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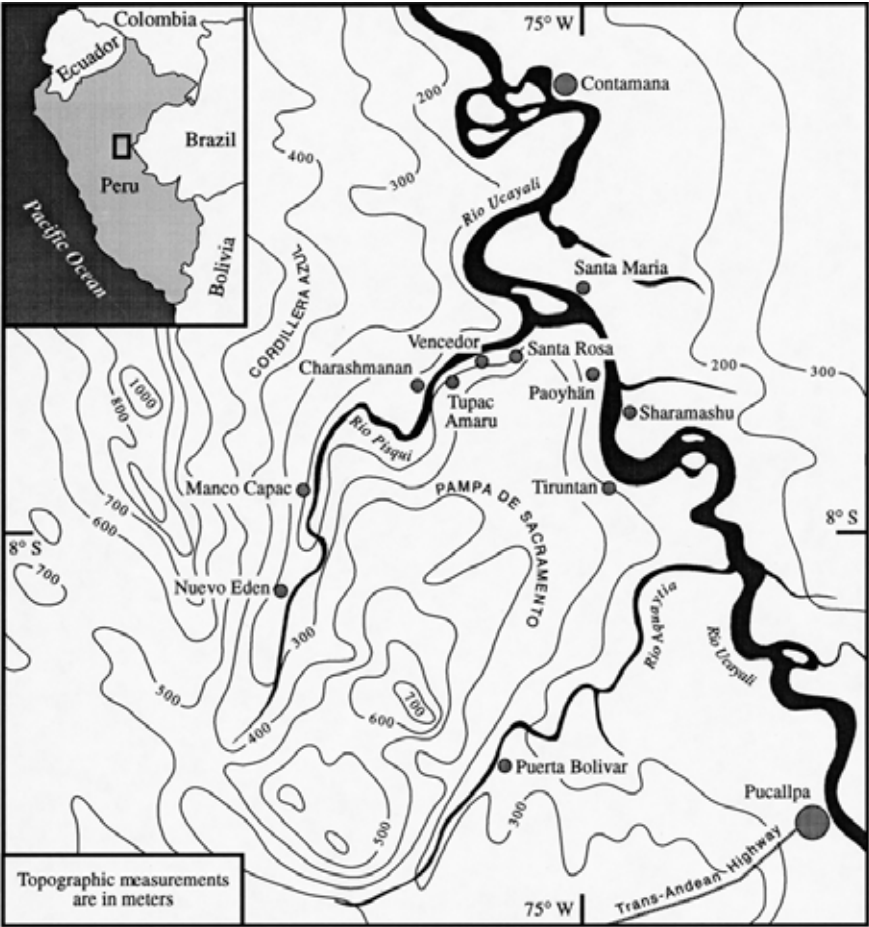


Figure 1. Schematic topographic map, upper Pisqui and Aguaytia Rivers

# Shipibo Hunting And The Overkill Hypothesis

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## INTRODUCTION

In 1973, Paul Martin's provocative paper, "The Discovery of America," was published in *Science*. In his paper, and in other publications, Martin advanced the hypothesis that Pleistocene hunters who had entered North America caused, or contributed heavily to, the extinction of many North American megafauna that existed in abundance just prior to the new human arrivals (Martin 1989, 2005; Steadman et al. 2005). Although I did not set out to test Martin's "overkill" hypothesis, I had several occasions to witness the behavior of Native Americans in the Peruvian Amazon who found themselves in a more or less undisturbed and sometimes pristine natural environment brimming with wildlife unaccustomed to human presence.

## MATERIALS AND METHODS: OBSERVATIONS

In 1991, I traveled to the upper reaches of the Pisqui River, a tributary of the Ucayali River in the Peruvian Montaña. Over a period of decades, the Shipibo Indians of the area had told me various legends about a "hill of salt" in the upper Pisqui, and that it was very dangerous to go there. There were stories about a few outsiders who had lost their lives trying to explore the upper Pisqui. The main source of danger, according to legends, was the disturbance of certain gods who would unleash gigantic floods upon hearing loud noises. Some legends involved the dangers of menstruating women and the disturbance of certain plants and animals by humans.

A major focus of the trip was to reach "Tashi Manān" (hill of salt), where the ancient Shipibo obtained all their salt supplies prior to European



**Figure 2.** Grinding salt from Tashi Manān

contact. The Shipibo informed me that their ancestors had managed a brisk trade in salt, stones (unavailable on the Ucayali flood plain), and certain clays used for painting.

The first stop on the journey was the village of Nuevo Eden, where, on several occasions from 1984, I had worked as a physician and epidemiologist conducting ethnographic and demographic research (Hern 1992a, 1992b, 1992c). Nuevo Eden is located about twenty kilometers from the base of a spectacular mountain range, the Cordillera Azul, which rises abruptly from the western edge of the Peruvian Amazon. According to topographic maps and my transit measurements,



**Figure 3.** The village of Nuevo Eden with Mananshua Manān in the distance.  
Village location: 8° 25' 57.80" S, 75° 43' 43.2" W c 260 m

the summit of the highest peak visible from Nuevo Eden, “Mananshua Manān” (Turtle Mountain) is 1,434 meters, whereas the elevation of Nuevo Eden is about 260 meters above sea level.



**Figure 4. Poling up the Pisqui in a dugout canoe**



**Figure 5. Tomás and Bernaldo pushing a canoe and gear through rapids on the upper Pisqui**

According to the Shipibo, the area west of Mananshua Manān is unexplored—it is just too dangerous to go there. We started up the Pisqui from the village of Nuevo Eden, some 400 tortured kilometers up the Pisqui from its entrance into the Ucayali. The lower Pisqui passes through several weathered ridges of Jurassic stone, and some of the places where the Pisqui had cut through are quite narrow and treacherous. Riverbank cuts in other places showed large deposits of gravel outwash. By contrast, the Pisqui above Nuevo Eden was bordered for a while by a flat floodplain. Then, as we drew closer to the mountains, the water became shallower and the hills next to the river more pronounced. Soon, we were getting out of the heavily laden dugout canoes so that the Shipibo could push them

up the rapids over the stones. The water was on average about one to two meters deep below the rapids, clear, and with a very fast current.

The further we got upstream from Nuevo Eden, the more fish we could see in the water. On more than one occasion, Bernaldo, the man at the prow of the canoe in which I was riding, would lay down his pole (*tangana*) and, in one motion, pick up his bow and arrow, aim, and skewer through the eye a large fish five meters away. Some of the men would not wait until the canoe was securely above the rapids before grabbing a short multi-pronged harpoon and spearing fish they could see just underneath them. By the time we made our second camp, we had enough fish to feed twenty or thirty people. There were four people in each of our two canoes. There was a lot more roasted fish after supper than we could eat.



Figure 6. Bernaldo taking aim on a fish at the edge of the river

When we finally reached our main base camp after several days poling up the river, we were at the downstream end of a long quiet pool. Beyond its upper reach, the Pisqui became shallower and wider with an even swifter current. We then trekked for three days to a place where it was possible to cross the river. This spot coincided with a shallow rapids that we were supposed to cross in order to begin our climb up and over a mountain that would take us down into another valley to the base of Tashi Manñan.

Just before reaching our last upper Pisqui campsite at the crossing point, I faced a possible mutiny when I discovered that the crew had shot a *maquisapa* (black spider monkey) against my instructions not to kill the animals unless necessary for self-defense. They had encountered an aggressive and threatening tapir with no fear of humans on an earlier trip without me and had resorted to killing it with stones because the shotgun did not work. This time, though, there was no real danger. There was plenty to eat, because I had paid for and brought provisions, and we were leaving uneaten fish behind. The dead *maquisapa* hung on a branch high in the tree and the crew was going to cut down the tree to get it so they could eat it. “Nope,” I said, “I’m paying for the ammunition and this is against the rules. Leave the monkey.” Their obvious, sullen anger made



Figure 7. A crew member holding an *ino huahuin* (tiger catfish) that he speared

me apprehensive, but I made my point. From the Shipibo point of view, killing the *maquisapa* was an irresistible opportunity for fresh meat and, since it was already dead, it made no sense to leave it to rot. Nevertheless, that is exactly what we did. The fact that we already had plenty of food all during the trip to that point made no difference to the Shipibo crew. They wanted the monkey meat. We pushed on without it, but I had the uneasy feeling for a while that my life might be just a little less valuable

than monkey meat.

Reconnaissance showed that the path just above the intended river crossing was gone. The ledge had been washed out since my companions had been there last. We had to find another way. Before departing on this trip, I had managed to obtain detailed topographic maps from a friend at the Peruvian Geographic Survey offices in Lima. According to my information, the maps had been generated by the United States military for the purpose of fighting the Sendero Luminoso terrorist group that had been operating in remote areas of Peru. Also, I had brought with me satellite photographs of the upper Peruvian Amazon that I had obtained from the Goddard Space Center. Finally, just before embarking on the trip down the Ucayali from Pucallpa, I had chartered a missionary plane to fly out over the area of our exploration. It was a spectacularly rugged area marked by heavy forest and steep canyons. I could see where the upper Pisqui flowed along the front of the Cordillera Azul, where it turned into the mountains, and I could see that there were at least two approaches to our destination.

None of my Shipibo friends had ever seen a map, so they could not interpret the materials I had. At each point on our trek up the river from our base camp, I had followed the topographic map and had taken bearings



**Figure 8. Headwaters of Pisqui at the crossing to Huiān Caibima**

and altitude measurements. I was quite sure where we were. After we climbed to the highest point we could find near our latest camp, we could look down on the bend of the Pisqui that flowed behind the hill up into the area of our destination, Tashi Manān. It was clearly impassable. There were only two possible routes I could envision. The first was the traditional one, which involved crossing the Pisqui, following a ledge around to the east side of a large hill, then climbing the hill before passing over into the next valley. Or, there was a second new route that I proposed.

On the map, I showed Benjamin, my crew leader and Bernaldo's older brother, the other possibility. We would

cross the Pisqui and then head in a westerly direction by my compass, bearing over a low hill until we came to another creek that was a tributary of the Pisqui. Benjamin insisted that no such creek existed. We would only reach the southern end of Mananshua Manān and would be no closer to reaching Tashi Manān. It did no good for me to point out, with the map, that we could follow the small creek up its drainage to a certain point and then climb up over a low pass and reach the valley containing Tashi Manān. "Not possible," he said, "there is no creek there." But finally, he decided that since I was paying for the expedition, we might as well try it.

The next morning, each of us took off our boots and pants, loaded our gear on our shoulders, grabbed a short pole for support, and started across the Pisqui. It was not quite hip-deep. The water was cold and the current was swift. A fall would have been a disaster if not certain death. But we all reached the other side safely.

We got dressed and shouldered our packs again. I had a fishing rod with light tackle (good for Colorado trout), and my Shipibo companions had nylon line and hooks. We thought there might be fish in the creek. My Shipibo guides did not believe that we would find such a creek, but they decided to go prepared.

After about a kilometer of hiking through the forest and up a low hill, we came over the crest and saw a large stream. The Shipibo were completely astounded. When we arrived at the bank of a large pond on the creek, we saw hundreds of fish of obviously different species. I baited my hook, cast, and immediately hauled out a forty-five centimeter trout. The Shipibo could hardly contain their excitement.

Within a few minutes, all of the Shipibo had spread out along the creek and were hauling in fish as fast as they could bait the hooks and secure the previous catch. After a while, at my suggestion, Benjamin agreed to call a halt to the fishing, telling his companions that they already had enough. In fact, we could barely carry all the fish back across the Pisqui to our camp.

In our discussions over piles of roasted fish, the Shipibo told me that they had never seen this stream nor did they know of its existence. Since my Shipibo name is "Caibima" ("The traveler who comes from afar but who always returns [here]"), they decided to name the newfound creek "Huiān Caibima" (Caibima Creek). Later, as we were hiking back to our base camp, Benjamin told me that he remembered camping at a spot across from the mouth of a creek that emptied into that part of the Pisqui, but they thought the stream had originated from a point farther north. This confluence could not be seen from the trail we were hiking.



**Figure 9. My crew on the day of discovery of Huiān Caibima**

The next year, I organized another expedition with the intention of exploring Huiān Caibima. I wanted to see if we could use my original plan of following the creek up the drainage until we could climb the low pass separating that drainage from the valley in which we knew Tashi Manān to be. I hired a missionary pilot to fly me and my expedition gear into Nuevo Eden. My crew with my boat (a dugout canoe with a roof) was to come up the lower Pisqui and meet me at Nuevo Eden. Part of my crew would go up the Pisqui from Nuevo Eden with me.



**Figure 10. Poling up rapids on Pisqui, second expedition (1992)**

After about a week of poling up the Pisqui and trekking along the east bank from our base camp, we arrived at the crossing point that we had used before when we had found Huiān Caibima. We forded the river again, crossed over into the Huiān Caibima basin, crossed that stream, and set up a new base camp on the north bank. We had plenty of fish to roast and eat that evening. In the morning, we cached our supplies above the high water line and started up Huiān Caibima, this time with the intention of going as far as we could and getting over the pass into the headwaters of the Pisqui to find Tashi Manān. It was rough going very quickly.

The first thing that happened was the discovery by the Shipibo of a large, unfamiliar track. They were terrified. The track was about fourteen centimeters long. I looked at it, consulted my book on South American mammals by Louise Emmons (1990), and decided it was probably the track of a giant armadillo. The men had heard of such a creature, but only one had seen a dead specimen when he was quite young. We moved on up the riverbank.

About two kilometers above our camp, we came to a series of extremely difficult passages involving large boulders, waterfalls, and deep pools. The river made a sharp bend upriver to the west, and it was obvious that there were periodic flash floods with depths of ten to twenty meters. Just below a narrow trench through which the river flowed, the men left me to fish while they explored ahead to look for a place to camp for the night. Although I had brought wire leader, I found myself struggling to haul in large trout (fifty to sixty centimeters) with large, sharp teeth. Some of them bit right through the steel leader. There were large schools and several species of fish, some of them sharp-spined catfish.



**Figure 11. A seriously carnivorous fish**

Eventually, the men found a place to camp on the south side of the river, and we ascended to a more or less level (or at least, less perpendicular) spot about twenty meters above the river to hang our hammocks. As we settled in, two of the men explored the opposite (north) bank of the river that featured a high ridge that was fifty to one hundred meters above the

**Figure 12.**  
Crew captain Benjamin  
with his catch



**Figure 13.**  
Large catfish caught  
from upper Pisqui





**Figure 14. Author with a good catch for the afternoon on upper Huiñ Caibima**

water. When they returned to the camp, they said it was impossible to go further. The south bank, on which we were perched for the night, looked to be sheer rock cliffs for some ways up the valley. That night, Benjamin assigned one person in rotating shifts to watch for jaguars coming into the camp since we could not hear anything over the roar of the water.

It was cloudy when we got up the next morning and started fixing breakfast. I watched the skies get darker and darker. I told Benjamin that we must break camp and get downstream as soon as possible, and we did. It was raining hard by the time we got below the first big rock fall and bend in the creek above our base camp. We walked fast in the middle of the stream because the banks were so difficult to pass. We pulled out our cached supplies quickly and headed for our crossing point in the Pisqui. The river was already ten to twenty centimeters higher than when we had crossed two days before and the current was swift. It was difficult to keep from being swept downstream. We all arrived safely—but cold, wet, and tired—on the opposite bank. The river was now rising several centimeters a minute. Within a half-hour, it was a raging torrent a meter deeper than when we had crossed. Because it was late August and the rainy season was approaching fast, I had to doubt that we would have made it out of Huiñ Caibima at any later time.

Three days later, we arrived at our canoe base camp downstream and had a break in the weather. Benjamin caught a catfish over a meter long that seemed almost as long as he was tall. It could have fed all of us, but that was not enough. The canoes were full of fish and the men kept spearing them, catching them on a line, and hunting them with bows and arrows. There was no salt, sun, or time to preserve the fish. The night before we left, it rained hard. The water came up, and the giant catfish that Benjamin had caught was swept away downriver. We still had plenty of fish to eat.



**Figure 15. Upper Pisqui, main channel, August dry season**

## DISCUSSION

Martin's Pleistocene overkill hypothesis is controversial, and my field observations of the Shipibo hunting practices are extremely limited. But in the 1960s and 1970s, my observations of daily life in a Shipibo village frequently included men returning from hunting or fishing trips with much more catch or kill than they could easily carry, and the food was immediately distributed among the immediate and extended families of the hunters. The field trips in the 1990s, however, convinced me that what I was watching was a small illustration of the overkill activities suggested by Paul Martin's work. We entered a pristine area that had experienced little and sometimes, apparently, no history of human contact or exploitation. The availability of wild game and fish to be caught and killed as food was irresistible to the Shipibo men with whom I was traveling. The fact that they—as superb athletes, hunters, and fishermen—could easily obtain far more protein food than they could possibly eat or preserve was completely irrelevant to them. The only reason that the environment we entered had so much easy-to-kill game and fish was the absence of human occupation and use. It was a place that was extremely hazardous and essentially uninhabitable, due to constant rain most of the year, flashfloods, little to no cultivable land, and little to no terrain suitable for occupancy. These observations were confirmed by the Rapid Biological Inventory Study (2001) conducted by several research institutions in preparation for and

support of the establishment of the Parque Nacional de Cordillera Azul Biabo, which includes a portion of the upper Pisqui described in this paper and located approximately at 75°30" W, 8°30" S (see Alverson, Rodriguez, and Moskovits 2001). As shown in the new Field Museum report, the area described by me in this essay adjoins new timber concessions that would threaten the pristine nature of this ecosystem.

## CONCLUSION

The upper Peruvian Amazon in the 1990s is a long way from the high plains and valleys of North America at 11,000 to 14,000 BP. Nevertheless, my field observations of Shipibo hunting and fishing practices in a pristine area of the Pisqui River headwaters appear to support the hypothesis, proposed by Martin and others (e.g., Steadman et al. 2005), that indigenous peoples, as they entered the North American continent, rapidly and aggressively exploited plentiful game resources in areas previously uninhabited by humans.

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