

REVIEWS

**PREHISTORIC RAPA NUI:
LANDSCAPE AND SETTLEMENT
ARCHAEOLOGY AT HANGA HO'ONU**

Christopher M. Stevenson & Sonia Haoa Cardinali
(with contributions by Joan Wozniak,
Helene Martinsson-Wallin, & Paul Wallin)

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Review by Andreas Mieth

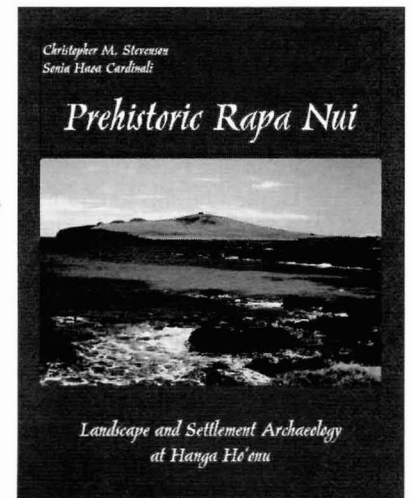
There are few places on Earth that hold such a high density of prehistoric cultural evidence similar to that of Rapa Nui. On this island, perhaps the most remote in the world, it is hardly possible to step forward without stumbling across stony relicts of the ancient civilization. There are hundreds, thousands, or even millions of single archaeological objects on Rapa Nui which are evidence of a unique, worldwide civilization and which, today, still remains to some extent undescribed, undiscovered, and unaccounted for. Presently, many of these objects are buried beneath sediments or lie hidden in grasslands. They are exposed to erosion and weathering or are trampled by grazing horses and cattle. It seems that there is not enough time to collect even the most important of these cultural relicts before many of them are destroyed, forgotten, or lost. The chance to gain detailed knowledge about the prehistoric culture and the ancient living conditions on Rapa Nui with the help of archaeological and geoarchaeological analysis is shrinking with the loss of these cultural objects. But what an unimaginable and hardly fundable assignment it is to localize, describe, classify, document, and interpret the countless archaeological artefacts — completely and exactly — even for a small, confined area! However, together with many helpers, Christopher Stevenson and Sonia Haoa Cardinali have dared to carry out such enormous, extensive, prolonged fieldwork.

A meticulous archaeological survey was conducted for an area of 8 km² (3 mi.²) at La Pérouse Bay on the northern coast of Rapa Nui. From 1995 to 2001, 15 research teams with a total of 120 Earthwatch volunteers participated in the fieldwork. The results of very detailed inventory in the field were combined with high-resolution aerial photography, archaeological excavations, numerous obsidian and radiocarbon dates, and pollen and bone analysis. The data from this enormous work were pieced together like a huge archaeological jigsaw puzzle. The outcome is stunning: more than 2,600 single archaeological structures were identified and documented in the investigation area known as Hanga Ho'onu. Thus, Stevenson and Haoa Cardinali's work is one of the most detailed archaeological surveys ever performed on Rapa Nui.

The culmination of this work now exists in the form of a 297-page book enriched with numerous black and white illustrations, a comprehensive appendix containing descriptions of all their findings in charts and tables, and there is even a pocket containing a large-sized fold-out map documenting the sites and discoveries. Aside from the key authors, the book also contains articles by Joan Wozniak, Helene Martinsson-Wallin, Paul Wallin, Matthew Bampton, Linda Scott Cummings, and Pernilla Flyg.

The authors document the results of their elaborate project in a well-structured manner: from general aspects to detailed facts, from findings to interpretation, from single results to synthesis. After an initial introduction to the general context of the book, consisting of a history of Rapa Nui's culture and landscape as well as a well-founded summary of the current level of knowledge and a discussion concerning research on Rapa Nui, the authors provide an overview of the investigation area and the applied methods. In a separate chapter, the authors include a typological synopsis of the archaeological relicts found in the investigation area. Here, the authors' comprehensive expert knowledge and familiarity regarding Rapa Nui's stony relicts becomes visible; a keen eye and much experience are needed in order to correctly interpret the very diverse and often poorly-preserved structures. The myriad shapes of home and gardening structures, terraces and stone pavings, caves, man-made and modified surface depressions, small quarries, earth ovens, and tombs and platforms are classified with detailed descriptions and clear schematic drawings. This well-illustrated typology earns special credit on its own.

From the quantitative and qualitative distribution of the archaeological structures in the area of Hanga Ho'onu, first the authors divide the area into general classifications of land use before they address a detailed analysis of separate zones — beginning at the coast and ranging a distance of 2.4 km (1.5 mi.) into the interior of the island. Horticultural areas, quarries, and residential areas as well as zones used for sacred functions and regions of miscellaneous functioning and utilization, are distinguished from one another. Wozniak and Stevenson pay special attention to the unique horticultural techniques of the prehistoric population and, in particular, to the technique of stone mulching. Numerous soil profiles taken by Wozniak and Stevenson document the considerable extent of prehistoric horticulture and gardening. There is virtually no stone cover without fertile garden soils and numerous planting pits beneath. In a special chapter, the authors provide a detailed report of a housing area with integrated gardening structures



near the coast. There, in the surrounding area of an ancient domicile, 11 test excavations were carried out in which soil profiles document a great number and diversity of fireplaces and hearths, rubbish pits and storage pits, as well as planting pits from approximately 600 years of land use. In one section of the book, Paul Wallin and Helene Martinsson-Wallin address the survey and analysis of sacred structures in the Hanga Ho'onu area. They prove that the oldest parts of two platforms (Ahu Heki'i and Ahu Ra'ai) were erected between 1200 and 1400 CE. Linda Scott Cumming's analysis of pollen and phytoliths that derived from sediments beneath the base of an *ahu* proves that palm forests were predominant in this area (as also found in the major part of Rapa Nui) before the extensive clearings, intensive cultivation, and gardening of the land.

Stevenson and Haoa Cardinali's synthesis of the many thousand single findings to an interpretative overall picture of the development of culture and landscape is probably the most interesting section of the book. The authors document the spatial and temporal progression of the land seizure in its phases, beginning directly at the coastal area, then gradually spreading to the interior, and finally conquering the higher elevations. On the basis of their archaeological findings, the authors demonstrate that the coastal area changed from a sparsely populated region to a significant sacred zone — that houses and gardens rapidly increased on the coastal plane with the growth of population, that horticulture in the interior became more intensive and larger-scaled and that, in the end, the formerly intensively used areas degenerated and were abandoned around the 17th century. As synthesis of the Hanga Ho'onu findings, and using results from other areas of Rapa Nui, the authors derive a 5-phase-model for the cultural history which, ultimately, they would like to see accepted for the entire island. The model reveals Rapa Nui's vibrant cultural history in a compact and handy form: First, the tentative beginning of land use from subsistence gardening to a hierarchically-organized horticultural production for the community; second, the emergence of megalithic dominance on the basis of high horticultural production outputs; third, the development of sacred and hierarchical structures as mechanisms to control and manage as well as enable intensive horticultural production and megalithic investments; fourth, urgently-needed horticultural methods to compensate for deforestation and worsening of soil and water conditions around the 13th century; and, last but not least, the deterioration of the sacred and hierarchical structures that was accompanied by a decline in population, the abandonment of garden and settlement sites, and the violation of formerly holy sites (the last a situation which culminated under European influence).

The authors correctly refer to the described scenario as a *model* because, in spite of intensive archaeological research, gaps in knowledge still remain. Much datable material is missing and many geo-archaeological documents have been lost because of long-term land use as well as the repeated alteration of houses, *ahu*, and gardens. The authors adequately point out the gaps and the open questions and highlight the point that some of their statements are still speculative. The

construction and validation of the cultural phase model for all of Rapa Nui out of the thousands of single findings from one area (Hanga Ho'onu) is a courageous, but important step. This can only be accomplished by scientists that have developed awareness for the essentials of a subject and who have extensively discussed their own results in the context of other research work. The authors have succeeded in this and they do not avoid observing questions left unanswered by their research. In many places, their summary and synthesis point to fascinating questions of future research. For example: When exactly did the settlement in this area begin? What part did the sweet potato play in the increase of horticulture production? Did the intensive cultivation of the land deplete the fertility of the soils?

One open question in the line of archaeological documentation of the Hanga Ho'onu area that interests me is: How large was the population during the different cultural phases? Would it be possible to estimate the population of this area using the meticulously recorded information about the quantity and quality of gardening and home structures? Would it be possible to deduce an exemplary extrapolation of the population for other areas of similar structure and maybe even for the entire island? For a long time now, we Rapa Nui researchers have been acquainted with the uncertainty of the different numbers publicized about the island's population, for which there is little reinforced scientific basis thus far. The information from the Hanga Ho'onu area could provide an excellent basis for a demographic estimation of population.

With their book, Stevenson and Haoa Cardinali have produced an outstanding analysis of Rapa Nui's prehistoric culture. On the basis of their long and extensive field work, the authors have not written an easily-read book for the lay person, but rather excellent scientific documentation for experts. It is another significant milestone that helps us to better understand how, in the course of time, man and nature have interacted on Rapa Nui. The modelled representations and hypothetical theses derived from the extensive and prolonged fieldwork inspire new questions and new research. Stevenson and Haoa Cardinali's opus belongs in the hands of every researcher and scientist on Rapa Nui. He or she will find methods, scientific strategies, conceptual guidance, and important results that will enrich and stimulate his or her own research projects, either by way of new results, new questions, or new provocative theses. In spite of the great abundance of details, the authors do not lose sight of the overall picture. They establish spatial interconnections from the detailed analysis of a specific landscape section to the other regions of the island; they establish chronological ties from the early settlements to the influence of colonization; and they create a link between different disciplines, such as archaeology and paleoecology. Having said this, Stevenson and Haoa Cardinali's publication is exemplary for networked thinking and networked analyzing. Congratulations to the authors and this great work!