

COL. ROOSEVELT'S LECTURE.

Verbatim Report of His Account of His South American Trip.

Special to The New York Times.

WASHINGTON, May 26.—Four thousand persons, including almost the entire membership of the National Geographic Society, listened tonight to Col. Roosevelt's lecture on "the River of Doubt"—the Duvida, which is on none of the best modern maps, and but 300 kilometers of whose 1,500 kilometers, had been traversed by rubber men. And they heard how the Colonel himself put the river on the map.

Col. Roosevelt entered Convention Hall, the largest auditorium in Washington, at 8:30 o'clock. An usher caught sight of him at the foot of the stairs and waved his handkerchief to give the audience the signal to applaud.

As the Colonel entered the auditorium he was greeted with a rousing cheer. As he came forward many in the audience thought they observed a gaunt look in his face, and it looked as if he were perspiring freely from the intense heat.

Col. Roosevelt made his talk from a big temporary stage fitted with maps of South America, a big stereopticon screen, and a blackboard upon which was drawn a scale chart of a portion of the Amazon River with its tributaries, the Madeira and the Tapajos. The chart showed the new water course described by Col. Roosevelt in dotted lines.

When the Colonel reached the platform a chorus of cheers greeted him. He was introduced by President Grosvenor of the National Geographic Society, and applause broke out again as he reached from the stage to shake hands with Major Gen. Leonard A.

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ROOSEVELT SHOWS HIS RIVER ON MAP

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Wood and Chief Justice White of the Supreme Court.

The Times herewith presents a verbatim report of Roosevelt's lecture, in which he defended his discovery of the new river from the criticism which has been directed against it.

Tribute to Predecessors.

Mr. Chairman, Fellow-members, and Men and Women of Washington:

It is a pleasure to me to say to this audience and these officers, first, what I have to say about our trip in South America, and I have what you might call exhibits A, B, C, and D here in the shape of fellow-members of the expedition. And now, in a way, pleased though I am to see you, I am almost regretful to see you all here, because I have got to make a rather dry speech, and unless you are interested in geography I think you will find it perhaps even drier than I anticipate—because what I have to say tonight is of a matter of real moment, and I wish to put before this audience the exact description of what we have done; and it is going to be taken down stenographically, so that I will not have to trust to the well-meaning but not necessarily wholly successful efforts of the gentlemen who write headlines in the newspapers, to combine color with truth.

Now, to every member of this society and to every man who has seriously considered exploration, it ought to be unnecessary to say what I have said. It will be necessary to say to those who are not acquainted with exploration, that hardly ever can you do anything of note, save by building on what has been done by your predecessors' work. Columbus could not have discovered America if it had not been for the deeds of Portuguese and to a lesser extent of Spanish sailors, from the days of Prince Henry, the navigator, on.

Peary could not have discovered the north pole if there had not been for generations men who had been pushing far northward the limits of knowledge of the polar regions. To take an infinitely less important instance, I could, of course, have done nothing in South America, if it had not been for the work done by scores of other men, of whom the names have passed, and especially during the last seven or eight years.

doubt if there is any continent which still offers as fertile a field for exploration, work of every kind as South America does—and I say exploration work of any kind, ethnological, zoological, geographical, and no man can cover more than a small part of the field.

The work of the expedition of which I was a member was essentially a zoogeographic reconnaissance. It pretends to be nothing else, and it could be nothing else. The first wistful work, the second, the most important, the most exhaustive work must be made by the men who come afterward, because if the men who go first try to do anything in the wilderness they do not come out.

I met at Manos, or Para—I have forgotten which—Prof. Fiala of the University of Pennsylvania, who is studying the ethnology of the Amazon. He has just finished a really noteworthy trip, largely on foot, from the Amazon Valley up across the high plateau to the north and west to French Guiana, but they got completely out of medicine—completely out of quinine, and had to go to the Caribbean Sea so as to avoid total disaster to the expedition.

Met a Woman Explorer.

I met at Para a German lady, Miss Schnefflager, who has, from the zoological standpoint and from the geographical standpoint, done as excellent work as any man could do; who has traversed on foot the region between the Zingho and the Amazon and who, as head of the Zoological Gardens of Para, has made a zoological collection which I think really the model of what such a collection should be.

Here is the Amazon River. It was discovered and discovered for the first time nearly four centuries ago by the early Spanish explorers and conquistadores, whose feats were so phenomenal that they make all the work of all of us who have done anything on that river today seem child's play in comparison. I say that, meaning it literally.

It will take this otherwise perfectly useless map to show you the geographical location. Here is where the Amazon runs, from the Andes to the Atlantic, and the people who went up and down the Amazon speedily discovered the mouths of a number of rivers. One, two, and three centuries elapsed before they discovered anything about these rivers, except the mouths; and in the case of the river of which I am going to speak, what they did say about the mouth was entirely untrue.

I did not go down to South America with any intention of making such an exploration as this. When I go off on a trip I do not like to make pictures for myself of what I am going to do, because I do not know, but I had supposed that our trip would chiefly be a zoological trip, and I went primarily for the American Museum of Natural History with that end in view. When I got to Rio Janeiro Mr. Lauro Mueller, who visited me and who is the Minister of Foreign Affairs of Brazil, told me that of course they would help me to do what I wished, which was to go on to the mouth of the Amazon, but that he thought he had something which would appeal to me much more.

He told me that the head of the Telegraphic Commission, Col. Rondon, who had for twenty-five years been engaged in the work of exploring that wild, uncharted wilderness of Brazil, would, if I desired, accompany me down that river and see where it came out, and he said: "Now, we will be delighted to have you do that, but, of course, you must understand we cannot tell you anything of what will happen, and there may be some surprises not necessarily pleasant."

I said: "Well, by George, that is just what I would like to do—would be to take the trip and see what would happen down that river."

And now, here, I want, with all the emphasis possible—and I wish that the Brazilian Ambassador were here to report to his government what I say—I want with all the emphasis possible to attest that everything that we did this year was a sequel to, and was conditioned upon what the Telegraphic Commission of Brazil, under Col. Rondon and his associates, had done during the preceding seven years. We would not have known of the existence of the headquarters of this river. We could not have crossed the highland wilderness at all if it had not been for the work of that commission. All that we did was to put the cap on the pyramid of which they had laid deep and broad the foundations.

Maps "Preposterously Wrong."

We started up the Papagalo, hunted around there, (indicating on the map,) went up here to this point, and then struck across country on muleback to this point, and then went down to there. It is almost impossible for me to show you on these standard maps what I did, because the maps are so preposterously wrong. For instance, these are the headwaters of the Tapajoz De Jurueña. They have practically no reference to the actual position of the river. For instance, here is what is called the Uteno Toisse, and here is the Jurueña. It is not on the Tapajoz, the river that Mr. Fiala described.

There are two rivers close together, the Sacare and the Tapajoz, that is, with ten miles of each other, each of which has a waterfall about the size of the Falls of the Yellowstone, in one case about 150 feet high and in the other case about 250 feet high, of which we took numerous photographs. There is not a hint of the existence of these waterfalls, nor, as far as I can find, of the rivers on that map. The Jurueña is not there. It is a number of days' journey further on.

We then journeyed three weeks further on, we got near this great tributary, which is here, which is the Gyparana, but on the map that Gyparana is two degrees of longitude out of position, its course is really what were the Jamaré is on the map put down as running. I could not trace out our course with reference to the map, because we would have to make impos-

sible zigzags in order to cross on the map the river that we actually crossed. Now we came down to this point here, (indicating on the map.) There on the valley, with a river flowing down the middle. On this map, which is the best modern map, the map produced for me by Mr. Grosvenor, as representing the latest information they had, on this latest map there is a river rising here. It does nothing of the kind. It does not rise anywhere near it. Here are those rivers heading up there. They do not head up there. We went down another river. Where their sources are supposed to be and these mountains are almost as irrelevant to the actual facts as are the rivers themselves.

You can see, as I said, better on this map here. Here is the Tapajoz. Here is the Gyparana running into the Madeira. On that map and on this you will find a little river in about five and one-half degrees. I think the actual course is about 5.12 or 5.15, but very nearly 5.5—a little river without any name.

Found a River Not on Map.

We found a river—that is that black spot in there (indicating on map)—with no hint or suggestion on the map. I repeat that there is not a hint or a suggestion. There is not a hint or a suggestion of any big river between the Duvida and the Madeira, except that this map gives incorrectly that river as flowing where it does not flow. With that river we have nothing to do.

We found that this river, called the Duvida, (River of Darkness,) arose between the 5th and 6th meridians, 100 degrees west from Greenwich, just north of the 13th degree of latitude, south. It at first flowed west, and they discovered then flowed north, then south, and then, in a timber-choked brook, not navigable until in latitude 1 degree 1 minute south, and longitude 100 degrees and 15 minutes west. In each case, maybe two or three minutes wrong.

We crossed at a point where it becomes navigable, and it was there that we embarked, and then ran on down about five degrees. I want to call your attention to the fact that I am using my terms with scientific precision, and when I say "Put it on the map," I mean what I say.

I mean that it is not on any map and that we have put it on the map, and I will come later to tell you who said it had never been traversed by any civilized man before and what part of it had already been known to the rubber gatherers, but absolutely unknown to any map makers—to these map makers here that I have quoted to you—English, German, French, American, or Brazilian, none of them knowing anything about it at all.

I want to mention another fact. If a man states that he has been up a snow mountain that has never been ascended, twelve months afterward there is not a physical sign remaining of his having gone up there. But a river stays put.

Suggests Trip of Verification.

I went down that river, going down for the first time, and, of course, endeavoring to map it in detail. It is much easier now for any one to follow us; and if this Geographic Society or any other responsible organization wishes to send a man to go down that river I will give him letters of introduction and advice, which will enable him to do so with comparatively little difficulty, to go over that entire course of that river and report on all the features in detail, which, of course, the first explorers necessarily sketched in outline.

It will mean hardship and risk. But if he only wishes to go up to there (indicating on map) that is an easy thing. I will give him letters to a rubber man who will unquestionably assist him to get the canoes and the rowers that will enable him to ascend as far as the lowest of the uppermost rapids and come back again, covering two-thirds of the distance and going up to the tenth degree of latitude.

I ask you to listen attentively to what I say we did. We have put on the map a river of which there is not only no knowledge and which is not shown on any existing map, but it is not even guessed at on any existing map; of which the upper courses of the navigable portion have never before been traversed by any civilized man; of which the lower portion had been known for years by the rubber men, but of which no topographer had the faintest idea of the existence, and of which not a trace is to be found on any existing map.

A commission of officials had gone up a stream known as the Castana branch. As to the lower part, a commission of the State of Amazonas, the Boundary Commission, had gone up the branch about a year ago—not as far as the rubber men went; and, curiously enough, nothing that they did was put on to any map, and the source of the river was absolutely unguessed at.

We descended in the neighborhood of a thousand feet all told from the headwaters to the bottom of that river. I say in the neighborhood of a thousand feet, because we only had an aneroid with us, with which you cannot make entirely accurate observations, so that there must be a latitude allowed for that descent.

Dismisses "Flood" Explanation.

It has been suggested that this was not a river, but represented floods in the forest. Floods do not stand at an angle of descent of a thousand feet,

and they do not extend to cover a distance of from nine hundred to a thousand miles. I saw the suggestion made that the river might be either the Madeira or the Tapajoz. My companion, Mr. Fiala, went down the Tapajoz. Mr. Miller went down the Madeira. We went down a river in between. So that most of our party went down both the Tapajoz and the Madeira and we went down in between.

The length of the river we cannot give accurately. We computed it by dead reckoning at between 1,400 and 1,500 kilometers. I should say 900, 950, or possibly, 1,000 miles. It runs between nearly the thirteenth and fifth parallels of latitude. That is, it covers about seven and a half degrees of latitude. Of course, that is about doubled by the curves. As you will see, if you turn to the map of Europe, that is a distance considerably longer than the Seine and Rhone combined—as far as I can see, allowing for the slant of the curve, about as long as the Rhine or the Elbe.

At this point of the river, where the upper Arripone, so-called, comes in, we have a very big rapid, and it is about 4,500 cubic meters a second, by which you can get a fair idea of its volume in comparison with other rivers. Excepting nearly the thirteenth and fifth parallels of the mouth it is not navigable for steamboats, because it is so broken by rapids and such a very swift river, but it is navigable for launches and canoes from that part near the fifth degree up to above the tenth degree of latitude. There are rapids, and serious ones, to pass, but they can be perfectly well negotiated. You can take boats up them. It is still better, if you want to establish a series—you can have launches hauled by falls now, and then one hundred and fifty or two hundred kilometers before you come to the next serious obstacle to navigation. There is no difficulty whatever in the navigation. I say no difficulty whatever—I mean from the standpoint from which I am speaking, by launch and canoe. In each case, maybe two or three minutes wrong.

Tells of the Embarkation.

Now, when we embarked, having gone some thirty days by mule and ox train across this high central plateau of western Brazil—when we embarked our party consisted of twenty-two men, sixteen camarades, and three Brazilian officers, among them Col. Rondon and Mr. Cherrie, and the American Museum of Natural History. We said good-bye to the other members of the expedition, who had come that far, who included Lieut. Ant. Manoel, a geologist of the Brazilian Army, Mr. Oliveira, a geologist, who was a member of the party, and Mr. Mueller of the American Museum of Natural History.

Col. Rondon, I believe, affirmed that it was the Arripone which we would come out of. He had directed Lieut. Rondon to go to the mouth of the river, and he had the chance of meeting us, directing him to go up until he found a big affluent entering the river and stop there, because he could not see the river, but he knew he was coming down. And Lieut. Rondon went up to about 7 degrees 15 minutes and waited for us. We said good-bye to the other members of the expedition on Feb. 27. After exactly sixty days of canoeing work we met Lieut. Rondon and the little steamboat which he had at hand.

On the trip of our six members, Mr. Cherrie, my son, the doctor and Lieut. Lira kept diaries day by day. Col. Rondon kept the records, the other of the days. I kept the record in the writing that I had to do. My son and Mr. Cherrie kept in the neighborhood of 90 photographs. They took more than that number, but a good many were spoiled, as it is a middling rough country on everybody and everything. Whatever we had that did not rust, moulded, or about every day we made or agree to take astronomical observations. These were taken by Lieut. Lira. The observations as regards latitude he felt were more accurate than those as regards longitude must be verified later and may be some minutes wrong, but not materially wrong.

The different portions of the course that we followed varied widely in difficulty. We first of all ran four days' surveying for the river very accurately, and then went on very slowly, without encountering any rapids or other obstacles. The rapids are serious obstacles in exploring the upper courses of the South American rivers, and make the upper courses of those rivers absolutely different from the lower courses. For four days we ran, as I say, rather slowly before encountering any rapids. We then struck our first serious rapids. After that, which was in about 11 degrees 45 minutes south, we spent forty-two days, during which we slept every day at the head or foot of a rapid, and during the forty-two days we only covered one degree of latitude, going to about 10 degrees 45 minutes south. That is, from 11 degrees 45 minutes to 10 degrees 45 minutes, and therefore making not much more than a mile and a half a day in a straight line. We had by that time gone not more than a sixth of the distance that we expected to go, and had used up about three-fourths or four-fifths of our food; had been on half rations pretty much all the time, eked out with peanuts and monkeys, which we enjoyed there.

The Shadow of Tragedy.

Then during that time we lost of the seven canoes—seven dugouts with which we started—we lost five canoes in the

rapids. We built three others, and lost one of those. One man was drowned in the rapids. There were several other very narrow escapes from drowning, and under the strain, which was very great, one of the men went completely mad and murdered another and himself died in the wilderness.

Then we came out the last succession of rapids, having been gone forty-six days. We struck a long stretch of smooth water. The river was very broad and very big in that part, and after two days more we struck the uppermost camp or house of any of the rubber men. We were able to get food, sugar-cane, sometimes rice or bananas, occasionally a chicken or a duck, not very often, and in the eleven days, if I remember rightly, we got eight eggs, which divided among the six of us they were not divided, but if they had been divided, would have given each man one egg a week.

Until men have had experience they can hardly realize the insufferable difference there is in going down a stream broken by rapids which are unknown, and going down a stream just as difficult which is known. In the first place, you come to the head of the rapids, and you have not any idea what is ahead. You have to land and send people forward to explore. They may have explored only one side of the stream. If they find it very bad they may have to cross over and explore for three or four hours on the other side, to see if there is not some channel on that side on which you can get your canoes.

Then you have to come back and report as to whether you can run the canoes loaded. Our canoes were so overloaded that we could not often do that. It is a question whether you can run the goods, or whether you must portage the goods and let the canoes down by ropes, or whether you will have to do, as we had to do on three or four occasions, cut roads through the woods, lay down roads, and with block and tackle and by the severest kind of bodily labor, portage—drag—the heavy, clumsy dugouts overland down to the foot of the rapids.

Possible Starvation Either Way.

It is also a matter of great difficulty in some cases to decide which is the wise course to follow. If you are over-cautious you will take so long a time that you will exhaust your food supply, and be in danger of starvation. If you are over-risky, you may lose the canoes and all that is in them, and then you face starvation not in the future but in the present.

The medicines are almost as important as the food. We had to keep the men and ourselves dosed with quinine the whole time in order to keep the fever from us. I think everybody got the fever more or less, but if we had not had the quinine we would have been laid out.

At the time we were doing this, Mr. Fiala went down the Papagalo, which had never before previously descended, into the Tapajoz. On the Papagalo his canoe was swamped and all his belongings were lost.

Mr. Mueller, with Capt. Amilcar, went down the Rio Parana to the Madeira. At one of the rapids Capt. Amilcar's canoe was upset and all his belongings were lost, including his instruments, maps, and notebooks, so that he was unable to go on with any of the work that he was doing of a geographic type. We were fortunate enough on our trip

down the river not to lose any of our instruments or any of the specimens or notebooks or anything else that was of consequence to the expedition, but we had to cut all our personal belongings down to the bone. For instance, we ended the trip with the three Brazilian officers and Kermit and Cherrie sleeping under one of the light fly tents that had been brought down from New York with us, which weighed very little.

Our personal belongings we cut down to the clothes we had on, which did not look nice, and to one spare set of underclothes, of sorts, and two, or three, or four handkerchiefs apiece. We kept the food, of course. That was one thing we could not have spared. We kept a large part of the medicine. I think we discarded about two-thirds of it. We had a very elaborate medicine chest, but we had to discard about two-thirds of it. We discarded all the useless instruments, keeping only those that were absolutely necessary for the astronomical observation, to place where the river ran; and the tentage, as I have described, we cut down to probably a fourth of what we started with.

On the upper course of the river there were Indians. They were afraid of us, and somewhat hostile. I think their hostility was due only to timidity, but if you are shot by a man because he is afraid of you it is almost as unpleasant as if he shot you because he disliked you.

Rondon's Dog Shot by Indians.

Col. Rondon was nearly shot. He was out hunting for monkeys, because we were hungry; and he had a dog with him. He heard what he thought was the howling of spider monkeys. The dog went ahead and he followed. It proved to be a couple of Indians, who were imitating the calling of the spider monkeys, probably to attract him. The first thing he knew about was hearing the dog yell, then coming toward him, then yelling again and then silence, and he was sure—and it afterward proved he was right—that it had been killed by Indians. He fired his revolver in the air, and the Indians ran to afterward went out ourselves and found the dead body of the dog with two arrows through it. Without a question, if the dog had not preceded undiluted pleasure during the time that we spent at that camp, we were about three days, almost four days, in the camp.

Now I have described to you just what it was that we did on this exploration trip. If any gentleman here would like to ask me any questions about it on any point that I have left obscure, or on any point as to which he desires more information, I shall be glad to give him the best answer that I can. And, Mr. Grosvenor, I should like to ask particularly if any member of the Geographic Society, or any man who has been in South America, has any question of any kind to ask in connection with that river. I should be really glad to have

him put it, and will answer it, as I say, to the best of my ability.

His Official Report Amplified.

If no one wishes to ask any questions, then, just to sum up, I ask you to remember the exact language that I have used tonight. It is the language I used—of course, amplified—when on May 1 I wrote out my telegraphic report as head of what in Brazil was known as the Expedicæo Cientifica Roosevelt-Rondon, which report I sent to Mr. Lauro Muller, the present Secretary of Foreign Affairs of Brazil.

We found that that river flowed steadily northward after we got embarked on it, between the fifty-ninth and sixtieth meridians of longitude west from Greenwich, never varying except between those two meridians. Where we embarked it had already run for, roughly, something in the neighborhood of 300 kilometers. We went down in canoes something in the neighborhood of 800 kilometers, and then down by steamer to the mouth in the neighborhood of 300 to 400 kilometers, making from 1,400 to 1,500 kilometers, all told, somewhere between 900 and 950 miles.

One canoe was swamped when it was being let down by ropes. The other canoe beat its bottom fairly out on the

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ROOSEVELT SHOWS HIS RIVER ON MAP

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rocks. It had become pretty shaky in the previous rapids, and it went to pieces completely in going down through the final rapids of the cañon. We had by that time lost three members of our company, the larger part of a boatload, and, by cutting down our personal belongings to the limit, we were able, by loading to the very limit, so that the gunwales were down within two or three inches of the water, we were able to get on with the remaining four canoes until we got into water smooth enough to make it relatively safe to proceed at speed.

The expedition, as I have said, was not undertaken in pursuance of any plan or idea formed here in this country. It was undertaken at the suggestion of Lauro Muller on behalf of the Brazilian Government in Rio. I feel very grateful to him, to the Brazilian Government, and to my Brazilian associates for having given me the chance to take part in exploring the upper course of and putting on the map an unknown river of the size of the Rhine or the Elbe, a chance that from now on, in the present state of the world's geography, can come to only a limited number of men.

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