

**The Statues that Walked: Unraveling the Mystery of Easter Island** By Terry Hunt and Carl Lipo. Pp. 256, figs. 40, tables 3. Free Press, New York 2011. Price not available. ISBN 978-1-4391-5031-3 (hardcover).

There are rare cases, when tedious archaeological data are presented in such a delightful manner that makes reading an enjoyable activity. *The Statues that Walked: Unraveling the Mystery of Easter Island* by Terry Hunt and Carl Lipo is a book that satisfies such criterion. The strength of the book is found on the simplicity of its language. It is written in such a vibrant style that even the least knowledgeable reader of archaeology and Easter Island would be able to make sense of it. The arguments are presented logically one after the other, leading the reader to reach and accept the conclusions that the authors have put forth. In addition, the archaeological evidence is sprinkled quite often with historical accounts, making the process of understanding more fun. I congratulate the authors on such a delightful work.

The main premise of the book contradicts previous assumptions about the inhabitants of Easter Island. The story of the island became legendary by Jared Diamond's book *Collapse: How Societies Choose to Fail or Succeed*,<sup>1</sup> where the inhabitants of Rapa Nui (the name of Easter Island in the native language) exemplified the type of society that destroyed itself by overusing and abusing its own environment. Diamond's account was presented as a cautionary tale of environmental degradation caused by careless humans, who in this case, sacrificed their island's resources to satisfy their own competitive ways. This was epitomized in the image of Islanders cutting all the trees to transport their enormous statues from the quarries to the islands' edges. However, Hunt and Lipo's explanation differs radically from Diamond's conclusions.

Their story is one of environmental stewardship and human ingenuity, in which a group of people manage to survive despite the resource shortcomings of their habitat.

The first chapter deals with the very nature of the Rapa Nui. The readers are introduced to "a most mysterious Island," as popularized in a variety of books and documentaries, where a small group of people were able to erect giant statues in a remote island in the middle of the Pacific Ocean. Initially, the authors went in Rapa Nui with the goal of contributing to the already known prehistory of the place. However, the understanding of what happened in Easter Island started to change when the authors began excavating there in 2004 and 2005. The earliest dates for the island's colonization were much younger than previously thought, by almost 400 years (from 800 C.E. to 1200 C.E.). These new dates triggered a renewed thinking for the collapse of the Rapa Nui society, because the disappearance of the giant *Jubaea* palms and other trees would have been a much faster process. This contradicts the interpretation that humans were cutting down the trees to transport statues, because this process would have been much less abrupt.

A number of paleoecological studies provided evidence for the timing of the deforestation process. It started around 1280 C.E. and most of the trees were gone by 1650 C.E. According to the new data, one of the main culprits for this deforestation were Polynesian rats, introduced during the initial occupation of the island, which explains the higher rates of deforestation immediately after colonization. Obviously their high birthrate coupled with a lack of predators lead to the exponential increase of the number of rats in the island. Extraordinary amounts of rat bones and palm seeds bearing teeth marks were found in almost every stratigraphic layer.

Additional evidence for this phenomenon comes from many other Polynesian islands as well, where rats (and other species) have destroyed the local ecosystems.

The Island's lack of resources is discussed in detail in Chapter 3. The Island had very little to offer in terms of wild flora and fauna, in contrast to other Pacific islands, which are usually portrayed as bountiful paradises. Archaeobotanical data reveal a very poor environment, having only 20 species of plants. In addition, there was no coral reef nearby to support any variability in fish types. The land was extremely non-nutritious and the fresh water was very scarce. In other words, the natives should have had to deal with a very poor diet. However, the skeletal remains show no signs of malnutrition. This is surprising, because many early European explorers that visited the Rapa Nui were stunned by the small efforts that the natives allocated to their subsistence. This contradicted the enormous amount of labor they had put in erecting giant statues. Its remoteness and floral scantiness, together with its relatively small size, make it even more surprising to find over 950 large statues, for which the island is famous. It seemed quite a challenge to make a living there.

How did the people of Rapa Nui manage to deal with their impoverished soil to produce the few crops that could grow? Two ingenious agricultural techniques were used: (1) the construction of circular rock enclosures called *manavai*; and (2) the practice of extensive lithic-mulching. The first one permits for protection from wind therefore minimizing soil dehydration. In the second, tennis ball size rocks are spread through large unproductive tracks of land, which would have increased the mineral content of the soil's surface and it would have increased its humidity levels as well.

Chapter 4 and Chapter 5 tackle the evidence for the transportation of the giant statues,

or *moai*, as called in the native language. The authors find no evidence for the horizontal dragging of the statues through the use of palm trees, as suggested in Jared Diamond's *Collapse*. For a better understanding on the transportation method, the Hunt and Lipo team began scrutinizing the statues themselves. Almost all the statues that had fallen during the transportation were not completely carved like the finished ones standing on top of the stone platforms. The center of gravity in the former is located in the middle of the statue in the vertical and horizontal dimension. However, in the depth dimension (back to front) the center of gravity is located remarkably forward relative to the base of the statue. This suggested that the *moai* were probably moved in the upright position. In addition, the fallen statues along the road were broken in a manner to suggest vertical transportation. The same was deduced from statues heading either upslope or downslope, where in the former they were found resting on their backs and in the second resting on their faces. Experiments have revealed that you could move large objects by rocking them back-and-forth with ropes tied above the center of gravity, requiring even less people and less efforts than horizontal dragging. In fact the Rapanui (as the islanders are known) have songs and legends for "walking" moai, using a specific word for the unique motion called *neke – neke*, meaning "inching forward by moving the body with no legs."

Another previous assumption is examined in Chapter 6 – the propensity of many Pacific populations to exhibit violent behavior. Raids and fighting were common among Fijian, Tahitian and Hawaiians. Consequently, tradition and common sense (lack of resources = violence) would suggest that even the Rapanui were violent. However, this was not the case. The signs for lethal trauma in the skeletal remains are almost absent. Even non-lethal marks were rare, comprising

only 2.5% of the five hundred individuals. There is even less evidence for weaponry in the archaeological record. The only sharp objects to be considered as a weapon were semi-circular shaped obsidian flakes with a stem for hafting. Microscopic ware patterns, however, indicate that these were used to cut plant materials only.

The lack of a nucleated villages and towns is another peculiar cultural attribute of Rapa Nui. In chapter 7, the authors challenge the Western assumption that cultural elaboration requires complex societies as its main condition. The reason for this, according to the old theories, is that complex societies make use of labor surplus to invest in magnificent cultural achievements. However, evidence from houses reveals no indication of nucleated settlement patterns. In fact the houses seem to be scattered throughout the island. The situation echoes other places with monumental constructions. Hunt and Lipo present three such cases: Stonehenge, Hopewell and Adena communities. Cooperation is all that is needed. In all three of these cases we have large monuments, but no centralized economic and social organization.

Then, why build the statues? Why invest so much time and energy, when they could be spent to increase agricultural production? These questions are answered in chapter 8. A theoretical framework for an explanation is found within two evolutionary biology concepts: (1) *costly signaling*, and (2) *bet-hedging*. Costly signaling is principally a non-verbal communication. It sends accurate information about the qualities of the signaler to an interested audience. It is considered 'costly' because it simply cannot be faked, therefore, guaranteeing accuracy. The construction, transportation and display of multi-ton statues convey important qualities of the people behind these activities. The benefit for the signal sender is attracting mates and an access

to help from future allies. The benefit for the signal receiver is accurate information about the sender's qualities.

Bet-hedging is a strategy that biologists have noted in environments with scarce resources. The key to evolutionary fitness success for a particular organism is the number of heirs in the long run. One way is having many children, which might make a lot of sense in some occasions. However, in environments with limited and unpredictable resources the opposite reproductive behavior is more effective; that is smaller number of offspring and more parental care. In the case of Rapa Nui (and others), any investment in cultural elaboration requires expenditure in time and energy. These activities do not have any direct and obvious benefits to the survival of the organism involved, because this might seem as wasted time and energy. However, it is because of these wasted resources that an indirect benefit comes about. A more optimal use of time and energy would have been allocated on food production and reproduction, which would have increased the population number in the island. This would have brought a catastrophic strain on its resources and a probable demise of the Rapanui.

The collapse of the islanders' way of life came immediately after their first contacts with the European travelers (chapter 9). A cultural collapse was the outcome of European goods. An example is given with the obsession of the natives for hats, which was the first thing that the Dutch and Spanish explorers noted. Hats were important in Polynesian cultures, as observed also in the large *pukao* hats that were placed on the heads of the statues. Due to the intrusion of European goods into their own culture, the native discontinued the building of more statues and abandoned the maintenance of the existing ones. In the late 19<sup>th</sup> century and the beginning of the 20<sup>th</sup>, the island saw

the rise of the cargo cults. This was another indication of the disruption of the native culture due to foreign influences.

The second form of collapse was more deadly. The Rapanui were not immune to the multitude of diseases brought unintentionally by the Europeans. The population was decimated by a number of epidemic outbreaks, including sexually transmitted diseases. After the Dutch and the Spanish, the British under captain Cook reported that there were only 600-700 people in the island and even these were suffering from numerous diseases. The abuses toward the people of Easter Island continued with several attacks by many “visitors” and culminated with the Peruvian large-scale slave raiding. By 1877, the population of the island reached its lowest point of just 110 people. In addition, the Peruvian government had loaned the island to a British trading firm, which used it for sheep ranching. This was the highest ecological impact to the island. The Rapanui were confined to a small area of the island and the rest of the land was for the sheep to roam on. Finally, it was only in the middle of the 20<sup>th</sup> century that the Rapanui got their autonomy and elected their first native governor.

Chapter 10, as the conclusion of the book, reaffirms that the story of Rapa Nui is not a cautionary tale of ecocide, as portrayed in Jared Diamond’s *Collapse*. It is a story of success, where the ingenuity of a small group of people led to their survival in a remote and small island in the middle of the Pacific. It is a story of a choice of long-term stability over short-term benefits, as the authors put it. It provides a lesson that the current people of the world can learn from.

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Endnotes:

1 Diamond, Jared M. 2005. *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking