

## CHAPTER IV.

Rio Negro—Estancias attacked by the Indians—Salt Lakes—Flamingoes—R. Negro to R. Colorado—Sacred Tree—Patagonian Hare—Indian Families—General Rosas—Proceed to Bahia Blanca—Sand Dunes—Negro Lieutenant—Bahia Blanca—Saline Incrustations—Punta Alta—Zorillo.

### RIO NEGRO TO BAHIA BLANCA.

*July 24th, 1833.*—The Beagle sailed from Maldonado, and on August the 3rd she arrived off the mouth of the Rio Negro. This is the principal river on the whole line of coast between the Strait of Magellan and the Plata. It enters the sea about three hundred miles south of the estuary of the Plata. About fifty years ago, under the old Spanish government, a small colony was established here; and it is still the most southern position (lat. 41°) on this eastern coast of America, inhabited by civilized man.

The country near the mouth of the river is wretched in the extreme: on the south side a long line of perpendicular cliffs commences, which exposes a section of the geological nature of the country. The strata are of sandstone, and one layer was remarkable from being composed of a firmly-cemented conglomerate of pumice pebbles, which must have travelled more than four hundred miles, from the Andes. The surface is everywhere covered up by a thick bed of gravel, which extends far and wide over the open plain. Water is extremely scarce, and, where found, is almost invariably brackish. The vegetation is scanty; and although there are bushes of many kinds, all are armed with formidable thorns, which seem to warn the stranger not to enter on these inhospitable regions.

The settlement is situated eighteen miles up the river. The road follows the foot of the sloping cliff, which forms the northern boundary of the great valley, in which the Rio Negro flows. On the way we passed the ruins of some fine "estancias," which a few years since had been destroyed by the Indians. They withstood several attacks. A man present at one gave me a very lively description of what took

place. The inhabitants had sufficient notice to drive all the cattle and horses into the “corral” which surrounded the house, and likewise to mount some small cannon. The Indians were Araucanians from the south of Chile; several hundreds in number, and highly disciplined. They first appeared in two bodies on a neighbouring hill; having there dismounted, and taken off their fur mantles, they advanced naked to the charge. The only weapon of an Indian is a very long bamboo or chuzo, ornamented with ostrich feathers, and pointed by a sharp spear-head. My informer seemed to remember with the greatest horror the quivering of these chuzos as they approached near. When close, the cacique Pincheira hailed the besieged to give up their arms, or he would cut all their throats. As this would probably have been the result of their entrance under any circumstances, the answer was given by a volley of musketry. The Indians, with great steadiness, came to the very fence of the corral: but to their surprise they found the posts fastened together by iron nails instead of leather thongs, and, of course, in vain attempted to cut them with their knives. This saved the lives of the Christians: many of the wounded Indians were carried away by their companions; and at last one of the under caciques being wounded, the bugle sounded a retreat. They retired to their horses, and seemed to hold a council of war. This was an awful pause for the Spaniards, as all their ammunition, with the exception of a few cartridges, was expended. In an instant the Indians mounted their horses, and galloped out of sight. Another attack was still more quickly repulsed. A cool Frenchman managed the gun; he stopped till the Indians approached close, and then raked their line with grape-shot: he thus laid thirty-nine of them on the ground; and, of course, such a blow immediately routed the whole party.

The town is indifferently called El Carmen or Patagones. It is built on the face of a cliff which fronts the river, and many of the houses are excavated even in the sandstone. The river is about two or three hundred yards wide, and is deep and rapid. The many islands, with their willow-trees, and the flat headlands, seen one behind the other on the northern boundary of the broad green valley, forms, by the aid of a bright sun, a view almost picturesque. The number of inhabitants does not exceed a few hundreds. These Spanish colonies do

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\* The corral is an enclosure made of tall and strong stakes. Every estancia, or farming estate, has one attached to it.

not, like our British ones, carry within themselves the elements of growth. Many Indians of pure blood reside here: the tribe of the Cacicque Lucanee constantly have their Toldos\* on the outskirts of the town. The local government partly supplies them with provisions, by giving them all the old worn-out horses, and they earn a little by making horse-rugs and other articles of riding-gear. These Indians are considered civilized; but what their character may have gained by a lesser degree of ferocity, is almost counter-balanced by their entire immorality. Some of the younger men are, however, improving; they are willing to labour, and a short time since a party went on a sealing-voyage, and behaved very well. They were now enjoying the fruits of their labour, by being dressed in very gay, clean clothes, and by being very idle. The taste they showed in their dress was admirable; if you could have turned one of these young Indians into a statue of bronze, his drapery would have been perfectly graceful.

One day I rode to a large salt-lake, or Salina, which is distant fifteen miles from the town. During the winter it consists of a shallow lake of brine, which in summer is converted into a field of snow-white salt. The layer near the margin is from four to five inches thick, but towards the centre its thickness increases. This lake was two and a half miles long, and one broad. Others occur in the neighbourhood many times larger, and with a floor of salt, two and three feet in thickness, even when under water during the winter. One of these brilliantly-white and level expanses, in the midst of the brown and desolate plain, offers an extraordinary spectacle. A large quantity of salt is annually drawn from the salina; and great piles, some hundred tons in weight, were lying ready for exportation. The season for working the salinas forms the harvest of Patagones; for on it, the prosperity of the place depends. Nearly the whole population encamps on the bank of the river, and the people are employed in drawing out the salt in bullock-waggons. This salt is crystallized in great cubes, and is remarkably pure: Mr. Trenham Reeks has kindly analyzed some for me, and he finds in it only 0.26 of gypsum and 0.22 of earthy matter. It is a singular fact, that it does not serve so well for preserving meat as sea-salt from the Cape de Verd islands; and a merchant at Buenos Ayres told me that he considered it as fifty per cent. less valuable. Hence the Cape de Verd salt is constantly im-

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\* The hovels of the Indians are thus called.

ported, and is mixed with that from these salinas. The purity of the Patagonian salt, or absence from it of those other saline bodies found in all sea-water, is the only assignable cause for this inferiority: a conclusion which no one, I think, would have suspected, but which is supported by the fact lately ascertained,\* that those salts answer best for preserving cheese which contain most of the deliquescent chlorides.

The border of the lake is formed of mud: and in this numerous large crystals of gypsum, some of which are three inches long, lie embedded; whilst on the surface others of sulphate of soda lie scattered about. The Gauchos call the former the “Padre del sal,” and the latter the “Madre;” they state that these progenitive salts always occur on the borders of the salinas, when the water begins to evaporate. The mud is black, and has a fetid odour. I could not at first imagine the cause of this, but I afterwards perceived that the froth which the wind drifted on shore was coloured green, as if by *confervæ*: I attempted to carry home some of this green matter, but from an accident failed. Parts of the lake seen from a short distance appeared of a reddish colour, and this perhaps was owing to some infusorial animalcula. The mud in many places was thrown up by numbers of some kind of worm, or annelidous animal. How surprising it is that any creatures should be able to exist in brine, and that they should be crawling among crystals of sulphate of soda and lime! And what becomes of these worms when, during the long summer, the surface is hardened into a solid layer of salt? Flamingoes in considerable numbers inhabit this lake, and breed here; throughout Patagonia, in Northern Chile, and at the Galapagos Islands, I met with these birds wherever there were lakes of brine. I saw them here wading about in search of food—probably for the worms which burrow in the mud; and these latter probably feed on infusoria or *confervæ*. Thus we have a little living world within itself, adapted to these inland lakes of brine. A minute crustaceous animal (*Cancer salinus*) is said† to live

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\* Report of the Agricult. Chem. Assoc. in the Agricult. Gazette, 1845, p. 93.

† Linnæan Trans., vol. xi. p. 205. It is remarkable how all the circumstances connected with the salt-lakes in Siberia and Patagonia are similar. Siberia, like Patagonia, appears to have been recently elevated above the waters of the sea. In both countries the salt-lakes occupy shallow depressions in the plains; in both the mud on the borders is black and

in countless numbers in the brine-pans at Lymington; but only in those in which the fluid has attained, from evaporation, considerable strength—namely, about a quarter of a pound of salt to a pint of water. Well may we affirm, that every part of the world is habitable! Whether lakes of brine, or those subterranean ones hidden beneath volcanic mountains—warm mineral springs—the wide expanse and depths of the ocean—the upper regions of the atmosphere, and even the surface of perpetual snow—all support organic beings.

To the northward of the Rio Negro, between it and the inhabited country near Buenos Ayres, the Spaniards have only one small settlement, recently established at Bahia Blanca. The distance in a straight line to Buenos Ayres is very nearly five hundred British miles. The wandering tribes of horse Indians, which have always occupied the greater part of this country, having of late much harassed the outlying estancias, the government at Buenos Ayres equipped some time since an army under the command of General Rosas for the purpose of exterminating them. The troops were now encamped on the banks of the Colorado; a river lying about eighty miles northward of the Rio Negro. When General Rosas left Buenos Ayres he struck in a direct line across the unexplored plains: and as the country was thus pretty well cleared of Indians, he left behind him, at wide intervals, a small party of soldiers with a troop of horses (*a posta*), so as to be enabled to keep up a communication with the capital. As the Beagle intended to call at Bahia Blanca, I determined to proceed there by land; and ultimately I extended my plan to travel the whole way by the *postas* to Buenos Ayres.

*August 11th.*—Mr. Harris, an Englishman residing at Patagones, a guide, and five Gauchos, who were proceeding to the army on business, were my companions on the journey. The Colorado, as I have

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fetid; beneath the crust of common salt, sulphate of soda or of magnesia occurs, imperfectly crystallized; and in both, the muddy sand is mixed with lentils of gypsum. The Siberian salt-lakes are inhabited by small crustaceous animals; and flamingoes (Edin. New Philos. Jour., Jan. 1830) likewise frequent them. As these circumstances, apparently so trifling, occur in two distant continents, we may feel sure that they are the necessary results of common causes.—See Pallas's Travels, 1793 to 1794, pp. 129-134.

already said, is nearly eighty miles distant: and as we travelled slowly, we were two days and a half on the road. The whole line of country deserves scarcely a better name than that of a desert. Water is found only in two small wells; it is called fresh; but even at this time of the year, during the rainy season, it was quite brackish. In the summer this must be a distressing passage; for now it was sufficiently desolate. The valley of the Rio Negro, broad as it is, has merely been excavated out of the sandstone plain; for immediately above the bank on which the town stands, a level country commences, which is interrupted only by a few trifling valleys and depressions. Everywhere the landscape wears the same sterile aspect; a dry gravelly soil supports tufts of brown withered grass, and low scattered bushes, armed with thorns.

Shortly after passing the first spring we came in sight of a famous tree, which the Indians reverence as the altar of Walleechu. It is situated on a high part of the plain, and hence is a landmark visible at a great distance. As soon as a tribe of Indians come in sight of it, they offer their adorations by loud shouts. The tree itself is low, much branched, and thorny: just above the root it has a diameter of about three feet. It stands by itself without any neighbour, and was indeed the first tree we saw; afterwards we met with a few others of the same kind, but they were far from common. Being winter the tree had no leaves, but in their place numberless threads, by which the various offerings, such as cigars, bread, meat, pieces of cloth, &c. had been suspended. Poor Indians, not having anything better, only pull a thread out of their ponchos, and fasten it to the tree. Richer Indians are accustomed to pour spirits and maté into a certain hole, and likewise to smoke upwards, thinking thus to afford all possible gratification to Walleechu. To complete the scene, the tree was surrounded by the bleached bones of horses which had been slaughtered as sacrifices. All Indians of every age and sex make their offerings; they then think that their horses will not tire, and that they themselves shall be prosperous. The Gaucho who told me this, said that in the time of peace he had witnessed this scene, and that he and others used to wait till the Indians had passed by, for the sake of stealing from Walleechu the offerings.

The Gauchos think that the Indians consider the tree as the god itself; but it seems far more probable, that they regard it as the altar.

The only cause which I can imagine for this choice, is its being a landmark in a dangerous passage. The Sierra de la Ventana is visible at an immense distance; and a Gaucho told me that he was once riding with an Indian a few miles to the north of the Rio Colorado, when the Indian commenced making the same loud noise, which is usual at the first sight of the distant tree; putting his hand to his head, and then pointing in the direction of the Sierra. Upon being asked the reason of this, the Indian said in broken Spanish, "First see the Sierra." About two leagues beyond this curious tree we halted for the night: at this instant an unfortunate cow was spied by the lynx-eyed Gauchos, who set off in full chace, and in a few minutes dragged her in with their lazos, and slaughtered her. We here had the four necessaries of life "en el campo,"—pasture for the horses, water (only a muddy puddle), meat and firewood. The Gauchos were in high spirits at finding all these luxuries; and we soon set to work at the poor cow. This was the first night which I passed under the open sky, with the gear of the recado for my bed. There is high enjoyment in the independence of the Gaucho life—to be able at any moment to pull up your horse, and say, "Here we will pass the night." The death-like stillness of the plain, the dogs keeping watch, the gipsy-group of Gauchos making their beds round the fire, have left in my mind a strongly-marked picture of this first night, which will never be forgotten.

The next day the country continued similar to that above described. It is inhabited by few birds or animals of any kind. Occasionally a deer, or a Guanaco (wild Llama) may be seen; but the Agouti (*Cavia Patagonica*) is the commonest quadruped. This animal here represents our hares. It differs, however, from that genus in many essential respects; for instance, it has only three toes behind. It is also nearly twice the size, weighing from twenty to twenty-five pounds. The Agouti is a true friend of the desert; it is a common feature in the landscape to see two or three hopping quickly one after the other in a straight line across these wild plains. They are found as far north as the Sierra Tapalguen (lat. 37° 30'), where the plain rather suddenly becomes greener and more humid; and their southern limit is between Port Desire and St. Julian, where there is no change in the nature of the country. It is a singular fact, that although the Agouti is not now found as far south as Port St. Julian,

yet that Captain Wood, in his voyage in 1670, talks of them as being numerous there. What cause can have altered, in a wide, uninhabited, and rarely-visited country, the range of an animal like this? It appears also from the number shot by Captain Wood in one day at Port Desire, that they must have been considerably more abundant there formerly than at present. Where the Bizcacha lives and makes its burrows, the Agouti uses them; but where, as at Bahia Blanca, the Bizcacha is not found, the Agouti burrows for itself. The same thing occurs with the little owl of the Pampas (*Athene cunicularia*), which has so often been described as standing like a sentinel at the mouth of the burrows; for in Banda Oriental, owing to the absence of the Bizcacha, it is obliged to hollow out its own habitation.

The next morning, as we approached the Rio Colorado, the appearance of the country changed; we soon came on a plain covered with turf, which, from its flowers, tall clover, and little owls, resembled the Pampas. We passed also a muddy swamp of considerable extent, which in summer dries, and becomes incrustated with various salts; and hence is called a salitral. It was covered by low succulent plants, of the same kind with those growing on the sea-shore. The Colorado, at the pass where we crossed it, is only about sixty yards wide; generally it must be nearly double that width. Its course is very tortuous, being marked by willow-trees and beds of reeds: in a direct line the distance to the mouth of the river is said to be nine leagues, but by water twenty-five. We were delayed crossing in the canoe by some immense troops of mares, which were swimming the river in order to follow a division of troops into the interior. A more ludicrous spectacle I never beheld than the hundreds and hundreds of heads, all directed one way, with pointed ears and distended snorting nostrils, appearing just above the water like a great shoal of some amphibious animal. Mare's flesh is the only food which the soldiers have when on an expedition. This gives them a great facility of movement; for the distance to which horses can be driven over these plains is quite surprising; I have been assured that an unloaded horse can travel a hundred miles a day for many days successively.

The encampment of General Rosas was close to the river. It consisted of a square formed by waggons, artillery, straw huts, &c. The soldiers were nearly all cavalry; and I should think such a villanous, banditti-like army was never before collected together. The greater



number of men were of a mixed breed, between Negro, Indian, and Spaniard. I know not the reason, but men of such origin seldom have a good expression of countenance. I called on the Secretary to show my passport. He began to cross-question me in the most dignified and mysterious manner. By good luck I had a letter of recommendation from the government of Buenos Ayres<sup>\*</sup> to the commandant of Patagones. This was taken to General Rosas, who sent me a very obliging message; and the Secretary returned all smiles and graciousness. We took up our residence in the *rancho*, or hovel, of a curious old Spaniard, who had served with Napoleon in the expedition against Russia.

We stayed two days at the Colorado; I had little to do, for the surrounding country was a swamp, which in summer (December), when the snow melts on the Cordillera, is overflowed by the river. My chief amusement was watching the Indian families as they came to buy little articles at the rancho where we stayed. It was supposed that General Rosas had about six hundred Indian allies. The men were a tall, fine race, yet it was afterwards easy to see in the Fuegian savage the same countenance rendered hideous by cold, want of food, and less civilization. Some authors, in defining the primary races of mankind, have separated these Indians into two classes; but this is certainly incorrect. Among the young women or *chinas*, some deserve to be called even beautiful. Their hair was coarse, but bright and black; and they wore it in two plaits hanging down to the waist. They had a high colour, and eyes that glistened with brilliancy; their legs, feet, and arms were small and elegantly formed; their ankles, and sometimes their waists, were ornamented by broad bracelets of blue beads. Nothing could be more interesting than some of the family groups. A mother with one or two daughters would often come to our rancho, mounted on the same horse. They ride like men, but with their knees tucked up much higher. This habit, perhaps, arises from their being accustomed, when travelling, to ride the loaded horses. The duty of the women is to load and unload the horses; to make the tents for the night; in short to be, like the wives of all savages, useful slaves. The men fight, hunt, take care of the horses,

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\* I am bound to express, in the strongest terms, my obligation to the Government of Buenos Ayres for the obliging manner in which passports to all parts of the country were given me, as naturalist of the Beagle.

and make the riding gear. One of their chief indoor occupations is to knock two stones together till they become round, in order to make the bolas. With this important weapon the Indian catches his game, and also his horse, which roams free over the plain. In fighting, his first attempt is to throw down the horse of his adversary with the bolas, and when entangled by the fall to kill him with the chuzo. If the balls only catch the neck or body of an animal, they are often carried away and lost. As the making the stones round is the labour of two days, the manufacture of the balls is a very common employment. Several of the men and women had their faces painted red, but I never saw the horizontal bands which are so common among the Fuegians. Their chief pride consists in having everything made of silver; I have seen a cacique with his spurs, stirrups, handle of his knife, and bridle made of this metal: the head-stall and reins being of wire, were not thicker than whipcord; and to see a fiery steed wheeling about under the command of so light a chain, gave to the horsemanship a remarkable character of elegance.

General Rosas intimated a wish to see me; a circumstance which I was afterwards very glad of. He is a man of an extraordinary character, and has a most predominant influence in the country, which it seems probable he will use to its prosperity and advancement.\* He is said to be the owner of seventy-four square leagues of land, and to have about three hundred thousand head of cattle. His estates are admirably managed, and are far more productive of corn than those of others. He first gained his celebrity by his laws for his own estancias, and by disciplining several hundred men, so as to resist with success the attacks of the Indians. There are many stories current about the rigid manner in which his laws were enforced. One of these was, that no man, on penalty of being put into the stocks, should carry his knife on a Sunday: this being the principal day for gambling and drinking, many quarrels arose, which from the general manner of fighting with the knife often proved fatal. One Sunday the Governor came in great form to pay the estancia a visit, and General Rosas, in his hurry, walked out to receive him with his knife, as usual, stuck in his belt. The steward touched his arm, and reminded him of the law; upon which turning to the Governor, he said he was extremely sorry, but that he must go into the stocks, and that till let out, he possessed

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\* This prophecy has turned out entirely and miserably wrong. 1845.

no power even in his own house. After a little time the steward was persuaded to open the stocks, and to let him out, but no sooner was this done, than he turned to the steward and said, "You now have broken the laws, so you must take my place in the stocks." Such actions as these delighted the Gauchos, who all possess high notions of their own equality and dignity.

General Rosas is also a perfect horseman—an accomplishment of no small consequence in a country where an assembled army elected its general by the following trial: A troop of unbroken horses being driven into a corral, were let out through a gateway, above which was a cross-bar: it was agreed whoever should drop from the bar on one of these wild animals, as it rushed out, and should be able, without saddle or bridle, not only to ride it, but also to bring it back to the door of the corral, should be their general. The person who succeeded was accordingly elected; and doubtless made a fit general for such an army. This extraordinary feat has also been performed by Rosas.

By these means, and by conforming to the dress and habits of the Gauchos, he has obtained an unbounded popularity in the country, and in consequence a despotic power. I was assured by an English merchant, that a man who had murdered another, when arrested and questioned concerning his motive, answered, "He spoke disrespectfully of General Rosas, so I killed him." At the end of a week the murderer was at liberty. This doubtless was the act of the general's party, and not of the general himself.

In conversation he is enthusiastic, sensible, and very grave. His gravity is carried to a high pitch: I heard one of his mad buffoons (for he keeps two, like the barons of old) relate the following anecdote: "I wanted very much to hear a certain piece of music, so I went to the general two or three times to ask him; he said to me, 'Go about your business, for I am engaged.' I went a second time; he said, 'If you come again I will punish you.' A third time I asked, and he laughed. I rushed out of the tent, but it was too late; he ordered two soldiers to catch and stake me. I begged by all the Saints in heaven he would let me off; but it would not do;—when the general laughs he spares neither mad man nor sound." The poor flighty gentleman looked quite dolorous, at the very recollection of the staking. This is a very severe punishment; four posts are driven into the ground, and the man is extended by his arms and legs horizontally, and there left to

stretch for several hours. The idea is evidently taken from the usual method of drying hides. My interview passed away without a smile, and I obtained a passport and order for the government post-horses, and this he gave me in the most obliging and ready manner.

In the morning we started for Bahia Blanca, which we reached in two days. Leaving the regular encampment, we passed by the toldos of the Indians. These are round like ovens, and covered with hides; by the mouth of each, a tapering chuzo was stuck in the ground. The toldos were divided into separate groups, which belonged to the different caciques' tribes, and the groups were again divided into smaller ones, according to the relationship of the owners. For several miles we travelled along the valley of the Colorado. The alluvial plains on the side appeared fertile, and it is supposed that they are well adapted to the growth of corn. Turning northward from the river, we soon entered on a country, differing from the plains south of the river. The land still continued dry and sterile; but it supported many different kinds of plants, and the grass, though brown and withered, was more abundant, as the thorny bushes were less so. These latter in a short space entirely disappeared, and the plains were left without a thicket to cover their nakedness. This change in the vegetation marks the commencement of the grand calcareo argillaceous deposit, which forms the wide extent of the Pampas, and covers the granitic rocks of Banda Oriental. From the Strait of Magellan to the Colorado, a distance of about eight hundred miles, the face of the country is everywhere composed of shingle: the pebbles are chiefly of porphyry, and probably owe their origin to the rocks of the Cordillera. North of the Colorado this bed thins out, and the pebbles become exceedingly small, and here the characteristic vegetation of Patagonia ceases.

Having ridden about twenty-five miles, we came to a broad belt of sand-dunes, which stretches, as far as the eye can reach, to the east and west. The sand-hillocks resting on the clay, allow small pools of water to collect, and thus afford in this dry country an invaluable supply of fresh water. The great advantage arising from depressions and elevations of the soil, is not often brought home to the mind. The two miserable springs in the long passage between the Rio Negro and Colorado were caused by trifling inequalities in the plain; without them not a drop of water would have been found. The belt of sand-dunes is about eight miles wide; at some former period, it

probably formed the margin of a grand estuary, where the Colorado now flows. In this district, where absolute proofs of the recent elevation of the land occur, such speculations can hardly be neglected by any one, although merely considering the physical geography of the country. Having crossed the sandy tract, we arrived in the evening at one of the post-houses; and, as the fresh horses were grazing at a distance, we determined to pass the night there.

The house was situated at the base of a ridge, between one and two hundred feet high—a most remarkable feature in this country. This *posta* was commanded by a negro lieutenant, born in Africa: to his credit be it said, there was not a rancho between the Colorado and Buenos Ayros in nearly such neat order as his. He had a little room for strangers, and a small corral for the horses, all made of sticks and reeds; he had also dug a ditch round his house, as a defence in case of being attacked. This would, however, have been of little avail, if the Indians had come; but his chief comfort seemed to rest in the thought of selling his life dearly. A short time before, a body of Indians had travelled past in the night; if they had been aware of the *posta*, our black friend and his four soldiers would assuredly have been slaughtered. I did not any where meet a more civil and obliging man than this negro; it was therefore the more painful to see that he would not sit down and eat with us.

In the morning we sent for the horses very early, and started for another exhilarating gallop. We passed the Cabeza del Buey, an old name given to the head of a large marsh, which extends from Bahia Blanca. Here we changed horses, and passed through some leagues of swamps and saline marshes. Changing horses for the last time, we again began wading through the mud. My animal fell, and I was well soused in black mire—a very disagreeable accident, when one does not possess a change of clothes. Some miles from the fort we met a man, who told us that a great gun had been fired, which is a signal that Indians are near. We immediately left the road, and followed the edge of a marsh, which when chased offers the best mode of escape. We were glad to arrive within the walls, when we found all the alarm was about nothing, for the Indians turned out to be friendly ones, who wished to join General Rosas.

Bahia Blanca scarcely deserves the name of a village. A few houses and the barracks for the troops are enclosed by a deep ditch and

fortified wall. The settlement is only of recent standing (since 1828); and its growth has been one of trouble. The government of Buenos Ayres unjustly occupied it by force, instead of following the wise example of the Spanish Viceroy, who purchased the land near the older settlement of the Rio Negro, from the Indians. Hence the need of the fortifications; hence the few houses and little cultivated land without the limits of the walls: even the cattle are not safe from the attacks of the Indians beyond the boundaries of the plain, on which the fortress stands.

The part of the harbour where the Beagle intended to anchor being distant twenty-five miles, I obtained from the Commandant a guide and horses, to take me to see whether she had arrived. Leaving the plain of green turf, which extended along the course of a little brook, we soon entered on a wide level waste consisting either of sand, saline marshes, or bare mud. Some parts were clothed by low thickets, and others with those succulent plants, which luxuriate only where salt abounds. Bad as the country was, ostriches, deers, agoutis, and armadilloes, were abundant. My guide told me, that two months before he had a most narrow escape of his life: he was out hunting with two other men, at no great distance from this part of the country, when they were suddenly met by a party of Indians, who giving chase, soon overtook and killed his two friends. His own horse's legs were also caught by the bolas; but he jumped off, and with his knife cut them free: while doing this he was obliged to dodge round his horse, and received two severe wounds from their chuzos. Springing on the saddle, he managed, by a most wonderful exertion, just to keep ahead of the long spears of his pursuers, who followed him to within sight of the fort. From that time there was an order that no one should stray far from the settlement. I did not know of this when I started, and was surprised to observe how earnestly my guide watched a deer, which appeared to have been frightened from a distant quarter.

We found the Beagle had not arrived, and consequently set out on our return, but the horses soon tiring, we were obliged to bivouac on the plain. In the morning we had caught an armadillo, which, although a most excellent dish when roasted in its shell, did not make a very substantial breakfast and dinner for two hungry men. The ground at the place where we stopped for the night, was incrustated

with a layer of sulphate of soda, and hence, of course, was without water. Yet many of the smaller rodents managed to exist even here, and the tucutuco was making its odd little grunt beneath my head, during half the night. Our horses were very poor ones, and in the morning they were soon exhausted from not having had any thing to drink, so that we were obliged to walk. About noon the dogs killed a kid, which we roasted. I ate some of it, but it made me intolerably thirsty. This was the more distressing as the road, from some recent rain, was full of little puddles of clear water, yet not a drop was drinkable. I had scarcely been twenty hours without water, and only part of the time under a hot sun, yet the thirst rendered me very weak. How people survive two or three days under such circumstances, I cannot imagine: at the same time, I must confess that my guide did not suffer at all, and was astonished that one day's deprivation should be so troublesome to me.

I have several times alluded to the surface of the ground being incrustated with salt. This phenomenon is quite different from that of the salinas, and more extraordinary. In many parts of South America, wherever the climate is moderately dry, these incrustations occur; but I have nowhere seen them so abundant as near Bahia Blanca. The salt here, and in other parts of Patagonia, consists chiefly of sulphate of soda with some common salt. As long as the ground remains moist in these salitrales (as the Spaniards improperly call them, mistaking this substance for saltpetre), nothing is to be seen but an extensive plain composed of a black, muddy soil, supporting scattered tufts of succulent plants. On returning through one of these tracts, after a week's hot weather, one is surprised to see square miles of the plain white, as if from a slight fall of snow, here and there heaped up by the wind into little drifts. This latter appearance is chiefly caused by the salts being drawn up, during the slow evaporation of the moisture, round blades of dead grass, stumps of wood, and pieces of broken earth, instead of being crystallized at the bottoms of the puddles of water. The salitrales occur either on level tracts elevated only a few feet above the level of the sea, or on alluvial land bordering rivers. M. Parchappe\* found that the saline incrustation on the plain, at the distance of some miles from the sea, consisted chiefly of sulphate

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\* Voyage dans l'Amérique Mérid. par M. A. d'Orbigny. Part. Hist. tom. i. p. 664.

of soda, with only seven per cent. of common salt; whilst nearer to the coast, the common salt increased to 37 parts in a hundred. This circumstance would tempt one to believe that the sulphate of soda is generated in the soil, from the muriate, left on the surface during the slow and recent elevation of this dry country. The whole phenomenon is well worthy the attention of naturalists. Have the succulent, salt-loving plants, which are well known to contain much soda, the power of decomposing the muriate? Does the black fetid mud, abounding with organic matter, yield the sulphur and ultimately the sulphuric acid?

Two days afterwards I again rode to the harbour: when not far from our destination, my companion, the same man as before, spied three people hunting on horseback. He immediately dismounted, and watching them intently, said, "They don't ride like Christians, and nobody can leave the fort." The three hunters joined company, and likewise dismounted from their horses. At last one mounted again and rode over the hill out of sight. My companion said, "We must now get on our horses: load your pistol;" and he looked to his own sword. I asked, "Are they Indians?"—"Quien sabe? (who knows?) if there are no more than three, it does not signify." It then struck me, that the one man had gone over the hill to fetch the rest of his tribe. I suggested this; but all the answer I could extort was, "Quien sabe?" His head and eye never for a minute ceased scanning slowly the distant horizon. I thought his uncommon coolness too good a joke, and asked him why he did not return home. I was startled when he answered, "We are returning, but in a line so as to pass near a swamp, into which we can gallop the horses as far as they can go, and then trust to our own legs; so that there is no danger." I did not feel quite so confident of this, and wanted to increase our pace. He said, "No, not until they do." When any little inequality concealed us, we galloped; but when in sight, continued walking. At last we reached a valley, and turning to the left, galloped quickly to the foot of a hill; he gave me his horse to hold, made the dogs lie down, and then crawled on his hands and knees to reconnoitre. He remained in this position for some time, and at last, bursting out in laughter, exclaimed, "Mugeres!" (women!) He knew them to be the wife and sister-in-law of the major's son, hunting for ostrich's



eggs. I have described this man's conduct, because he acted under the full impression that they were Indians. As soon, however, as the absurd mistake was found out, he gave me a hundred reasons why they could not have been Indians; but all these were forgotten at the time. We then rode on in peace and quietness to a low point called Punta Alta, whence we could see nearly the whole of the great harbour of Bahia Blanca.

The wide expanse of water is choked up by numerous great mud-banks, which the inhabitants call Cangrejales, or *crabberies*, from the number of small crabs. The mud is so soft that it is impossible to walk over them, even for the shortest distance. Many of the banks have their surfaces covered with long rushes, the tops of which alone are visible at high water. On one occasion, when in a boat, we were so entangled by these shallows that we could hardly find our way. Nothing was visible but the flat beds of mud; the day was not very clear, and there was much refraction, or as the sailors expressed it, "things loomed high." The only object within our view which was not level was the horizon; rushes looked like bushes unsupported in the air, and water like mud-banks, and mud-banks like water.

We passed the night in Punta Alta, and I employed myself in searching for fossil bones; this point being a perfect catacomb for monsters of extinct races. The evening was perfectly calm and clear; the extreme monotony of the view gave it an interest even in the midst of mud-banks and gulls, sand-hillocks and solitary vultures. In riding back in the morning we came across a very fresh track of a Puma, but did not succeed in finding it. We saw also a couple of Zorillos, or skunks,—odious animals, which are far from uncommon. In general appearance the Zorillo resembles a polecat, but it is rather larger, and much thicker in proportion. Conscious of its power, it roams by day about the open plain, and fears neither dog nor man. If a dog is urged to the attack, its courage is instantly checked by a few drops of the fetid oil, which brings on violent sickness and running at the nose. Whatever is once polluted by it, is for ever useless. Azara says the smell can be perceived at a league distant; more than once, when entering the harbour of Monte Video, the wind being off shore, we have perceived the odour on board the Beagle. Certain it is, that every animal most willingly makes room for the Zorillo.

