

Pick from the Past

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Mystery of the Prehistoric Stone Balls

By Eleanor Lothrop

Photographs by the Author and Paul Allen

As the unscientific wife of a scientist, who for years has tagged along on archaeological expeditions, I have witnessed many seemingly unexplainable discoveries, but none has provided a greater challenge or teased my imagination more acutely than the unbelievable stone balls found in Central America. The riddles they pose would threaten the deductive powers of a Sherlock Holmes.

Why should hundreds of these perfectly shaped spheres, ranging in diameter from a few inches to eight feet, be scattered through the jungles southwestern Costa Rica? How could prehistoric people have shaped them with only the crudest of tools? And how could they have moved them over hill and dale from the distant sources of stone? No other stone balls of like size have been found anywhere else in the world, except for a few in the highlands of Guatemala and in Vera Cruz. The smooth, beautiful and almost perfectly rounded spheres give mute testimony to the artistic powers of an ancient people and tax modern man's ingenuity in explaining their workmanship and significance.

My acquaintance with them came about by pure chance.



The author and her husband resting by one of the spheres. But for a revolution, they might never have investigated them.

A few years ago, my husband and I had made plans to spend the winter digging in a small Costa Rican town called Filadelfia, near the Nicaraguan border; where we had begun work the winter before. We reached Costa Rica prepared for any emergency, or so we thought, but we had overlooked the possibility of a revolution. There had been shooting and a few murders near the Nicaraguan frontier, bandits were taking advantage of the situation to loot the countryside, and Filadelfia might well be on their route. We wanted to keep to our plan,



Some of the balls are more than six feet in diameter, and were moved many miles over hill and dale from the nearest source of stone. Some were even found on mountains.

but the Lothrop's were not thought to be worth a possible international incident, and Filadelfia was declared definitely out of bounds.

Two weeks after our arrival in Costa Rica, we were comfortably ensconced in the house of friends in San José, with no apparent prospect of getting any further. Neither Sam nor I was happy. We were feeling especially desperate one day when our hostess came forth with the magic word.

“Palmar.”

Palmar? What's that? asked Sam.

A banana plantation on the Panamanian border, she answered.

“And what do you find there besides bananas?” asked Sam, without much enthusiasm.

“Well,” said our hostess, “there may be ancient burials, although I'm not entirely sure. But there are some very strange stone balls—obviously prehistoric, though no one knows what they represent or where they come from.”

“No one knows?” said Sam. His eyes lit up, and his face took on the look of a bloodhound about to be let loose on the scent. After all, the work of an archaeologist and a detective is basically the same, with the small difference that a detective gets much better pay.

“Let's go to Palmar,” said Sam. At Palmar, we found that the United Fruit Company had built an elaborate settlement for their employees in the midst of a steaming jungle some twelve miles from the Pacific coast. We were allotted the comfortable house of a vacationing employee and were soon looking for the stone balls. We didn't have far to go. Next door was the house of the company manager, and beyond it a public park. In the exact center of the park was a perfectly rounded sphere about three feet in diameter.

“Sam, we’ve found it,” I cried, feeling like Archimedes, or perhaps Mrs. Archimedes.

“It!” exclaimed the company manager. “Why, there are lots of them. Are you interested?”

We admitted we were very much interested, and the company manager straightway took us on an inspection tour. We crisscrossed thousands of acres under cultivation, and the countryside fairly teemed with stone balls. The company manager seemed to know each one personally and stopped the car six or seven times for us to get out and take notes. A few days later we started work in earnest.

In two months we examined 60-odd balls in their original locations; some underground where they had been covered with silt from overflowing rivers. There must have been hundreds or even thousands we didn’t see. There were also great chunks of rock, the remains of balls that superstitious natives had blasted to bits in the belief that they might contain gold.

The balls were almost all carved from the local lava, and they varied in size and workmanship. Even the poorer ones, however, were extraordinarily well made, and our measurements showed that the ones that had apparently been shaped by the Epstein of that time were nearly perfect spheres.

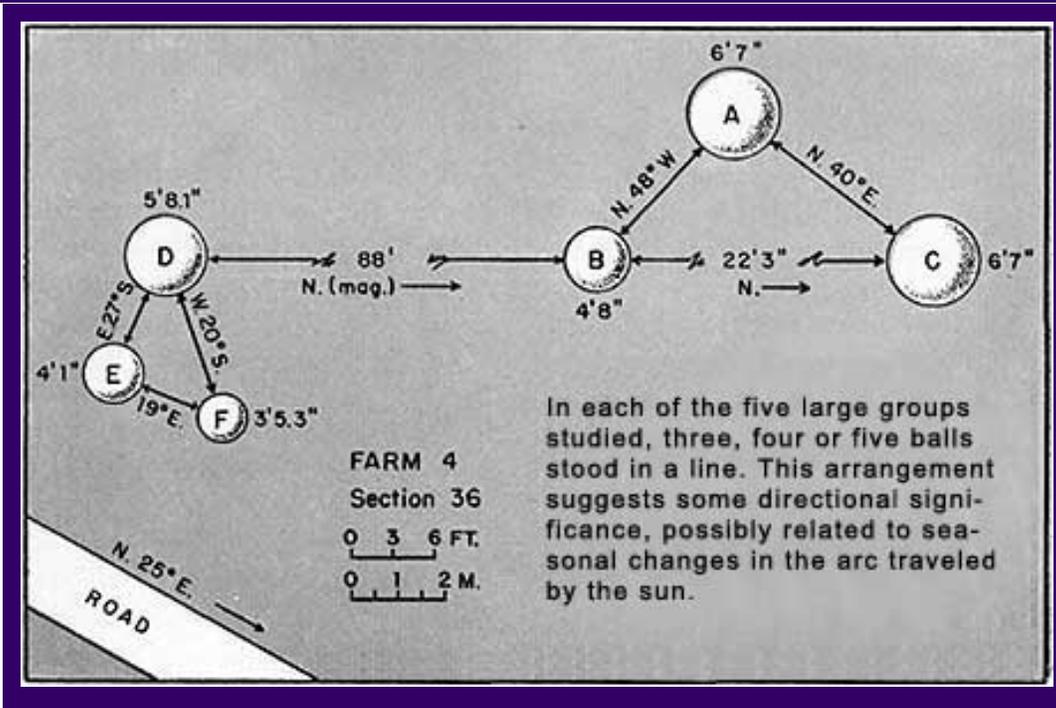
On the morning we started work, I was surprised to see that Sam’s equipment consisted of a tape measure and a fishing line with a lead sinker hanging from the end of it.



Whatever their original purpose, these round balls now decorate the lawn of the banana plantation manager, who had them placed there for ornamental effect.

“Where’s your hook?” I asked, wondering if he had decided to have a day’s fishing on the near-by river.

He gave me a long-suffering look. “This is a plumb bob,” he



explained. "It is attached to what is called a plumb line." He spoke slowly and clearly as if to a child. "As the bottom of many of the big balls are underground, and it would take too long to dig them out, we will use the plumb bob to measure their diameters to find out if the balls are perfectly round. See?"

"Of course," I said at once, although I didn't see at all.

I still don't see, although for many days I watched Sam performing incredible gyrations with plumb line dangling from one hand and tape measure clutched in the other, while I ran around blindly jotting down figures.

The first site we tackled contained three enormous stone balls, and after several hours of mysterious computations, Sam pronounced all three to be six feet in diameter and practically perfect spheres.

"Good," I said with relief, as the temperature had reached 94 degrees and my head ached. "Let's go home and have a cold drink."

"Not at all," said Sam. "As long as the diameters don't show any variation, we'd better take the circumferences."

"Why?" I asked, which is the word I use most frequently on archaeological trips.

Sam sighed. "Because anything that is six feet in diameter must be almost twenty feet in circumference, and errors will therefore be more easily detected."

This time I swallowed the "why" because I recognized that no explanation would make a mathematician of me. So we enlisted the aid of two workmen to help hold the tape.

Even so, it was a difficult

job. We took five circumferences on each of the first two balls. Sometimes I would climb on top of the sphere, sometimes lie on the ground, and occasionally I tried to stand on my head. When the measurements all turned out to vary less than an inch, I decided we had done an awful lot of work for nothing; but Sam seemed pleased. And Armando, one of our workmen, a youth of 22 who was wildly enthusiastic about everything American, said "Okay." He had mastered two other English phrases: "What's cooking?" and "Nuts to you," neither of which he understood.



Almost all of them were carved from the local lava. Nothing has been found of any of the tools or instruments that were used in making them.

It was hard to believe that the stone balls could have been manufactured without some mechanical aid, but no instruments of any kind were found to give us a clue.

If the conquering Spaniards ever witnessed the process, which seems unlikely, they made no record of it. As there were no stone quarries in the neighborhood, we asked Armando, who had a life-long knowledge of the surrounding country, whether he had ever seen one.

"Never," he answered. "There are none anywhere near here."

"You're sure?" Sam insisted.

"Sure," said Armando, and added, "Nuts to you."

This time, by pure chance, he had picked the right phrase.

Others we asked agreed that there were no quarries within miles, and we ourselves conducted a fruitless search. The balls must therefore have been manufactured at some remote spot, as the rough blocks could never have been moved any distance. The largest ones must have weighed a great many tons.

It is hard enough to imagine how the Indians managed to roll the finished spheres through overgrown jungle



A stone animal that was carved by the same people

and to the tops of adjacent mountains, where some of them have been found.

“In fact, it’s impossible,” I said to Sam. “I believe they are some sort of cosmic phenomenon like meteors. Maybe they dropped from the sky.”

“If so, it’s lucky they didn’t hit anyone,” said Sam without a smile.

“But seriously,” I insisted, “even Man Mountain Dean couldn’t have transported one of these enormous things on dry land. And as for crossing the rivers. . . .”

Sam interrupted my eloquence and put me in my scientific place. “The Indians undoubtedly built rafts for carrying them over the rivers in the rainy season when the water was deep.”

“But why was it so important to get them here?” I asked. “And why did the Indians bother to make them? It must have taken a man a lifetime just to turn out one, and what could he do with it when it was finished?”

And so, not having done very well with our first problem, we found ourselves up against our second.

The stone balls were obviously of great importance to the people who made them, though they could have had no practical purpose. I spent my time trying to think of every possible use to which they might have been put, even entertaining the notion of games for the kiddies or bowling contests. Some did weigh only a couple of pounds, but most of them would have required an army of men just to set them in place.



Excavations to ascertain age were made where river silt had buried balls near other artifacts.

“I have come to the conclusion,” I finally pontificated, “that the balls had no useful purpose.” Which of course Sam had known all along.

“Could they have been for decoration?” I asked.

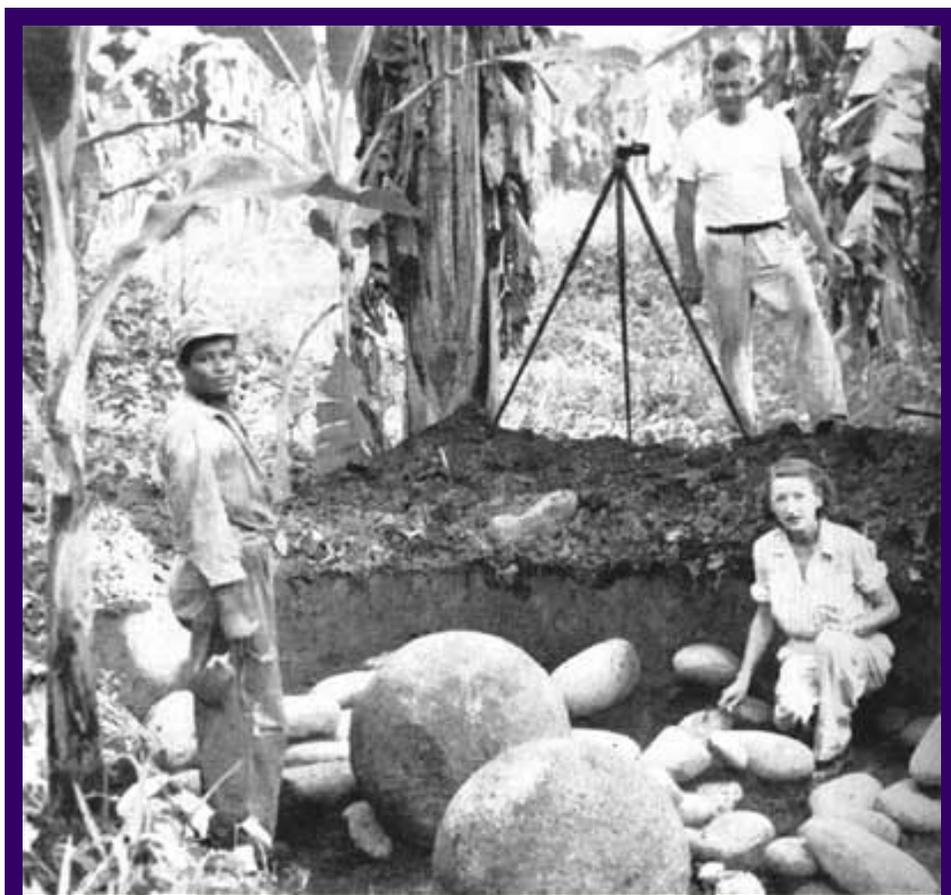
Sam shook his head. “They must have had religious significance,” he said. “Their position bears out that theory.”

“Position?” I asked, completely confused. “How?”

“We’ve examined five large groups,” he explained, “of which at least three appear to be in their original positions. In each case, there was a base line of three, four, or five balls. All these groups had additional balls flanking the main line in such a fashion that three of them formed a triangle. By arranging them this way, various lines of sight were created, which may be of astronomical and ritualistic importance.”

“Why?” I asked.

Sam gave me a look of patient forbearance. “Because these lines of sight may very well have had some relationship to the sun, thus showing seasonal changes and helping the people to know the right time of year to plant their crops. In certain regions of the Maya area the Indians built structures for this purpose. Some of the Maya stelae, for example, are linked to astronomy. And here the same result was probably obtained by means of the stone balls.”



The Lothrop's found stone balls in one of the first places they dug. These two had been silted over among boulders.

“But that’s a practical purpose,” I protested. “Not religious.”

“Astronomy and religion were closely associated with the practical pursuits of life such as agriculture,” Sam said.

I nodded and tried to look intelligent. It was obvious even to me that the stone balls must have a religious significance, if for no other reason than that it was the only explanation for them.

The third question—when the balls were made—was the only one for which we found a definite, if only partial, answer. Sam had decided to devote the rest of our stay in Palmar to digging for other evidence of

the people who made the balls. This delighted me, because a dig is very much like a treasure hunt; and it delighted the workmen even more, who were certain we would find gold. It seems that three years previously a large piece of ground was being prepared for cultivation when a Costa Rican who was driving a bulldozer noticed a glitter in the earth. Jumping out of his machine, he clawed excitedly at the ground until he extracted a pot filled with gold ornaments. He promptly removed his helmet,

stuffed it with treasure and disappeared, leaving the engine of the bulldozer running.

He sold six of the pieces in Palmar for about \$240; the rest he took to San José where, according to local gossip, he disposed of them for \$7,000, living for one year in the capital in great style on the proceeds. He was now back at his old job penniless after his big fling.

This story had fired the imaginations of all the other Company laborers, and the spot had been pulled to pieces, although nothing more had turned up. The Fruit Company had finally been forced to decree that digging without special permission was illegal.

We found no gold; but we did find two stone balls in one of the first pits we sank; They were not far below the surface; and we dug them out in order to see if there was anything underneath. The balls were resting on stone platforms; so we knew they were in their original positions.

When pottery turned up below the area where the platforms had been placed, Sam's expression resembled that of a man who had found the equivalent of the Kohinoor diamond; The pottery was interesting, and I was pleased too, but Sam's enthusiasm seemed excessive.

"It may give us an idea how old the balls are," he explained.

Sam's optimism was justified. Some of the pottery under one of the stone platforms turned out to be of classical Chiriqui type, best known in western Panama. We already knew from other evidence that this pottery was still being made at the time of the Spanish Conquest. Thus, by the same token, the stone ball found above it must also have been made at approximately the same period. The majority of the stone balls were probably considerably older, but it is safe to say that, although their date of origin is open to speculation, the cult of making stone balls was a late one, continuing into the sixteenth century.

Some day more information may be procured, but meanwhile the balls remain as enigmatical as the huge statues on Easter Island or the monuments of Stonehenge. In each of these places, enormous stones have been quarried, shaped, and moved without mechanical devices except ropes for hauling them and inclined ramps for lifting them.



Dr. Lothrop removing pottery from the same cultural horizon as the stone balls.

Investigations proved that they were made around the time of the Spanish Conquest or earlier. No written records of them exist.

Maybe our own civilization contains elements of material culture that will survive all knowledge of their purpose. So it goes: one era's triumph is the next era's riddle.

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