna.

In this imperial capital, where they arrived on the 10th of February, they were favoured with the most active and generous support, by His Highness Prince Metternich, and by His Excellency Baron Von Stainlein, the Bavarian ambassador, in the further preparations, and in collecting what was necessary to accomplish the scientific objects proposed by the enlightened sovereigns. M. Von Schreibers, director of the Imperial Museum of Natural History, — as honourably distinguished in the learned world by his writings, as amiable in private life, to whom the organization of the Austrian scientific expedition

to Brazil was confided,—had the goodness immediately to introduce them to the learned gentlemen selected by the Austrian government, who were to be their fellow travellers. Professor Mikan, from Prague, was appointed for the departments of botany and entomology; Mr. Pohl, M. D., for mineralogy and botany; Mr. Natterer, assistant in the Imperial Museum of Natural History, for zoology; Mr. Th. Ender, to be landscape painter; Mr. Buchberger, botanical painter; and M. H. Schott, son of the worthy superintendent of the University Garden, to be gardener; the two last were assigned as assistants to professor Mikan: there were besides with the company a huntsman and a working miner.

Rejoiced at the acquaintance with our future companions, we longed for orders to set out together for Triest. But as several circumstances left it doubtful when the two Austrian frigates would sail, we employed the time that we had remaining, partly in further preparations for the voyage, especially in procuring maps and other things which could not be purchased in the New World, or only at a very great expence, and partly in visiting the learned men residing in the capital. Among these were the venerable Baron Von Jacquin, the Nestor of German botanists (since unfortunately dead), who had himself passed many years in the West India islands, and on the Terra Firma, with such great advantage to science, and

whose counsels were extremely welcome to us; his worthy son; Messrs. Prohaska, Trattinik, Host, Portenschlag, Bredemeyer, Prechtl, Meissner, &c.; all of whom testified great interest in our enterprise. But what particularly animated our courage and enthusiasm was the personal acquaintance of M. Ferdinand Bauer, the painter, who had accompanied Captain Flinders on his voyage in the South Sea and to New Holland, and was then actually engaged in pourtraying the strange forms of plants and animals of those remote regions.

We left Vienna on the 4th of March to repair to Triest. At Grätz we visited the Johanneum, founded by His Imperial Highness the Archduke John of Austria. This excellent institution is chiefly designed for the propagation of practical knowledge in the departments of natural history and the arts, and is a noble monument of the esteem of its princely founder for the sciences. On this occasion we became acquainted with the professors Chrys. V. Vest and M. Fr. Mohs, and if our time had permitted, would willingly have explored the beautiful environs of the capital of Styria, in company with those able enquirers; but circumstances were imperious, and we hastened away to visit the quicksilver mines of Idria. We thought it would be very interesting to obtain by personal inspection, a knowledge of those mines, the produce of which must prove of incalculable benefit to Brazil, rich as it is in gold,

when the importance of amalgamation shall be understood there as well as it is in Peru and Mexico.

From Laibach, the residence of the aged and venerable Baron Von Zoys, who is still ardent in the study of natural history, and in possession of an admirable collection of the minerals of the country, we proceeded to Idria, which lies two posts to the side of the high road. The way, after many windings, leads into an extremely deep valley, in which the little town is situated. We passed some days there, in examining the curious formation of the slate clay, which forms an extensive bed in compact limestone, of the rich hepatic mercurial ores, especially the coral ore, which represents concentric lamellar, roundish concretions, resembling petrified bivalves, and, lastly, of the extensive smelting-houses, which for many years have furnished annually three thousand quintals of quicksilver. Returning to the high road, we visited, near Adelsberg, the caves in what is called the cavern limestone, in which are found not only loose skulls and other human bones, together with rosaries, but also remains of animals resembling the tapir, imbedded in the limestone. We were very desirous of visiting the neighbouring lake of Zircknitz, famous for its rising and falling; but the object of our journey required haste, and we set out immediately, after having by a fortunate chance obtained eighteen

living specimens of the *Proteus anguinus* which is found here. As it is not yet fully decided whether this animal, which in its structure is between lizards and fishes, is only a larva or a perfectly developed animal, we took half of those we had procured to the torrid zone alive, in order, if possible, to promote their metamorphosis by the greater heat; the other half we sent to the Royal Academy at Munich, that they might be duly examined. Our road led us over the declivity of the Julian lime-stone alps, on which many masses of rock containing petrified shells lie scattered about, down to the fine seaport of Triest, where we arrived on the 10th of March. From the heights at Obczina, we had a noble view of the Adriatic Gulf, extending between the Italian and Istrian coasts; and saw the two Austrian frigates, whose masts rose above all the rest, lying at anchor, ready to sail.

The situation of Triest, the capital of Illyria, on the Adriatic, renders it one of the most important seaports of Italy for the Levant trade. The old town is built along the declivity of a mountain, on which the castle stands; the new town on the sea shore; the latter consists of some handsome streets with large houses, on a canal, by means of which the merchants' goods are conveniently brought from the sea to the interior of the town. The inhabitants are partly of Greek, Illyrian, and Italian, but principally of German origin. The market, amply furnished with the finest southern fruits, as well as the rarest produc-