

SCRIBNER'S MAGAZINE

VOL. LV

APRIL, 1914

NO. 4

A HUNTER-NATURALIST IN THE BRAZILIAN WILDERNESS*

BY THEODORE ROOSEVELT

UP THE PARAGUAY

ILLUSTRATIONS FROM PHOTOGRAPHS BY KERMIT ROOSEVELT AND OTHER MEMBERS
OF THE EXPEDITION

I—THE START

ONE day in 1908, when my presidential term was coming to a close, Father Zahm, a priest whom I knew, came in to call on me. Father Zahm and I had been cronies for some time, because we were both of us fond of Dante and of history and of science—I had always commended to theologians his book, "Evolution and Dogma." Moreover, both of us had a taste for exploration; and his career had appealed to me in many ways. He was an Ohio boy, and his early schooling had been obtained in old-time American fashion in a little log school; where, by the way, one of the other boys was Januarius Aloysius Mac Gahan, afterward the famous war-correspondent, and friend of Skobeloff. Father Zahm told me that Mac Gahan even at that time added an utter fearlessness to chivalric tenderness for the weak, and was the defender of any small boy who was oppressed by a larger one. Later Father Zahm was at Notre Dame University, in Indiana, with Maurice Egan, whom, when I was President, I appointed minister to Denmark.

* Copyright, 1914, by Charles Scribner's Sons, New York, U. S. A. All rights reserved, including that of translation into foreign languages, including the Scandinavian.

On the occasion in question Father Zahm had just returned from a trip across the Andes and down the Amazon, and came in to propose that after I left the presidency, he and I should go up the Paraguay into the interior of South America. At the time I wished to go to Africa, and so the subject was dropped; but from time to time afterward we talked it over. Five years later, in the spring of 1913, I accepted invitations conveyed through the governments of Argentina, Brazil, and Chile to address certain learned bodies in these countries. Then it occurred to me that, instead of making the conventional tourist trip purely by sea round South America, after I had finished my lectures, I would come north through the middle of the continent into the valley of the Amazon; and I decided to write Father Zahm and tell him my intentions. Before doing so, however, I desired to see the authorities of the American Museum of Natural History, in New York City, to find out whether they cared to have me take a couple of naturalists with me into Brazil and make a collecting trip for the museum.

Accordingly, I wrote to Frank Chapman, the curator of ornithology of the museum, and accepted his invitation to

SPECIAL NOTICE.—These articles are fully protected under the copyright law, which imposes a severe penalty for infringement.

Copyright, 1914, by Charles Scribner's Sons. All rights reserved.

lunch at the museum one day early in June. At the lunch, in addition to various naturalists, to my astonishment I also found Father Zahm; and as soon as I saw him I told him I was now intending to make the South American trip. It appeared that he had made up his mind that he would take it himself, and had actually come on to see Mr. Chapman to find out if the latter could recommend a naturalist to go with him; and he at once said he would accompany me. Chapman was pleased when he found out that we intended to go up the Paraguay and across into the valley of the Amazon, because much of the ground over which we were to pass had not been covered by collectors. He saw Henry Fairfield Osborn, the president of the museum, who wrote me that the museum would be glad to send under me a couple of naturalists; whom, with my approval, Chapman would choose.

The men whom Chapman recommended were Messrs. George K. Cherrie and Leo C. Miller. I gladly accepted both. The former was to attend chiefly to the ornithology and the latter to the mammalogy of the expedition; but each was to help out the other. No two better men for such a trip could have been found. Both were veterans of the tropical American forests. Miller was a young man, born in Indiana, an enthusiastic naturalist with good literary as well as scientific training. He was at the time in the Guiana forests, and joined us at Barbados. Cherrie was an older man, born in Iowa, and at the time a citizen of Vermont. He had a wife and six children. Mrs. Cherrie had accompanied him during two or three years of their early married life in his collecting trips along the Orinoco. Their second child was born when they were in camp a couple of hundred miles from any white man or woman. One night a few weeks later they were obliged to leave a camping-place where they had intended to spend the night, because the baby was fretful, and its cries attracted a jaguar, which growled nearer and nearer in the twilight until they thought it safest once more to put out into the open river and seek a new resting-place. Cherrie had spent about twenty-two years collecting in the American tropics. Like most of the field-naturalists I have met, he is an

unusually efficient and fearless man; and willy-nilly he had been forced at times to vary his career by taking part in insurrections. Twice he had been behind the bars in consequence, on one occasion spending three months in a prison of a certain South American state, expecting each day to be taken out and shot. In another state he had, as an interlude to his ornithological pursuits, followed the career of a gun-runner, acting as such off and on for two and a half years. The particular revolutionary chief whose fortunes he was following finally came into power, and Cherrie immortalized his name by naming a new species of ant-thrush after him—a touch that struck me as delightful because of its practical combination of those not normally kindred pursuits, ornithology and gun-running.

Cherrie was just the right man to give us practical advice about the particular kind of trip we intended to take.

In Anthony Fiala, a former arctic explorer, we found an equally good man for assembling equipment and taking charge of the actual handling of the expedition. At the time Fiala was with Rogers, Peet & Co. In addition to his four years in the arctic regions, Fiala had served in the New York Squadron in Porto Rico during the Spanish War, and through his service in the squadron had been brought into contact with his little Tennessee wife. She came down with her four children to say good-by to him when the steamer left. My secretary, Mr. Frank Harper, went with us, and Jacob Sigg, who had served three years in the United States Army, and was both a hospital nurse and a cook, as well as having a natural taste for adventure. In southern Brazil my son Kermit joined me. He had been bridge-building, and a couple of months previously, while on top of a long steel span, something went wrong with the derrick, he and the steel span coming down together on the rocky bed beneath. He escaped with two broken ribs, two teeth knocked out, and a knee partially dislocated, but was practically all right again when he started with us.

In its composition ours was a typical American expedition. Cherrie and Kermit and I were of the old Revolutionary stock, Cherrie being of Scotch-Irish and



Colonel Roosevelt's route up the Paraguay into the Brazilian wilderness.

Huguenot descent, and we not only of Dutch but of about every other strain of blood that there was on this side of the water during colonial times. Father Zahm's father was an Alsatian immigrant, and his mother was partly of Irish and partly of old American stock, a descendant of a niece of General Braddock. Miller's father came from Germany, and his mother from France. Fiala's father and mother were both from Bohemia, being Czechs, and his father had served four years in the Civil War in the Union Army—his Tennessee wife was of old Revolutionary stock. Harper was born in England, and Sigg in Switzerland. We were as varied in religious creed as in ethnic origin. Father Zahm and Miller were Catholics, Kermit and Harper Episcopalians, Cherrie a Presbyterian, Fiala a Baptist, Sigg a Lutheran, while I belonged to the Dutch Reformed Church.

For arms the naturalists took 16-bore shotguns, one of Cherrie's having a rifle barrel underneath. The firearms for the rest of the party were supplied by Kermit and myself, including my Springfield rifle, Kermit's two Winchesters, a 405 and 30-40, the Fox 12-gauge shotgun, and another 16-gauge gun, and a couple of revolvers, a Colt and a Smith & Wesson. We took from New York a couple of canvas canoes, tents, mosquito-bars, plenty of cheese-cloth, including nets for the hats, and both light cots and hammocks. Each equipped himself with the clothing he fancied. Mine consisted of khaki, such as I wore in Africa, with a couple of United States Army flannel shirts and a couple of silk shirts, one pair of hob-nailed shoes with leggings, and one pair of laced leather boots coming nearly to the knee. Both the naturalists told me that it was well to have either the boots or leggings as a protection against snake-bites, and I also had gauntlets because of the mosquitoes and sand-flies. We intended where possible to live on what we could get from time to time in the country, but we took some United States Army emergency rations, and also ninety cans, each containing a day's provisions for six men, made up by Fiala.

The trip I proposed to take can be understood only if there is a slight knowledge of South American topography. The

great mountain chain of the Andes extends down the entire length of the western coast, so close to the Pacific Ocean that no rivers of any importance enter it. All the rivers of South America drain into the Atlantic. Southernmost South America, including over half of the territory of the Argentine Republic, consists chiefly of a cool, open plains country. Northward of this country, and eastward of the Andes, lies the great bulk of the South American continent, which is included in the tropical and the subtropical regions. Most of this territory is Brazilian. Aside from certain relatively small stretches drained by coast rivers, this immense region of tropical and subtropical America east of the Andes is drained by the three great river systems of the Plate, the Amazon, and the Orinoco. At their head waters, the Amazon and the Orinoco systems are actually connected by a sluggish natural canal. The head waters of the northern affluents of the Paraguay and the southern affluents of the Amazon are sundered by a stretch of high land, which toward the east broadens out into the central plateau of Brazil. Geologically this is a very ancient region, having appeared above the waters before the dawning of the age of reptiles, or, indeed, of any true land vertebrates on the globe. This plateau is a region partly of healthy, rather dry and sandy, open prairie, partly of forest. The great and low-lying basin of the Paraguay, which borders it on the south, is one of the largest, and the still greater basin of the Amazon, which borders it on the north, is the very largest, of all the river basins of the earth.

In these basins, but especially in the basin of the Amazon, and thence in most places northward to the Caribbean Sea, lie the most extensive stretches of tropical forest to be found anywhere. The forests of tropical West Africa, and of portions of the Farther-Indian region, are the only ones that can be compared with them. Much difficulty has been experienced in exploring these forests, because under the torrential rains and steaming heat the rank growth of vegetation becomes almost impenetrable, and the streams difficult of navigation; while white men suffer much from the terrible insect scourges and the deadly diseases which modern science has

discovered to be due very largely to insect bites. The fauna and flora, however, are of great interest. The American museum was particularly anxious to obtain collections from the divide between the head waters of the Paraguay and the Amazon, and from the southern affluents of the Amazon. Our purpose was to ascend the Paraguay as nearly as possible to the head

us over to the head waters of the affluent of the Amazon down which we were to go, where he would get paddlers and canoes for us and probably himself go with us. He was at the time in Manaos, but his lieutenants were in Caceres and had been notified that we were coming. I had to travel through Brazil, Uruguay, the Argentine, and Chile for six weeks to



From a photograph taken aboard the steamship "Vanduyck."

Members of Mr. Roosevelt's expedition.

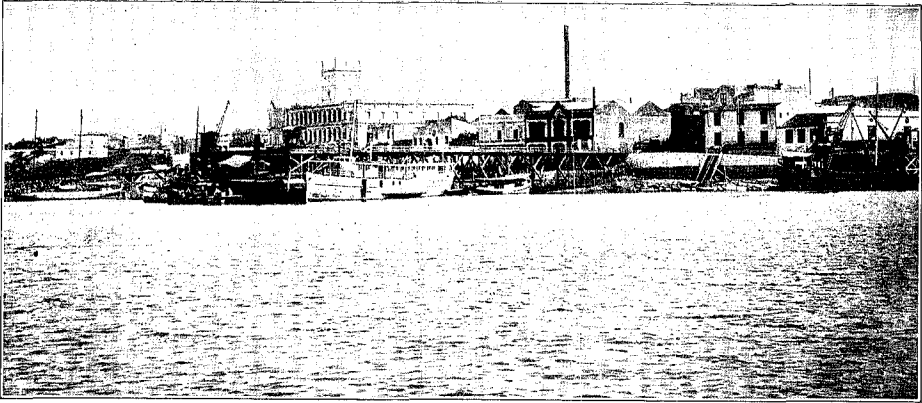
From left to right, Anthony Fiala, George K. Cherrie, Father Zahm, Theodore Roosevelt, Kermit Roosevelt, Frank Harper, Leo C. Miller.

of navigation, thence cross to the sources of one of the affluents of the Amazon, and if possible descend it in canoes built on the spot. The Paraguay is regularly navigated as high as boats can go. The starting-point for our trip was to be Asuncion, in the state of Paraguay.

My exact plan of operations was necessarily a little indefinite, but on reaching Rio de Janeiro the minister of foreign affairs, Mr. Lauro Muller, who had been kind enough to take great personal interest in my trip, informed me that he had arranged that on the head waters of the Paraguay, at the town of Caceres, I would be met by a Brazilian Army colonel, himself chiefly Indian by blood, Colonel Rondon. Colonel Rondon was to accompany

fulfil my speaking engagements. Fiala, Cherrie, Miller, and Sigg left me at Rio, continuing to Buenos Aires in the boat in which we had all come down from New York. From Buenos Aires they went up the Paraguay to Caceres, where they were to await me. The two naturalists went first, to do all the collecting that was possible; Fiala and Sigg travelled more leisurely, with the heavy baggage.

During the two months before starting from Asuncion, in Paraguay, for our journey into the interior, I was kept so busy that I had scant time to think of natural history. But in a strange land a man who cares for wild birds and wild beasts always sees and hears something



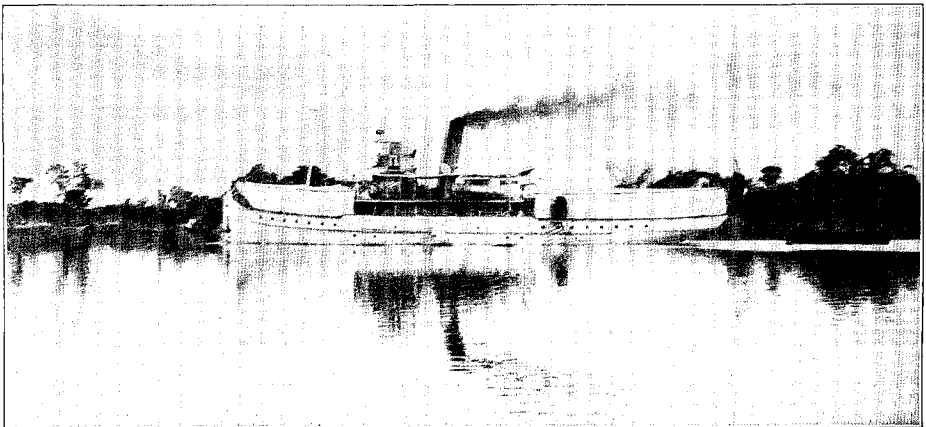
From a photograph by Harper.

Asuncion, Paraguay.

that is new to him and interests him. In the dense tropical woods near Rio Janeiro I heard in late October—springtime, near the southern tropic—the songs of many birds that I could not identify. But the most beautiful music was from a shy woodland thrush, sombre-colored, which lived near the ground in the thick timber, but sang high among the branches. At a great distance we could hear the ringing, musical, bell-like note, long-drawn and of piercing sweetness, which occurs at intervals in the song; at first I thought this was the song, but when it was possible to approach the singer I found that these far-sounding notes were scattered through a continuous song of great melody. I never listened to one that impressed me

more. In different places in Argentina I heard and saw the Argentine mocking-bird, which is not very unlike our own, and is also a delightful and remarkable singer. But I never heard the wonderful white-banded mocking-bird, which is said by Hudson, who knew well the birds of both South America and Europe, to be the song-king of them all.

Most of the birds I thus noticed while hurriedly passing through the country were, of course, the conspicuous ones. The spurred lapwings, big, tame, boldly marked plover, were everywhere; they were very noisy and active and both inquisitive and daring, and they have a very curious dance custom. No man need look for them. They will look for him, and



From a photograph by Kermit Roosevelt.

The *Adolfo Riquelme*, the government gunboat-yacht of the President of Paraguay, on which Mr. Roosevelt ascended the river.

when they find him they will fairly yell the discovery to the universe. In the marshes of the lower Parana I saw flocks of scarlet-headed blackbirds on the tops of the reeds; the females are as strikingly colored as the males, and their jet-black bodies and brilliant red heads make it impossible for them to escape observation among their natural surroundings. On the plains to the west I saw flocks of the beautiful rose-breasted starlings; unlike the red-headed blackbirds, which seemed fairly to court attention, these starlings sought to escape observation by crouching on the ground so that their red breasts were hidden. There were yellow-shouldered blackbirds in wet places, and cow-buntings abounded. But the most conspicuous birds I saw were members of the family of Tyrant Flycatchers, of which our own kingbird is the most familiar example. This family is very numerous represented in Argentina, both in species and individuals. Some of the species are so striking, both in color and habits, and in one case also in shape, as to attract the attention of even the unobservant. The least conspicuous, and nevertheless very conspicuous, among those that I saw was the Bientevido, which is brown above, yellow beneath, with a boldly marked black and white head, and a yellow crest. It is very noisy, is common in the neighborhood of houses, and builds a big domed nest. It is really a big, heavy kingbird, fiercer and more powerful than any Northern kingbird. I saw them assail not only the big but the small hawks with fearlessness, driving them in head-long flight. They not only capture insects, but pounce on mice, small frogs, lizards, and little snakes, rob birds' nests of the fledgling young, and catch tadpoles and even small fish. Two of these tyrants which I observed are like two with which I grew fairly familiar in Texas. The scissor-

tail is common throughout the open country, and the long tail feathers, which seem at times to hamper its flight, attract attention whether the bird is in flight or perched on a tree, and it has a habit of occasionally soaring into the air and descending in loops and spirals. The scarlet tyrant I saw in the orchards and gardens. The male is a fascinating little bird, coal-black above, while its crested head and the body beneath are brilliant scarlet. He



From a photograph by Harper.

Wood-ibis on a tree on the river-bank.

utters his rapid, low-voiced musical trill in the air, rising with fluttering wings to a height of a hundred feet, hovering while he sings, and then falling back to earth. The color of the bird and the character of his performance attract the attention of every observer, bird, beast, or man, within reach of vision. The red-backed tyrant is utterly unlike any of his kind in the United States, and until I looked him up in Sclater and Hudson's ornithology I never dreamed that he belonged to this family. He—for only the male is so brightly colored—is coal-black with a dull-red back. I saw these birds on December 1 near Barillode, out on the bare Patagonia plains. They behaved like pipits or longspurs, running actively over the ground in the same manner and showing the same restlessness and the same kind of flight. But whereas pipits are inconspicuous, the red-backs at once attracted

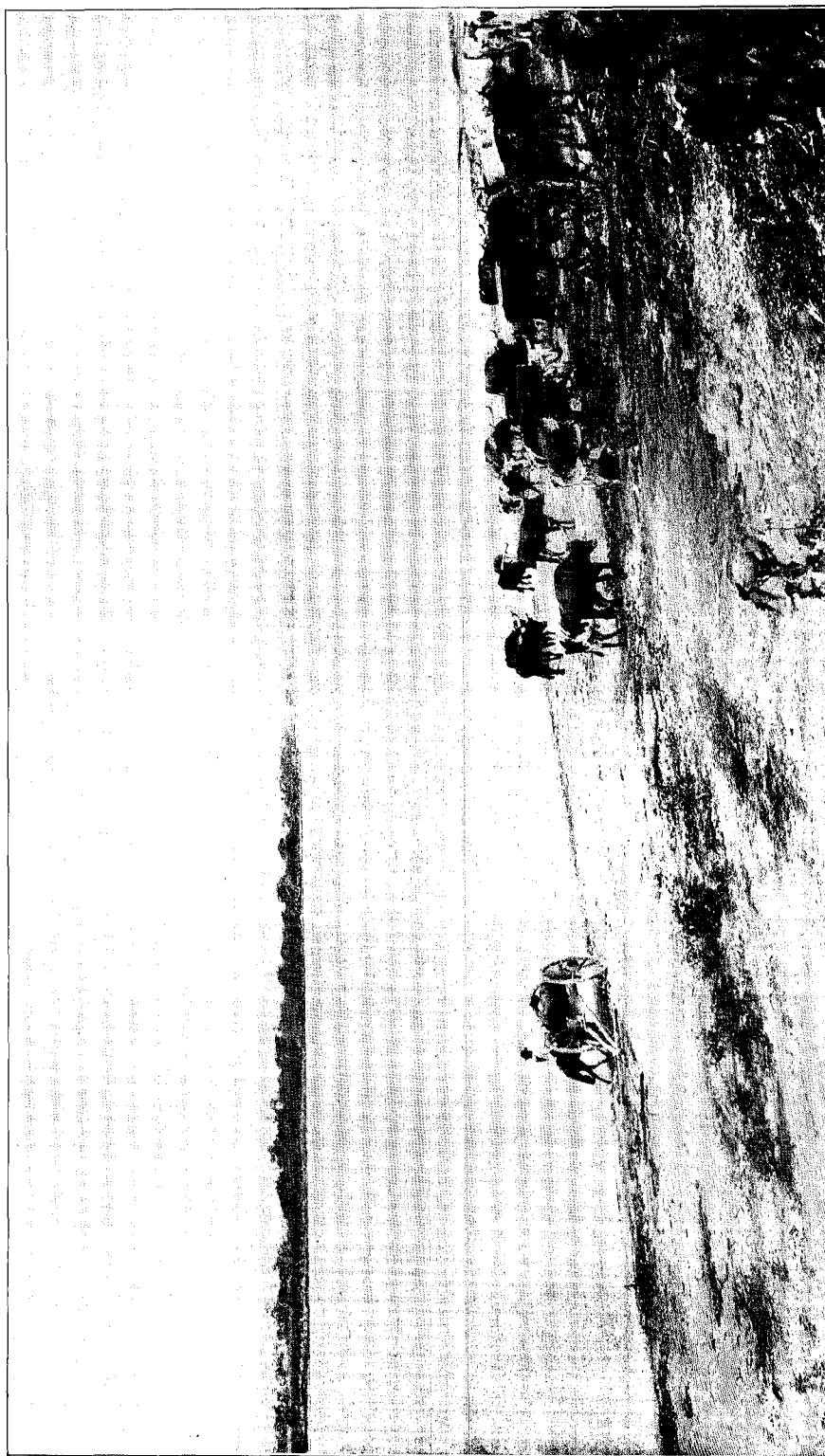
attention by the contrast between their bold coloring and the grayish or yellowish tones of the ground along which they ran. The silver-bill tyrant, however, is much more conspicuous; I saw it in the same neighborhood as the red-back and also in many other places. The male is jet-black, with white bill and wings. He runs about on the ground like a pipit, but also frequently perches on some bush to go through a strange flight-song performance. He perches motionless, bolt upright, and even then his black coloring advertises him for a quarter of a mile round about. But every few minutes he springs up into the air to the height of twenty or thirty feet, the white wings flashing in contrast to the black body, screams and gyrates, and then instantly returns to his former post and resumes his erect pose of waiting. It is hard to imagine a more conspicuous bird than the silver-bill; but the next and last tyrant flycatcher of which I shall speak possesses on the whole the most advertising coloration of any bird I have ever seen in the open country, and moreover this advertising coloration exists in both sexes and throughout the year. It is a brilliant white, all over, except the long wing quills and the ends of the tail, which are black. The first one I saw, at a very long distance, I thought must be an albino. It perches on the top of a bush or tree watching for its prey, and it shines in the sun like a silver mirror. Every hawk, cat, or man must see it; no one can help seeing it.

These common Argentine birds, most of them of the open country, and all of them with a strikingly advertising coloration, are interesting because of their beauty and their habits. They are also interesting because they offer such illuminating examples of the truth that many of the most common and successful birds not merely lack a concealing coloration, but possess a coloration which is in the highest degree revealing. The coloration and the habits of most of these birds are such that every hawk or other foe that can see at all must have its attention attracted to them. Evidently in their cases neither the coloration nor any habit of concealment based on the coloration is a survival factor, and this although they

live in a land teeming with bird-eating hawks. Among the higher vertebrates there are many known factors which have influence, some in one set of cases, some in another set of cases, in the development and preservation of species. Courage, intelligence, adaptability, prowess, bodily vigor, speed, alertness, ability to hide, ability to build structures which will protect the young while they are helpless, fecundity—all, and many more like them, have their several places; and behind all these visible causes there are at work other and often more potent causes of which as yet science can say nothing. Some species owe much to a given attribute which may be wholly lacking in influence on other species; and every one of the attributes above enumerated is a survival factor in some species, while in others it has no survival value whatever, and in yet others, although of benefit, it is not of sufficient benefit to offset the benefit conferred on foes or rivals by totally different attributes. Intelligence, for instance, is of course a survival factor; but to-day there exist multitudes of animals with very little intelligence which have persisted through immense periods of geologic time either unchanged or else without any change in the direction of increased intelligence; and during their species-life they have witnessed the death of countless other species of far greater intelligence but in other ways less adapted to succeed in the environmental complex. The same statement can be made of all the many, many other known factors in development, from fecundity to concealing coloration; and behind them lie forces as to which we veil our ignorance by the use of high-sounding nomenclature—as when we use such a convenient but far from satisfactory term as orthogenesis.

II—UP THE PARAGUAY

On the afternoon of December 9 we left the attractive and picturesque city of Asuncion to ascend the Paraguay. With generous courtesy the Paraguayan Government had put at my disposal the gunboat-yacht of the President himself, a most comfortable river steamer, and so the opening days of our trip were pleasant in every way. The food was good, our



From a photograph by Kermit Roosevelt.

Cattle on the upper Paraguay River.



From a photograph by Kermit Roosevelt.

Indians rolling logs at wood station.

quarters were clean, we slept well, below or on deck, usually without our mosquito nettings, and in daytime the deck was pleasant under the awnings. It was hot, of course, but we were dressed suitably in our exploring and hunting clothes and did not mind the heat. The river was low, for there had been dry weather for some weeks—judging from the vague and contradictory information I received there is much elasticity to the terms wet season and dry season at this part of the

Paraguay. Under the brilliant sky we steamed steadily up the mighty river; the sunset was glorious as we leaned on the port railing; and after nightfall the moon, nearly full and hanging high in the heavens, turned the water to shimmering radiance. On the mud-flats and sand-bars, and among the green rushes of the bays and inlets, were stately waterfowl; crimson flamingoes and rosy spoonbills, dark-colored ibis and white storks with black wings. Darters, with snakelike



From a photograph by Kermit Roosevelt.

Palms along the bank of the river.

necks and pointed bills, perched in the trees on the brink of the river. Snowy egrets flapped across the marshes. Caymans were common, and differed from the crocodiles we had seen in Africa in two points: they were not alarmed by the report of a rifle when fired at, and they lay with the head raised instead of stretched along the sand.

For three days, as we steamed northward toward the Tropic of Capricorn, and then passed it, we were within the Republic of Paraguay. On our right, to the east, there was a fairly well-settled country, where bananas and oranges were cultivated and other crops of hot countries raised. On the banks we passed an occasional small town, or saw a ranch-house close to the river's brink, or stopped for wood at some little settlement. Across the river to the west lay the level swampy, fertile wastes known as the Chaco, still given over either to the wild Indians or to cattle-ranching on a gigantic scale. The broad river ran in curves between mud-banks where terraces marked successive periods of flood. A belt of forest stood on each bank, but it was only a couple of hundred yards wide. Back of it was the open country; on the Chaco side this was a vast plain of grass dotted with tall, graceful palms. In places the belt of forest vanished and the palm-dotted prairie came to the river's edge. The Chaco is an ideal cattle country, and not really unhealthy. It will be covered with ranches at a not distant day. But mosquitoes and many other winged insect pests swarm over it. Cherrie and Miller had spent a week there collecting mammals and birds prior to my arrival at Asuncion. They were veterans of the tropics, hardened to the insect plagues of Guiana and the Orinoco. But they reported that never had

they been so tortured as in the Chaco. The sand-flies crawled through the meshes in the mosquito-nets, and forbade them to sleep; if in their sleep a knee touched the net the mosquitoes fell on it so that it looked as if riddled by birdshot; and the



From a photograph by Harper.

Woman washing clothes in the river.

days were a torment, although they had done well in their work, collecting some two hundred and fifty specimens of birds and mammals.

Nevertheless for some as yet inscrutable reason the river served as a barrier to certain insects which are menaces to the cattle men. With me on the gunboat was an old Western friend, Tex Rickard, of the Panhandle and Alaska and various places in between. He now has a large tract of land and some thirty-five thousand head



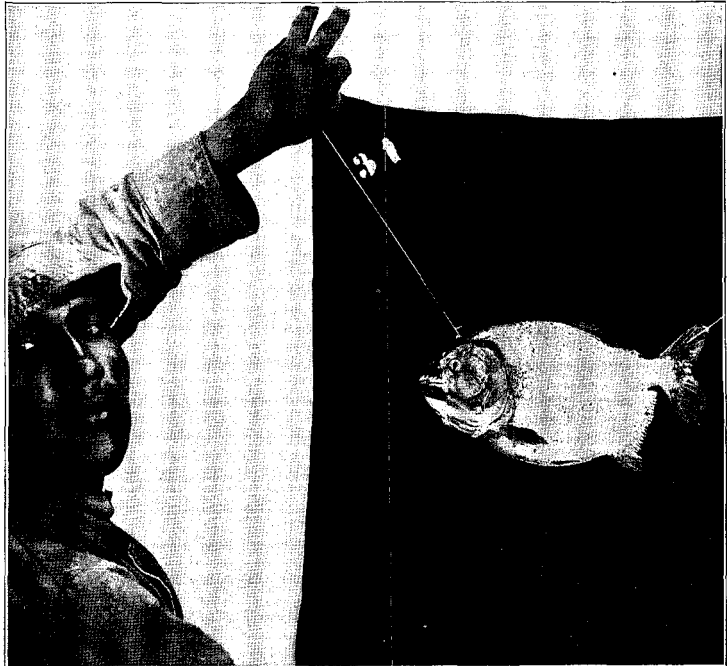
From a photograph by Kermit Roosevelt.

Paraguayan gaucho (cowboy).

pecially true in the tropics. Fortunately, exactly as certain differences too minute for us as yet to explain render some insects deadly to man or domestic animals, while closely allied forms are harmless, so, for other reasons, which also we are not as yet able to fathom, these insects are for the most part strictly limited by geographical and other considerations. The war against what Sir Harry Johnston calls the really material devil, the devil of evil wild nature in the tropics, has been waged with marked success only during the last two decades. The men, in the United States, in England, France, Germany, Italy—the men like Doctor Cruz in Rio Janeiro and Doctor Vital Brazil in São Paulo—who work experimentally within and without the laboratory in

of cattle in the Chaco, opposite Concepcion, at which city he was to stop. He told me that horses did not do well in the Chaco but that cattle thrive, and that while ticks swarmed on the east bank of the great river, they would not live on the west bank. Again and again he had crossed herds of cattle which were covered with the loathsome blood-suckers; and in a couple of months every tick would be dead. The worst animal foes of man, indeed the only dangerous foes, are insects; and this is es-

their warfare against the disease and death bearing insects and microbes, are the true



From a photograph by Harper.

Man-eating fish, piranha.
Note the razor-edged teeth.

leaders in the fight to make the tropics the home of civilized man.

Late on the evening of the second day of our trip, just before midnight, we reached Concepcion. On this day, when we stopped for wood or to get provisions—at picturesque places, where the women from rough mud and thatched cabins were washing clothes in the river, or where rag-

devour alive any wounded man or beast; for blood in the water excites them to madness. They will tear wounded wild fowl to pieces; and bite off the tails of big fish as they grow exhausted when fighting after being hooked. Miller, before I reached Asuncion, had been badly bitten by one. Those that we caught sometimes bit through the hooks, or the double strands



From a photograph by Harper.

A street in Concepcion.

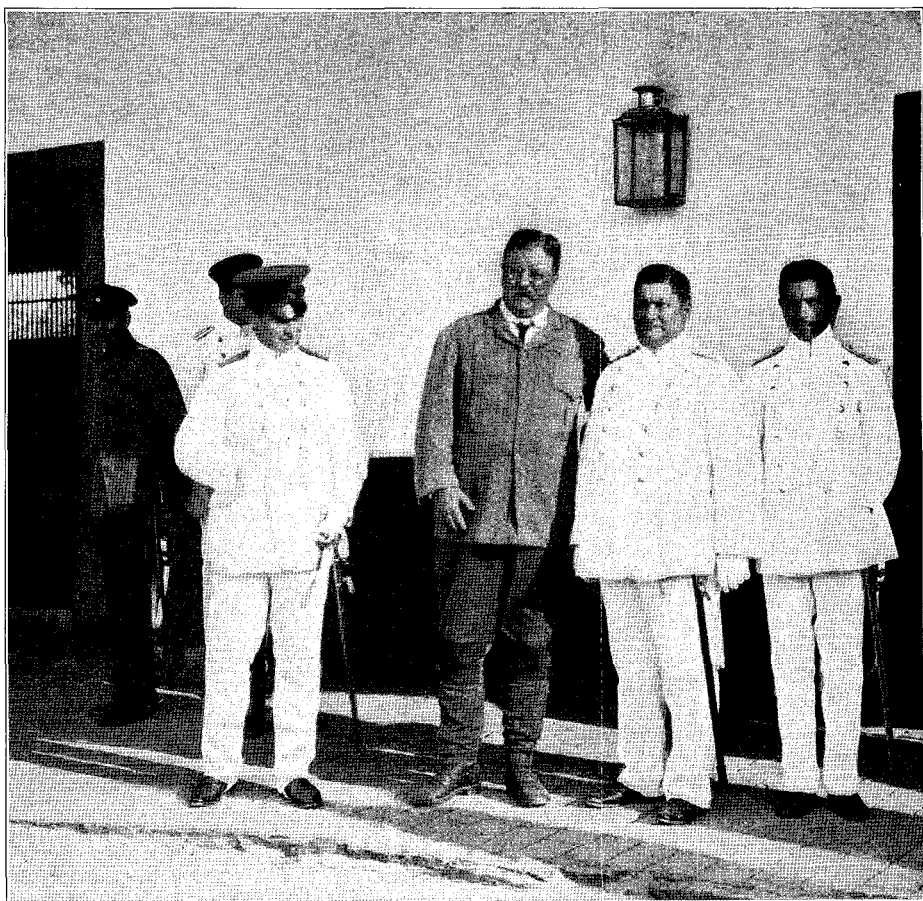
ged horsemen stood gazing at us from the bank, or where dark, well-dressed ranchmen stood in front of red-roofed houses—we caught many fish. They belonged to one of the most formidable genera of fish in the world, the piranha or cannibal fish, the fish that eats men when it can get the chance. Farther north there are species of small piranha that go in schools. At this point on the Paraguay the piranha do not seem to go in regular schools, but they swarm in all the waters and attain a length of eighteen inches or over. They are the most ferocious fish in the world. Even the most formidable fish, the sharks or the barracudas, usually attack things smaller than themselves. But the piranhas habitually attack things much larger than themselves. They will snap a finger off a hand incautiously trailed in the water; they mutilate swimmers—in every river town in Paraguay there are men who have been thus mutilated; they will rend and

of copper wire that served as leaders, and got away. Those that we hauled on deck lived for many minutes. Most predatory fish are long and slim, like the alligator and pickerel. But the piranha is a short, deep-bodied fish, with a blunt face and a heavily undershot or projecting lower jaw which gapes widely. The razor-edged teeth are wedge-shaped like a shark's, and the jaw muscles possess great power. The rabid, furious snaps drive the teeth through flesh and bone. The head with its short muzzle, staring malignant eyes, and gaping, cruelly armed jaws, is the embodiment of evil ferocity; and the actions of the fish exactly match its looks. I never witnessed an exhibition of such impotent, savage fury as was shown by the piranhas as they flapped on deck. When fresh from the water and thrown on the boards they uttered an extraordinary squealing sound. As they flapped about they bit with vicious eagerness at what-

ever presented itself. One of them flapped into a cloth and seized it with a bulldog grip. Another grasped one of its fellows; another snapped at a piece of wood, and left the teeth-marks deep therein. They are the pests of the waters, and it is necessary to be exceedingly cautious about either swimming or wading where they are found. If cattle are driven into, or of their own accord enter, the water, they are commonly not molested; but if by chance some unusually big or ferocious specimen of these fearsome fishes does bite an animal—taking off an ear, or perhaps a teat from the udder of a cow—the blood brings up every member of the ravenous throng which is anywhere near, and unless the attacked animal can immediately make its escape from the water it is devoured alive. Here on the Paraguay the natives hold

them in much respect, whereas the caymans are not feared at all. The only redeeming feature about them is that they are themselves fairly good to eat, although with too many bones.

At daybreak of the third day, finding we were still moored off Concepcion, we were rowed ashore and strolled off through the streets of the quaint, picturesque old town; a town which, like Asuncion, was founded by the Conquistadores three-quarters of a century before our own English and Dutch forefathers landed in what is now the United States. The Jesuits then took practically complete possession of what is now Paraguay, controlling and Christianizing the Indians, and raising their flourishing missions to a pitch of prosperity they never elsewhere achieved. They were expelled by the civil authori-



From a photograph by Kermit Roosevelt.

Colonel Roosevelt and officials at Concepcion.

ties (backed by the other representatives of ecclesiastical authority) some fifty years before Spanish South America became independent. But they had already made the language of the Indians, Guaraný, a culture-tongue, reducing it to writing, and printing religious books in it. Guaraný is one of the most wide-spread of the

ture; while the upper classes are predominantly white, with a strong infusion of Indian. There is no other case quite parallel to this in the annals of European colonization, although the Goanese in India have a native tongue and a Portuguese creed, while in several of the Spanish-American states the Indian blood is dom-



From a photograph by Kermil Roosevelt.

Paraguayan horseman at Concepcion with spurs attached to his bare feet.

Indian tongues, being originally found in various closely allied forms not only in Paraguay but in Uruguay and over the major part of Brazil. It remains here and there, as a *lingua geral* at least, and doubtless in cases as an original tongue, among the wild tribes; in most of Brazil, as around Para and around São Paulo, it has left its traces in place-names, but has been completely superseded as a language by Portuguese; but in Paraguay it still exists side by side with Spanish as the common language of the lower people and as a familiar tongue among the upper classes. The blood of the people is mixed, their language dual; the lower classes are chiefly of Indian blood but with a white admix-

inant and the majority of the population speak an Indian tongue, perhaps itself, as with the Quichuas, once a culture-tongue of the archaic type. Whether in Paraguay one tongue will ultimately drive out the other, and if so which will be the victor, it is yet too early to prophesy. The English missionaries and the Bible Society have recently published parts of the Scriptures in Guaraný; and in Asuncion a daily paper is published with the text in parallel columns, Spanish and Guaraný—just as in Oklahoma there is a similar paper published in English and in the tongue which the extraordinary Cherokee chief Sequoia, a veritable Cadmus, made a literary language.



From a photograph by Kermit Roosevelt.

Indian girl at cooking-pot.

The Guaraní-speaking Paraguayan is a Christian, and as much an inheritor of our common culture as most of the peasant populations of Europe. He has no kinship with the wild Indian, who hates and fears him. The Indian of the Chaco, a pure savage, a bow-bearing savage, will never come east of the Paraguay, and the Paraguayan is only beginning to venture into the western interior, away from the banks of the river—under the lead of pioneer settlers like Rickard, whom, by the way, the wild Indians thoroughly trust, and for whom they work eagerly and faithfully. There is a great development ahead for Paraguay, as soon as they can definitely shake off the revolutionary habit and establish an orderly permanence of government. The people are a fine people; the strains of blood—white and Indian—are good.

We walked up the streets of Concepcion, and interestedly looked at everything of interest: at the one-story houses, their windows covered with gratings of fretted iron-work, and their occasional

open doors giving us glimpses into cool inner courtyards, with trees and flowers; at the two-wheel carts, drawn by mules or oxen; at an occasional rider, with spurs on his bare feet, and his big toes thrust into the small stirrup-rings; at the little stores, and the warehouses for matté and hides. Then we came to a pleasant little inn, kept by a Frenchman and his wife, of old Spanish style, with its *patio* or inner court, but as neat as an inn in Normandy or Brittany. We were sitting at coffee, around a little table, when in came the colonel of the garrison—for Concepcion is the second city in Paraguay. He told me that they had prepared a reception for me! I was in my rough hunting-clothes, but there was nothing to do but to accompany my kind hosts and trust to their good nature to pardon my shortcomings in the matter of dress. He drove me about in a smart open carriage, with two good horses and a liveried driver. It was a much more fashionable turnout than would be seen in any of our cities



From a photograph by Kermit Roosevelt.

Tupi girl with young ostrich.

save the largest, and even in them probably not in the service of a public official. In all the South American countries there is more pomp and ceremony in connection with public functions than with us, and at these functions the liveried servants, often with knee-breeches and powdered hair, are like those seen at similar European functions; there is not the democratic simplicity which better suits our own habits of life and ways of thought. But the South Americans often surpass us, not merely in pomp and ceremony but in what is of real importance, courtesy; in civility and courtesy we can well afford to take lessons from them.

We first visited the barracks, saw the troops in the setting-up exercises, and inspected the arms, the artillery, the equipment. There was a German lieutenant with the Paraguayan officers; one of several German officers who are now engaged in helping the Paraguayans with their army. The equipments and arms were in good condition; the enlisted men evidently offered fine material; and the officers were doing hard work. It is worth while for anti-militarists to ponder the fact that in every South American country where a really efficient army is developed, the increase in military efficiency goes hand in hand with a decrease in lawlessness and disorder, and a growing reluctance to settle internal disagreements by violence. They are introducing universal military service in Paraguay; the officers, many of whom studied abroad, are growing to feel an increased

esprit de corps, an increased pride in the army, and therefore a desire to see the army made the servant of the nation as a whole and therefore not the tool of any faction or individual. If these feelings grow strong enough they will be powerful factors in giving Paraguay what she most needs, freedom from revolutionary disturbance and therefore the chance to achieve the material prosperity without which as a basis there can be no advance in other and even more important matters.

Then I was driven to the City Hall, accompanied by the intendente, or mayor, a German long settled in the country and one of the leading men of the city. There was a breakfast. When I had to speak I impressed into my service as interpreter a young Paraguayan who was a graduate of the University of Pennsylvania. He was able to render into Spanish my ideas—on such subjects as orderly liberty and the far-reach-

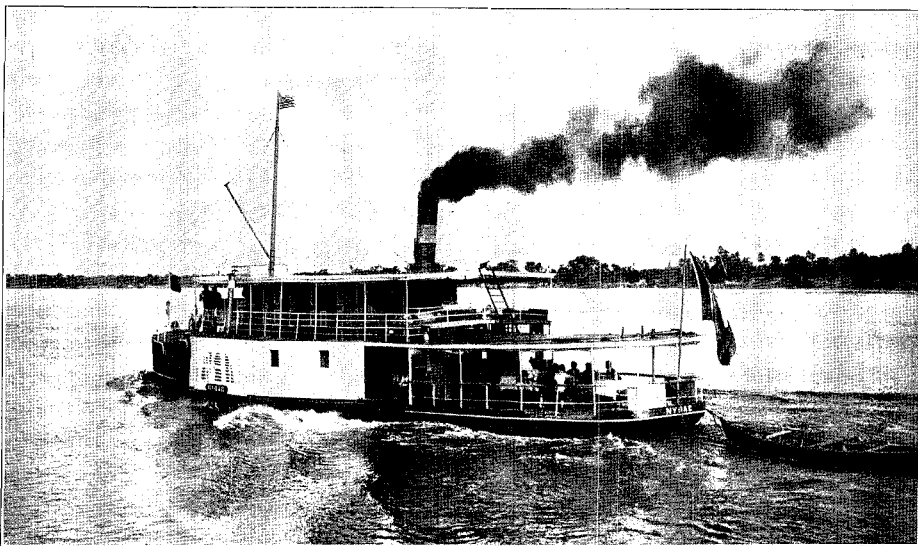
ing mischief done by the revolutionary habit—with clearness and vigor, because he thoroughly understood not only how I felt but also the American way of looking at such things. My hosts were hospitality itself, and I enjoyed the unexpected greeting.

We steamed on up the river. Now and then we passed another boat—a steamer, or, to my surprise, perhaps a barkentine or schooner. The Paraguay is a highway of traffic. Once we passed a big beef-canning factory. Ranches stood on either bank a few leagues apart, and we stopped at wood-yards on the west bank.



From a photograph by Kermit Roosevelt.

Indian boy with coati (coon-like animal) and paraquet.



From a photograph by Harper.

Colonel Roosevelt with Colonel Rondon on his boat the *Nyoac*.

Indians worked around them. At one such yard the Indians were evidently part of the regular force. Their squaws were with them, cooking at queer open-air ovens. One small child had as pets a parrot and a young coati—a kind of long-nosed raccoon. Loading wood, the Indians stood in a line, tossing the logs from one to the other. These Indians wore some clothes. This day we got into the tropics.

Even in the heat of the day the deck was pleasant under the awnings; the sun rose and set in crimson splendor; and the nights, with the moon at the full, were wonderful. In a day or two we were far enough north, toward the equator, to see the Dipper ahead of us on the very edge of the horizon; Orion blazed overhead; and the Southern Cross hung in the star-brilliant heavens behind us. But after



From a photograph by Kermit Roosevelt.

Meeting Brazilian officers and members of the expedition at the boundary.

the moon rose the constellations paled; and clear in her light the tree-clad banks stood on either hand as we steamed steadily against the swirling current of the great river.

At noon on the twelfth we came to the Brazilian boundary. On this day we here and there came on low, conical hills close to the river. In places the palm groves

or workers, who lived in a long line of wooden cabins back of the main building, were mostly Paraguayans, with a few Brazilians, and a dozen German and Argentine foremen. There were also some wild Indians, who were camped in the usual squalid fashion of Indians who are hangers-on round the white man but have not yet adopted his ways. Most of



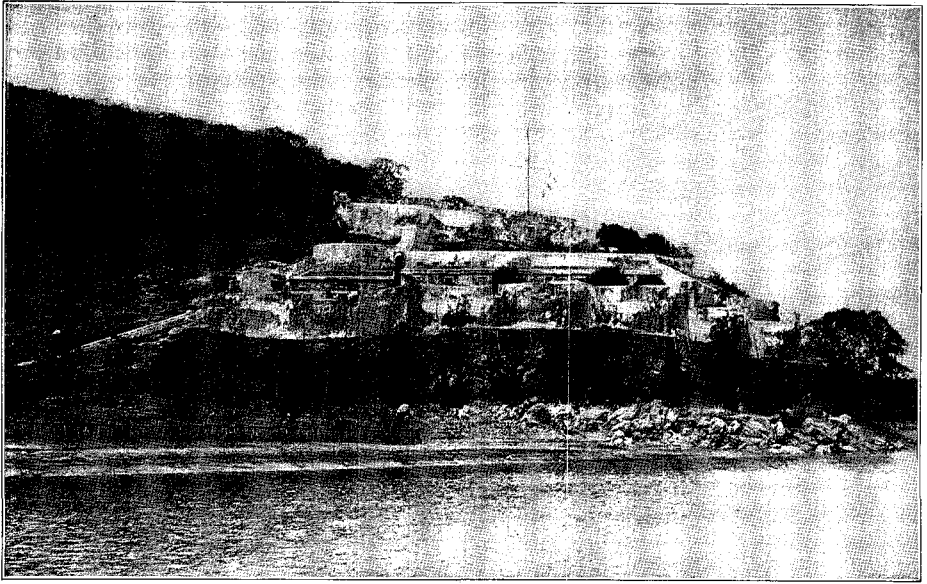
From a photograph by Harper.

Father Zahm and a group of Indian children.

broke through the belts of deciduous trees and stretched for a mile or so right along the river's bank. At times we passed some cattle-herder or a handsome ranch-house, under a cluster of shady trees, some bearing a wealth of red, and some a wealth of yellow blossoms; or we saw a horse-corral among the trees close to the brink, with the horses in it and a bare-footed man in shirt and trousers leaning against the fence; or a herd of cattle among the palms; or a big tannery or factory or a little native hamlet came in sight. We stopped at one tannery. The owner was a Spaniard, the manager an "Oriental," as he called himself, or Uruguayan of German parentage. The peons

the men were at work cutting wood for the tannery. The women and children were in camp. Some individuals of both sexes were naked to the waist. One little girl had a young ostrich as a pet.

Water-fowl were plentiful. We saw large flocks of wild muscovy ducks. Our tame birds come from this wild species and its absurd misnaming dates back to the period when the turkey and guinea-pig were misnamed in similar fashion—our European forefathers taking a large and hazy view of geography, and including Turkey, Guinea, India, and Muscovy as places, which, in their capacity of being outlandish, could be comprehensively used as including America. The mus-



From a photograph by Kermit Roosevelt.

Fort Coimbra (Colonial Portuguese).

covy ducks were very good eating. Darters swarmed. They waddled on the sand-bars in big flocks and crowded the trees by the water's edge. Beautiful snow-white egrets also lit in the trees, often well back from the river. A full-foliaged tree of vivid green, its round surface crowded with these birds, as if it had suddenly blossomed with huge white flowers, is a

sight worth seeing. Here and there on the sand-bars we saw huge jabiru storks, and once a flock of white wood-ibis among the trees on the bank.

On the Brazilian boundary we met a shallow river steamer carrying Colonel Candido Mariano da Silva Rondon and several other Brazilian members of the expedition. Corumbá was the appointed



From a photograph by Kermit Roosevelt.

The street of Fort Coimbra.

meeting-place for all of us. The Brazilian members came in consequence of a suggestion made to me by the minister of foreign affairs of Brazil, Mr. Lauro Muller, when I reached Rio Janeiro. Mr. Muller is a very efficient public servant, and he is also a man of wide cultivation

that he was all, and more than all, that could be desired. It was evident that he knew his business thoroughly, and it was equally evident that he was a most delightful companion. He was a classmate of Mr. Lauro Muller at the Brazilian Military Academy. He is of almost pure



From a photograph by Kermit Roosevelt.

Graveyard with mausoleum at Fort Coimbra.

and reading; he reminded me much of John Hay. He has taken a keen interest in the exploration and development of the interior of Brazil, and he believed it wise to use my trip as a means toward spreading abroad a more general knowledge of the country. Accordingly, with generous courtesy, he, on behalf of the Brazilian Government, offered to send with me Colonel Rondon, the man who for a quarter of a century has been the foremost explorer of the Brazilian hinterland, and a number of assistants and of scientific men. I gladly accepted, for with such help I felt that the trip could be made of much scientific value, and that it was even possible that we should add a little to the fund of geographic knowledge concerning the little-known parts of South America.

Colonel Rondon immediately showed

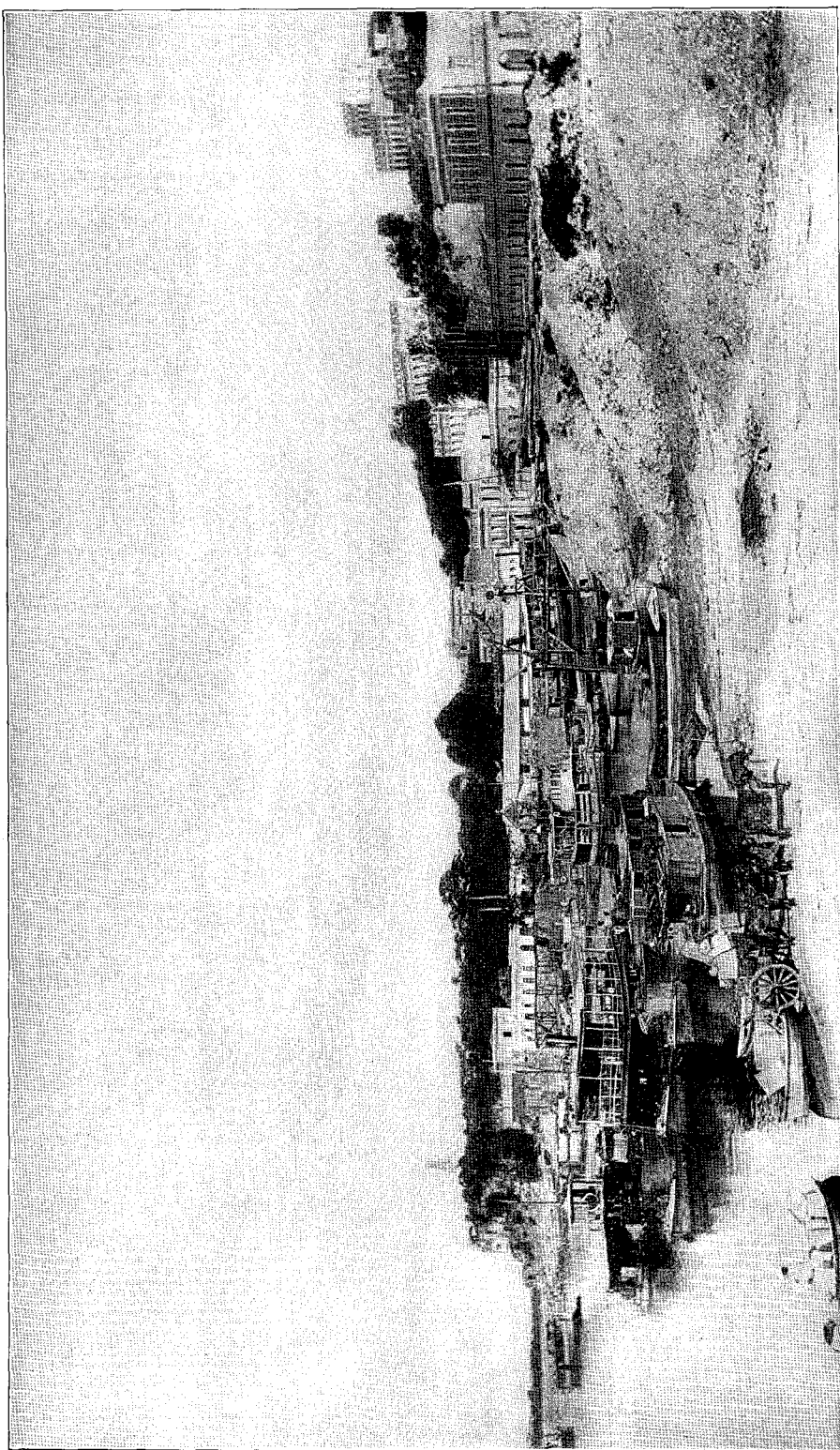
Indian blood, and is a Positivist—the Positivists are a really strong body in Brazil, as they are in France and indeed in Chile. The colonel's seven children have all been formally made members of the Positivist Church in Rio Janeiro. Brazil possesses the same complete liberty in matters religious, spiritual, and intellectual as we, for our great good fortune, do in the United States, and my Brazilian companions included devout Catholics and equally sincere men who described themselves as "libres penseurs." Colonel Rondon has spent the last twenty-four years in exploring the western highlands of Brazil, pioneering the way for telegraph-lines and railroads. During that time he has travelled some fourteen thousand miles, on territory most of which had not previously been traversed by civilized man, and has built

three thousand miles of telegraph. He has an exceptional knowledge of the Indian tribes and has always zealously endeavored to serve them and indeed to serve the cause of humanity wherever and whenever he was able. Thanks mainly to his efforts, four of the wild tribes of the region he has explored have begun to tread the road of civilization. They have become Christians. It may seem strange that among the first-fruits of the efforts of a Positivist should be the conversion of those he seeks to benefit to Christianity. But in South America Christianity is at least as much a status as a theology. It represents the indispensable first step upward from savagery. In the wilder and poorer districts men are divided into the two great classes of "Christians" and "Indians." When an Indian becomes a Christian he is accepted into and becomes wholly absorbed or partly assimilated by the crude and simple neighboring civilization, and then he moves up or down like any one else among his fellows. Colonel Rondon does in very fact believe in the religion of humanity exactly as he is devoted to scientific research, and what he preaches he practises.

His companions included Captain Amílcar de Magalhães, Lieutenants João Lyra, Julio Barbosa, Thomas Reis (an expert with the cinematograph), Joaquim de Mello Filho, and Alcides de Sant' Anna; Doctor Euzebio de Oliveira, a geologist, and Frederico Hoehne, a botanist, with two assistant taxidermists. Captain Magalhães has done much previous exploring work; Lieutenant Reis has taken extraordinary photographs on these exploring expeditions.

The steamers halted; Colonel Rondon and several of his officers, spick and span in their white uniforms, came aboard; and in the afternoon I visited him on his steamer to talk over our plans. When these had been fully discussed and agreed on we took tea. I happened to mention that one of our naturalists, Miller, had been bitten by a piranha, and the man-eating fish at once became the subject of conversation. Curiously enough, one of the Brazilian taxidermists had also just been severely bitten by a piranha. My new companions had story after story to tell of them. Only three weeks previously

a twelve-year-old boy who had gone in swimming near Corumbá was attacked, and literally devoured alive by them. Colonel Rondon during his exploring trips had met with more than one unpleasant experience in connection with them. He had lost one of his toes by the bite of a piranha. He was about to bathe and had chosen a shallow pool at the edge of the river, which he carefully inspected until he was satisfied that none of the man-eating fish were in it; yet as soon as he put his foot into the water one of them attacked him and bit off a toe. On another occasion while wading across a narrow stream one of his party was attacked; the fish bit him on the thighs and buttocks, and when he put down his hands tore them also; he was near the bank and by a rush reached it and swung himself out of the water by means of an overhanging limb of a tree; but he was terribly injured, and it took him six months before his wounds healed and he recovered. An extraordinary incident occurred on another trip. The party were without food and very hungry. On reaching a stream they dynamited it, and waded in to seize the stunned fish as they floated on the surface. One man, having his hands full, tried to hold one fish by putting its head into his mouth; it was a piranha and seemingly stunned, but in a moment it recovered and bit a big section out of his tongue. Such a hemorrhage followed that his life was saved with the utmost difficulty. On another occasion a member of the party, a brother of the Lieutenant Barbosa who was with us, was off by himself on a mule. The mule came into camp alone. Following his back track they came to a ford, where in the water they found the skeleton of the dead man, his clothes uninjured but every particle of flesh stripped from his bones. Whether he had drowned, and the fishes had then eaten his body, or whether they had killed him it was impossible to say. They had not hurt the clothes, getting in under them, which made it seem likely that there had been no struggle. These man-eating fish are a veritable scourge in the waters they frequent. But it must not be understood by this that the piranhas—or, for the matter of that, the new-world caymans and crocodiles—ever be-



From a photograph by Fiala.

Corumbá, Brazil.



From a photograph by Fiala.

Water-carts around the well at Corumbá.

come such dreaded foes of man as for instance the man-eating crocodiles of Africa. Accidents occur, and there are certain places where swimming and bathing are dangerous; but in most places the people swim freely, although they are usually careful to find spots they believe safe or else to keep together and make a splashing in the water.

During his trips Colonel Rondon had met with various experiences with wild creatures. The Paraguayan caymans are not ordinarily dangerous to man; but they do sometimes become man-eaters and should be destroyed whenever the opportunity offers. The huge cayman, or crocodile, of the Amazon is far more dangerous, and the colonel knew of repeated instances where men, women, and children had become its victims. Once while dynamiting a stream for fish for his starving party he partially stunned a giant anaconda, which he killed as it crept slowly off. He said that it was of a size that no other anaconda he had ever seen even approached, and that in his opinion such a brute if hungry would readily attack. Twice smaller anacondas had attacked his dogs; one was carried under water—for the

anaconda is a water-loving serpent—but he rescued it. One of his men was bitten by a jararaca; he killed the venomous snake, but was not discovered and brought back to camp until it was too late to save his life. The puma Colonel Rondon had found to be as cowardly as I have always found it, but the jaguar was a formidable beast, which occasionally turned man-eater, and usually charged savagely when brought to bay. He had known a hunter to be killed by a jaguar he was following in thick grass cover.

All such enemies, however, he regarded as utterly trivial compared to the real dangers of the wilderness—the torment and menace of attacks by the swarming insects, from mosquitoes and the even more intolerable tiny gnats to the ticks and the vicious poisonous ants which occasionally cause villages and even whole districts to be deserted by human beings. These insects, and the fevers they cause, and dysentery and starvation and wearing hardship are what the pioneer explorers have to bear. The conversation was to me most interesting. The colonel spoke French about to the extent I did; but of course he and the others preferred

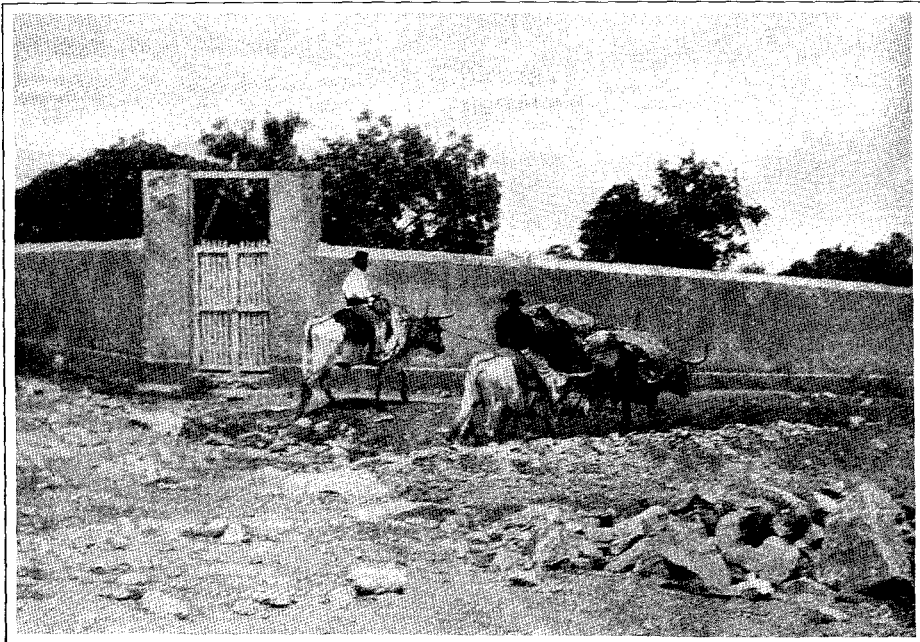
Portuguese; and Kermit was the interpreter.

In the evening, soon after moonrise, we stopped for wood at the little Brazilian town of Porto Martinho. There are about twelve hundred inhabitants. Some of the buildings were of stone; a large private house with a castellated tower was of stone; there were shops, and a post-office, stores, a restaurant and billiard-hall, and warehouses for matté; of which much is grown in the region roundabout. Most of the houses were low, with overhanging, sloping eaves; and there were gardens, with high walls inside of which trees rose, many of them fragrant. We wandered through the wide, dusty streets, and along the narrow sidewalks. It was a hot, still evening; the smell of the tropics was on the heavy December air. Through the open doors and windows we caught dim glimpses of the half-clad inmates of the poorer houses; women and young girls sat outside their thresholds in the moonlight. All whom we met were most friendly: the captain of the little Brazilian garrison; the intendente, a local trader; another trader and ranchman, a Uruguayan, who had just received his newspaper containing

my speech in Montevideo, and who, as I gathered from what I understood of his rather voluble Spanish, was much impressed by my views on democracy, honesty, liberty, and order (rather well-worn topics); and a Catalan who spoke French, and who was accompanied by his pretty daughter, a dear little girl of eight or ten, who said with much pride that she spoke three languages—Brazilian, Spanish, and Catalan! Her father expressed strongly his desire for a church and for a school in the little city.

When at last the wood was aboard we resumed our journey. The river was like glass. In the white moonlight the palms on the edge of the banks stood mirrored in the still water. We sat forward and as we rounded the curves the long silver reaches of water stretched ahead of us, and the ghostly outlines of hills rose in the distance. Here and there the prairie fires burned, and the red glow warred with the moon's radiance.

Next morning was overcast. Occasionally we passed a wood-yard, or factory, or cabin, now on the eastern, the Brazilian, now on the western, the Paraguayan, bank. The Paraguay was known to men



From a photograph by Fiala.

Riding bullocks.



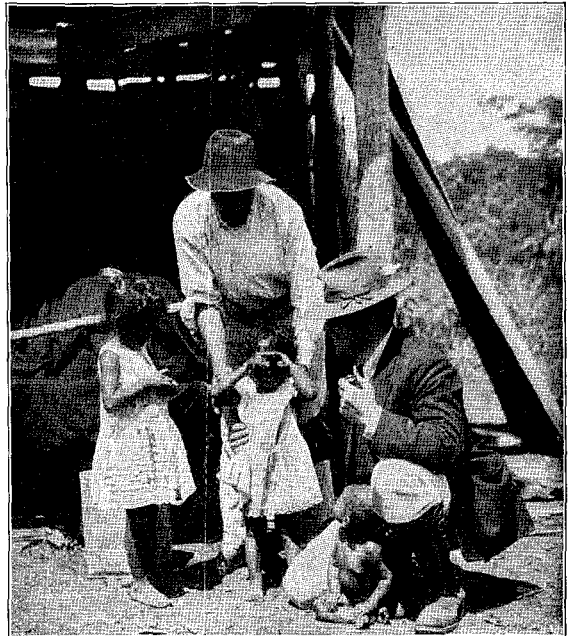
From a photograph by Fiala.

Corumbá family of poor people in their Sunday clothes.

of European birth, bore soldiers and priests and merchants as they sailed and rowed up and down the current of its stream, and beheld little towns and forts rise on its bank, long before the Mississippi had become the white man's highway. Now, along its upper course, the settlements are much like those on the Mississippi at the end of the first quarter of the last century; and it is about to witness a burst of growth and prosperity much like that which the Mississippi saw when the old men of to-day were very young.

In the early forenoon we stopped at a little Paraguayan hamlet, nestling in the green growth under a group of low hills by the river-brink. On one of these hills stood a picturesque old stone fort, known as Fort Bourbon in the Spanish, the colonial, days. Now

the Paraguayan flag floats over it, and it is garrisoned by a handful of Paraguayan soldiers. Here Father Zahm baptized two children, the youngest of a large family of fair-skinned, light-haired small people, whose father was a Paraguayan and the mother an "Oriental," or Uruguayan. No priest had visited the village for three years, and the children were respectively one and two years of age. The sponsors included the local commandante and a married couple from Austria. In answer to what was supposed to be the perfunctory question whether they were Catholics, the parents returned the unexpected answer that they were not. Further questioning elicited the fact that the father called himself a "free-thinking Catholic," and the mother said she was a "Protestant Catholic," her mother having been a Protestant, the daughter of an immigrant from Normandy. However, it appeared that the older children had been baptized by the Bishop of Asuncion, so Father Zahm at the earnest request of the parents proceeded with the ceremony. They were good people; and, although they wished liberty to think exactly as they individually pleased, they also wished to be connected and to have their children con-



From a photograph by Fiala.

Corumbá family *not* in their Sunday clothes.

nected with some church, by preference the church of the majority of their people. A very short experience of communities where there is no church ought to convince the most heterodox of the absolute need of a church. I earnestly wish that there could be such an increase in the personnel and equipment of the Catholic Church in South America as to permit the establishment of one good and earnest priest in every village or little community in the far interior. Nor is there any inconsistency between this wish and the further wish that there could be a marked extension and development of the native Protestant churches, such as I saw established here and there in Brazil, Uruguay, and Argentina, and of the Y. M. C. Associations. The bulk of these good people who prefer religion will continue to be Catholics, but the spiritual needs of a more or less considerable majority will best be met by the establishment of Protestant churches,

or in places even of a Positivist Church or Ethical Culture Society. Not only is the establishment of such churches a good thing for the body politic as a whole, but a good thing for the Catholic Church itself; for their presence is a constant spur to activity and clean and honorable conduct, and a constant reflection on sloth and moral laxity. The government in each of these commonwealths is doing everything possible to further the cause of education, and the tendency is to treat education as peculiarly a function of government and to make it, where the government acts, non-sectarian, obligatory, and free—a cardinal doctrine of our own great democracy, to which we are

committed by every principle of sound Americanism. But no democracy can afford to overlook the vital importance of the ethical and spiritual, the truly religious, element in life; and in practice the average good man grows clearly to understand this, and to express the need in concrete form by saying that no community can make much headway if it does not contain both a church and a school.

We took breakfast—the eleven-o'clock Brazilian breakfast—on Colonel Rondon's boat. Caymans were becoming more plentiful. The ugly brutes lay on the sand-flats and mud-banks like logs, always with the head raised, sometimes with the jaws open. They are sometimes dangerous to man and to his domestic animals, and are always destructive to fish; and it is good to shoot them; I killed half a dozen, and missed nearly as many more—a throbbing boat does not improve one's aim.

We passed forests of palms that extended



From a photograph by Fiala.

Cactus-tree.

for leagues, and vast marshy meadows, where storks, herons, and ibis were gathered, with flocks of cormorants and darters on the sand-bars, and stilts, skimmers, and clouds of beautiful swaying terns in the foreground. About noon we passed the highest point which the old Spanish conquistadores and explorers, Irala and Ayolas, had reached in the course of their marvellous journeys in the first half of the sixteenth century—at a time when there was not a settlement in what is now the United States, and when not a single English sea captain had ventured so much as to cross the Atlantic.

By the following day the country on the east bank had become a vast marshy

plain dotted here and there by tree-clad patches of higher land. The morning was rainy; a contrast to the fine weather we had hitherto encountered. We passed wood-yards and cattle-ranches. At one of the latter the owner, an Argentine of Irish parentage, who still spoke English with the accent of the land of his parents' nativity, remarked that this was the first time the American flag had been seen on the upper Paraguay; for our gunboat carried it at the mast-head. Early in the afternoon, having reached the part where both banks of the river were Brazilian territory, we came to the old colonial Portuguese fort of Coimbra. It stands where two steep hills rise, one on either side of the river, and it guards the water-gorge between them. It was captured by the Paraguayans in the war. Some modern guns have been mounted, and there is a garrison of Brazilian troops. The white fort is perched on the hillside, where it clings and rises, terrace above terrace, with bastion and parapet and crenellated wall. At the foot of the hill, on the riverine plain, stretches the old-time village with its roofs of palm. In the village dwell several hundred souls, almost entirely the officers and soldiers and their families. There is one long street. The one-story, daub-and-wattle houses have low eaves and steep sloping roofs of palm-leaves or of split palm-trunks. Under one or two old but small trees there are rude benches; and for a part of the length of the street there is a rough stone sidewalk. A little graveyard, some of the tombs very old, stands at one end. As we passed down the street the wives and the swarming children of the garrison were at the doors and windows; there were women

and girls with skins as fair as any in the northland, and others that were predominantly negro. Most were of intervening shades. All this was paralleled among the men; and the fusion of the colors was going on steadily.

Around the village black vultures were gathered. Not long before reaching it we passed some rounded green trees, their tops covered with the showy wood-ibis; at the same time we saw behind them, farther inland, other trees crowded with the more delicate forms of the shining white egrets.

The river now widened so that in places it looked like a long lake; it wound in every direction through the endless marshy plain, whose surface was broken here and there by low mountains. The splendor of the sunset I never saw surpassed. We were steaming east toward clouds of storms. The river ran, a broad highway of molten gold, into the flaming sky;

the far-off mountains loomed purple across the marshes; belts of rich green, the river-banks stood out on either side against the rose-hues of the rippling water; in front, as we forged steadily onward, hung the tropic night, dim and vast.

On December 15 we reached Corumbá. For three or four miles before it is reached the west bank, on which it stands, becomes high rocky ground, falling away into cliffs. The country roundabout was evidently well peopled. We saw gauchos, cattle-herders—the equivalent of our own cowboys—riding along the bank. Women were washing clothes, and their naked children bathing, on the shore; we were told that caymans and piranhas rarely ventured near a place where so much was going on, and that accidents generally



From photographs by Ficta.

Brazilian babies bathing.

occurred in ponds or lonely stretches of the river. Several steamers came out to meet us, and accompanied us for a dozen miles, with bands playing and the passengers cheering, just as if we were nearing some town on the Hudson.

Corumbá is on a steep hillside, with wide, roughly paved streets, some of them lined with the beautiful trees that bear scarlet flowers, and with well-built houses, most of them of one story, some of two or three stories. We were greeted with a reception by the municipal council, and were given a state dinner. The hotel, kept by an Italian, was as comfortable as possible—stone floors, big windows and doors, a cool, open courtyard, and a shower-bath. Of course Corumbá is still a frontier town. The vehicles are ox-

carts and mule-carts; and we saw men riding oxen. The water comes from a big central well; around it the water-carts gather, and their contents are then peddled around at the different houses. The families showed the mixture of races characteristic of Brazil; one, after the children had been photographed in their ordinary costume, begged that we return and take them in their Sunday clothes, which was accordingly done. In a year the railway from Rio will reach Corumbá; and then this city, and the country roundabout, will see a great development.

At this point we rejoined the rest of the party, and very glad we were to see them. Cherrie and Miller had already collected some eight hundred specimens of mammals and birds.

RETURN

By David Morton

How could you ever think that I would sleep
There in that narrow place, or silence keep?

I am the rain that sings to you by night,
When you lie wakeful, hurt with lost delight.

I am that song whose fragile failing wing
Comes ever near, and yet you cannot sing.

I am that star you gaze on and call fair;
(Felt you no slender fingers in your hair?)

But more than these, O more, I am the grass
That gladdens at your coming when you pass

These ways along, so grieving and so dear,
Where they had laid me now this many a year.

How could you ever think that I would sleep
There in that narrow place, or silence keep?