Kai Umeda

Hanson

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# Roosevelt Rondon Expedition

Of all the most well known science obsessed minds in US History. Known were remembered for better or worse, than Theodore Roosevelt. This was a man who loved the natural world including zoology, botany, and forestry; despite his rabid anti Native American rhetoric. And was not afraid to bend the rules if it meant anything for him. Which is why in his famous expedition in Brazil he misused the scientific method to sell a best selling novel that documented his month long tour in the Amazon rainforest. Despite Roosevelt being "warned…not to venture in" (Wright 2018). When he wasn't misusing the scientific method, he used this expedition to get wildlife samples for the Smithsonian and as his personal hunting trophies, as well as a personal philosophical journey to find meaning. As well as Roosevelt being a terrible leader of his own "expedition" who came back to the US nearly dead, thanks to the elements.

To begin, Roosevelt would not have survived as long as he did without the aid of Cândido Rondon, who had quite the life to say the least. Some time in 1910, Cândido Rondon was made director of the Indian Protection Service in Brazil. As a soldier, "he was assigned to extend telegraph lines" into acres of wilderness ("Encyclopedia Britannica"). Unlike Roosevelt, Rondon was in "close contact with indigenous people of the interior" and grew empathetic towards them ("Encyclopedia Britannica"). He was "appalled at their mistreatment by

developers and settlers" which was the main reason why made his "government agency for their protection" ("Encyclopedia Britannica"). Unlike Roosevelt who personally said "the only good Indian is a dead Indian" but that is another story.

Unlike his other luxury visits to wilderness areas, Roosevelt was underprepared for the new environments of the Amazon. This is the largest rainforest in the world, as well as "comprising about 40 percent of Brazil's total area" which is "equivalent to 2,300,00 square miles (6,000,000 square km)" ("Encyclopedia Britannica"). The Amazon is also "the world's richest and most-varied biological reservoir containing millions of species…many still unrecorded by science" ("Encyclopedia Britannica"). And at the time, the early 20th century that is; many species were unknown to Americans; be they plants or animals. Most of the species, it is a safe bet we already know today. The kind of "major wildlife" such as "jaguar, manatee, tapir, red deer, capybara, and many other types of rodents, and several types of monkeys" ("Encyclopedia Britannica"). Not only that, the weather patterns and geography threw Roosevelt and his team. When canoeing, "rough waters often increased the risk of drowning…and damage to or loss of supplies" (Katzman 2021). The Amazon also only really has two major seasons, the wet and the dry. During the wet season, there can be days when the entire forest can be submerged for miles underwater. The river itself is from the melted snow from the Andes mountains and this more or less raises the river level. At the time of the expedition, "Roosevelt was nearly bitten by a venomous coral snake" (Andrews 2012). When they went down the Paraguay "the river ran in long and usually tranquil stretches" so there was not too much trouble (Roosevelt 315). Roosevelt had been told "the dry season was approaching, but there were still heavy, drenching rains" that complicated the tour (Roosevelt 315). Not only that, the tour also had them go down "two or three light rapids, and portaged the loads by another" (Roosevelt

315). Aside from the rough terrain, it was what was in the bushes that gave them a bit of trouble. There was an indigenous mob that was “stalking them - Rondon had his dog shot by arrows - and they were constantly on the edge of an ambush” (Andrews 2012). If the natives did not get them, disease and incompetence certainly did. The expedition “team was plagued by malaria, dysentery, and lack of supplies” (Andrews 2012). What made it worse was when “Roosevelt began to suffer after he fell ill…and then sliced his leg open on a rock” (Andrews 2012). Of course with his illness and loss of blood, “Roosevelt…lost a quarter of his body weight…and even endured emergency leg surgery on the riverbank” which was made possible by “the aid of Brazilian pioneers who lived in the jungle and harvested rubber.” (Andrews 2012). From there things had only gotten worse.

Besides his lack of knowledge of his destination, Roosevelt was more or less excited about the animals he could bring back as trophies and make himself look great.

On October 4th 1913, “following the crushing defeat to Woodrow Wilson…Theodore Roosevelt set out on an expedition down the unexplored “River of Doubt”...in the depths of the Amazon Basin” (Hale 2021). He was accompanied by his son Kermit Roosevelt as well as a team of scientists from The Smithsonian Museum. Despite “locals [who] warned him not to venture in” he went anyway in order to “discover a river there” with or without the “unfed piranhas.”(Wright 2018).

In Brazil they met up with Rondon, who took them up the Paraguay River; and it was here where Roosevelt had started to abuse the scientific method to his own will. One “tool” Roosevelt used in his findings was “word of mouth” which traditionally is not used in the scientific method by the scientific community. Now it should be made clear that not “all scientists follow the scientific method exactly” (“Science Buddies”).

Traditionally, “the scientific method starts when you ask a question about something that you observe”(“Science Buddies”), except Roosevelt was never one to ask questions in this expedition. He was more interested in seeing and documenting the wildlife he saw along the way, and learning about them was more or less an afterthought. He was very interested in the “stately water-fowl; crimson flamingoes and rosy spoonbills, dark colored ibis” (Roosevelt 38). And when he wasn’t marveling at wildlife he had his team collect samples from the wildlife. Two people “had spent a week…collecting mammals and birds prior to [his] arrival at Asuncion” so when Roosevelt saw them he thought they had “done well in their work, collecting some two hundred and fifty specimens” only to give them to the Smithsonian team (Roosevelt 39-40).

Further down the river is where Roosevelt would first make contact with the “feared” red bellied pirahna. To some, including Roosevelt they were thought to be “the most formidable genera of fish in the world” not to mention “the most ferocious fish in the world” (Roosevelt 41). So much so that Roosevelt had thought that “even the most formidable fish, the sharks, or the barracudas” who would “attack things smaller than themselves” are not as fierce (Roosevelt 41). Which goes back to what I had said earlier about him abusing the scientific method and not following it traditionally. The next steps, usually after forming a question, is to do background research and to construct a hypothesis. Then test that hypothesis to see if it was true or false. Roosevelt however trusted more word of mouth from the people on the expedition; and piggybacked off of their stories; of people who were not traditionally scientific,  than to do his own research and come to his own conclusions. Had he done this his research may not have turned out the way it did in his bestselling book.

According to Roosevelt, one person on the team “Miller, had been bitten by a piranha” which was one way to create a “subject of conversation” (Roosevelt 51). There were also stories

about “a twelve year old boy who had gone swimming…[who] was attacked, and literally eaten alive” (Roosevelt 51). Even Rondon had influenced Roosevelt’s perception of the fish. According to Rondon, “he was about to bathe…at the edge of the river” he was certain that there were no fish (Roosevelt 51). But “as soon as he put his foot in the water one of them attacked him and bit off a toe” (Roosevelt 51). So with every attack, the stereotype in Roosevelt grew and grew. Which makes me question why The Smithsonian team was even there because most of what Roosevelt did was trust word of mouth than do his own scientific research which The Smithsonian is more associated with. Judging by the novel, Roosevelt had jumped the testing part of the method and went right to drawing his conclusion and communicating his results. When a scientist is done with an experiment, they would gather the “measurements and analyze them to see if they support the hypothesis” (“Science Buddies”). If the results do not match the hypothesis, the scientist must acknowledge it. When communicating the results, there are two common ways of doing so. There’s either “publishing their final report in a scientific journal, or by presenting their results on a poster or during…a scientific meeting” (“Science Buddies”). But Roosevelt did none of these options.

The closest thing Roosevelt used as research was noticing an event that was most likely fabricated and organized, known colloquially as “piranha bull.” In this scenario, Roosevelt had witnessed a feeding frenzy commonly thought of in the popular imagination of piranhas and the Amazon itself. It is “suspected to have been the result of people starving red bellied piranhas, then giving them the opportunity to feed on a cow carcass - all to put on an exciting show” (Machado 2023). However, there are multiple accounts of this and some brought up good questions. Was it really “bloody bits of diced up meat?” or what is really a “sick (alive) cow?”

(Wright 2018). As you can see, “the detail seems to change from story to story” but the end result is still the same, an organized feeding frenzy (Wright 2018).

The red bellied piranha is one one of “more than 30…species. All live in the fresh waters of South America” (Machado, 2023) and like a lot of animals, the indigenous people hold a great respect for them. The word “piranha” itself “originates from the Tupi language” (“Piranha!”). The name has been thought to mean “biting fish” (“Piranha!”) or even “devil fish” but the name also “refers to a range of toothed freshwater fish species” (“Piranha!”). The red bellies live in groups called shoals. In a shoal, “younger piranhas are…outside the group, and the larger more sexually mature adults are at the center” (“Red Bellied Piranha”). One shoal is anywhere from “10 to 100” and swims in an organized group (Machado, 2023). And because they’re so organized this can lead to the whole “rapacious pack-hunting” stereotype that Roosevelt and his team happily perpetuated (Machado 2023). Except this “group living isn’t cooperative with hunting but instead protection from predators of which they have many” (Machado 2023). Some predators include, giant otters, pink river dolphins, cormorants, spectacled caimans, herons, bigger fish, humans, and sometimes jaguars. It also makes sense that the older piranhas are in the center, while the younger ones are on the outside. If the older fish were on the outer part of the shoal, they would be eaten and would not lay anymore eggs in the near future, causing a spike in population. With this shoal structure too, “scientists have observed that red-bellied piranhas in smaller groups breathe faster, probably because they’re more anxious” (Machado 2023).

One may think, “but they still have sharp teeth and are able to bite people and animals that go in the river.” Yes, “they have a single row of sharp interlocking teeth on each jaw. They use their teeth in a variety of ways” (Machado 2023). Eating is the most obvious thing, but people eating has never happened before. Red-bellies eat a variety of items such as “other fish as

well as insects, worms, crustaceans, mollusks, carrion, plants, seeds, and fruit." ("Red Bellied Piranhas")

The fish also use their teeth for fighting; which could happen for multiple reasons. When piranhas are competing, "they chase each other while snapping their jaws together" (Machado 2023). The other reason is defense, obviously they would bite an attacking predator to save themselves from being eaten. When people are involved is a different story. If a piranha does bite a human "it seems to mostly happen when they're being handled; when people are spilling food or cleaning their fishing catch; or when people disturb piranhas while the fish are mating or guarding their eggs during the wet season" (Machado 2023). Going back to the cow stunt that Roosevelt had seen, goes into another matter that makes piranhas act up, starvation stress. Scientists have thought that this leads "to increasingly aggressive bold behavior" and may "theoretically result in feeding frenzies" (Machado 2023). Therefore, their "feeding frenzies" have started to make sense in the grand scheme of things, disproving Roosevelt's observations.

So with these factors, the lack of readiness and the dismissal of the scientific method. It can be clear that The Roosevelt Rondon Expedition was sort of the anti-expedition expedition. The only thing that was discovered was an already existing river, that was given two names; The River of Doubt, after his personal thoughts. As well as The Roosevelt River, named in his "honor." Roosevelt treated the science part of the expedition as an afterthought and got his mind wrapped around the resources he could take home and kill. He was fooled by the local people into believing rumors about relatively harmless fish, by watching organized events of animal cruelty and recording it as science for the world to see, which set in stone an undeserved infamy. As "they usually have better things to eat" and humans are not one of them (Machado 2023).

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