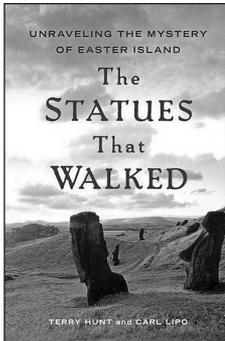


Book Reviews

Hunt, Terry and Carl Lipo. *The Statues that Walked. Unraveling the Mystery of Easter Island.*



New York: Free Press, 2011. 256 pp.
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US\$26 (hardcover).

Review by Mark Golitko,
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This concise and entertaining book by Hunt and Lipo, intended for a popular audience, presents a challenge to the evidential basis of the argument put forth by Jared Diamond in recent publications including *Collapse* (2005), and in earlier volumes by Flenley and Bahn (1992, 2002), in which those authors argue that the prehistory of Rapa Nui is an example of human “ecocide.” To summarize briefly (although I suspect readers of this journal will be well versed in the essentials), Diamond argues that Rapa Nui was catastrophically deforested by a rapidly growing population after first settlement (~ AD 800). In part, the wiping out of the giant *Jubaea* sp. palms that once covered the island resulted from construction of the island’s famous *moai*, as chiefs vied with one another for prestige by constructing ever larger statues and platforms, which required vast quantities of timber to move. By the time of European contact, the ecological catastrophe wrought by the island’s inhabitants had resulted in intensive warfare between clans, starvation, and population collapse such that a peak population of over 10,000 had been reduced to a mere 3,000, later to fall to less than 200.

In contrast, Hunt and Lipo present the prehistory of Rapa Nui as a story of human triumph in an inherently unproductive and challenging environment, one that was catastrophically cut short by European introduced disease and social upheaval after 1722. In particular, they argue that island settlement occurred only after ~ AD 1200, with rapid population growth to a maximum of only ~ 3,000-4,000 people, the same number observed by Spanish visitors to the island in 1770, implying the maintenance of a relatively stable population during the roughly five centuries of pre-contact occupation on Rapa Nui. They argue that deforestation was substantially induced by introduced *Rattus exulans*, and that despite a loss of trees, islanders were able to maintain a stable subsistence base by employing intensive lithic mulching and the construction of stone *manavai* (Chapter 3) to grow the few crops that could survive in the sub-tropical climate and poor soils of Rapa Nui. They further argue that construction and movement of *moai* was accomplished by small groups of independent craftsmen,

and that their movement was accomplished (in an upright position) using only small amounts of wood (Chapters 4 and 5). They also argue that Rapa Nui society was relatively non-stratified (Chapter 7), dispute evidence for widespread violence during the immediate pre-contact period (Chapter 6), and suggest that *moai* construction and maintenance of a male-biased sex-ratio were utilized as bet-hedging strategies that limited reproductive expenditure and thereby helped to maintain steady population levels (Chapter 8).

The authors present a compelling counter hypothesis to the “ecocide” arguments of Diamond, Bahn and Flenley, and others. I find some sections convincing and exceptionally well argued, particularly those relating to the late settlement chronology they propose (and implications for the rate of population growth to a maximum after only a short period of settlement), deconstruction of the island as an ecological “paradise” for initial human occupation, and their arguments regarding *moai* transport and the amount of labor invested therein, which draw on previously published data and in some cases substantial new information and reanalysis by the authors.

At the root of the “ecocide” argument are two primary issues—prehistoric deforestation, and prehistoric population levels. As regards the first, I do feel that the authors present less evidence against poor forest management than they seem to claim—unlike Athens’ data from the Ewa Plain on Oahu that the authors refer to, where evidence for rat impact clearly precedes evidence for sustained human occupation, pollen and charcoal core evidence on Rapa Nui, as acknowledged by one of the authors elsewhere (Hunt 2007: 497-498), does not place all the blame on *Rattus exulans*—evidence for both rats and humans appear together at ~ AD 1280. The real question remains whether or not deforestation had a severely negative impact on the island’s potential to support the human population, and how well the people of Rapa Nui were able to deal with deforestation prior to European contact. Unfortunately, there are no good data on prehistoric population numbers to answer the question of what maximal population might have been, and when it declined. The authors acknowledge this elsewhere, and *The Statues that Walked* would have benefited from a discussion of problematic obsidian hydration dates they have previously presented (Hunt & Lipo 2009: 609), as these form primary evidence cited by Diamond (2007: 1693) for pre-European contact population collapse, but (if they can be trusted at all) actually indicate decline in population only after ~ AD 1750.

My only major quibble is the contention by Hunt and Lipo that the people of Rapa Nui maintained a “Peaceable Island” for the duration of pre-contact settlement, which I find problematic on two accounts—one evidential, one theoretical. In their review of osteological evidence for violence previously published by Owsley *et al.* (1994), they cite a value of ~ 2.5% of individuals as displaying traumatic injuries, and argue that

this figure represents a relatively low rate. To explain how islanders maintained peace in a challenging resource-poor environment, the authors introduce a game-theoretical model of “hawks” and “doves,” utilized by evolutionary biologists to explain the development of cooperation. This model assigns arbitrary pay-offs and penalties to playing either strategy—depending on how these values are defined, the stable ratio of “hawks” to “doves” can vary considerably.

Viewed in cross-cultural perspective, a rate of injury of 2.5%, far from being low, is actually very high (e.g., Keeley 1996). Furthermore, a review of the primary data from which this number was abstracted reveals that this is the averaged percentage of all cranial remains, not individuals, bearing such evidence. If one considers frontal bones of males only, where one would expect the primary evidence for injuries to be most prevalent in close range fighting with blunt weapons—as appear to have been primarily utilized on Rapa Nui—over 15% of all individuals in the cited study bear signs of injury. Similarly, 7.4% of male left parietal bones—where a right-handed attacker would also be likely to strike—were fractured. Admittedly, it is unclear whether the study sample, spanning the period between AD 1400 and 1650, is to be interpreted as a reliable average for that time period, or a severe but brief outbreak of violence averaged across a longer period of relative peace. At any rate, the lack of any skeletal material dating prior to AD 1400 makes it difficult to judge whether or not violence increased dramatically after this time, or was prevalent from the time of first settlement. While many injuries appear to have been sub-lethal (i.e., did not result in death), the frequency in the Rapa Nui skeletal material nonetheless indicates a high rate of inter-personal violence. It remains to be demonstrated that declining ecological conditions and growing population did not in fact contribute to shifting the relative pay-offs and penalties such that more and more “hawks” entered the game. If so, endemic and/or epidemic violence may have played a role in keeping population in line with resource availability on the island.

Despite these concerns, and particularly given the popularity that Diamond’s accounts of human history on Rapa Nui and elsewhere have enjoyed, this book serves a valuable role in providing a counter argument in a data-rich, well-written, entertaining format that should appeal to the general public. In an age in which data seem to play little role in public discourse on important scientific concerns (e.g., evolution, global warming, etc...), Hunt and Lipo provide a valuable example of how scientific debate proceeds in a manner that will hopefully demonstrate to readers that dissent and disagreement can push forward the pursuit of knowledge and are fundamental strengths of the scientific approach to understanding the world, not weaknesses that undermine rational inquiry into nature and our place in it. While there are certainly points where critical pieces of evidence are lacking to fully support all arguments put forth, *The Statues that Walked* presents a compelling rewriting of the popular understanding of Rapa Nui, and provides fresh hypotheses ripe for testing.

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Review by John Flenley and Paul Bahn

Science and other kinds of knowledge progress by the promulgation of rival hypotheses, and the testing of these against observations. The trouble with observations is that selecting them, accidentally or deliberately, can bias the conclusions. The new volume by Hunt and Lipo is a striking illustration of this phenomenon. The book is well written and has some reasonably good black and white illustrations. But, it contains many contentious points.

The most fundamental is the date of arrival of people which, on the basis of an excavation at ‘Anakena, they place at AD 1200. But if one wanted to find apparent evidence of a late arrival of people on Rapa Nui—say, within the last millennium—where would one go to look? The obvious choice would be in a sand dune near the sea. Since sea level reached its present position only within the last millennium (Nunn et al. 2007), all earlier coastal dunes would probably have been destroyed. Your dune would have been formed over an earlier sub-soil, exposed by marine erosion, and the lack of conformity between the two would encompass perhaps several hundred years with no record.

This is exactly what Hunt and Lipo describe having done. It is sad that this attitude—using absence of evidence as evidence of absence—seems to be gaining popularity in Pacific archaeology. The astounding gap between the Samoan and Tongan evidence, of people at 2800 BP and no further migrations until AD 1100, could suggest that it is the lack of pottery in excavations, rather than the lack of people, which is the explanation (Flenley 2010). In New