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Martin and Wright, Pleistocene Extinctions

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PLEISTOCENE EXTINCTIONS: The Search for a Cause. Proceedings of The 7th Congress of The International Association for Quaternary Research, Vol. 6.

Edited By

P. S. MARTIN AND H. E. WRIGHT, JR.

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This book brings together a collection of interesting and well written papers expressing some strikingly divergent opinions on a long debated subject, the sudden wave of large animal extinction, involving more than 200 genera, that occurred during the late-Pleistocene period. The consensus reached during the preliminary discussions with the program chairman during the planning of the symposium, that no sounding of opinion of what caused the extinction should be attempted, was followed. This is not to say that the symposium participants did not bring the issues more sharply into focus. Certainly as a result of what was presented, the genesis of the more basic problems was sharpened and just as certainly, it opened these questions to future testing. The ultimate cause or causes of the faunal extinctions during the Pleistocene is of broader interest than is commonly realized because not only are paleontologists immediately concerned with this phenomenon, but also the systematists and phylogenists among the zoologists, and the sociology oriented anthropologists and archaeologists are vitally interested in this question. Certainly in the current attempts to assess the influence of environmental contamination on the future of man, the possible cultural results of man presumably unconsciously changing his habitat during the Quaternary could be an important step toward a constructive analogy with some of the ecological balance problems facing him today.

The basic question of the causes of the expansion and retreat of the glaciation, the phenomenon that in all probability dominated the environmental changes that may have sparked the extinction of the large vertebrates, has engaged man's attention for a longer time and hence has been responsible for the development of a greater number of theories. These efforts can probably be pinpointed back to the publication in 1840 of Louis Agassiz's "Études sur les Glaciers," followed by four years of constant study on the glacier of the Aar, the results of which appeared in a second and final Agassiz volume in 1847. In any case, there has developed over the years, starting at

a time when the problem of Pleistocene large-fauna extinction commenced attracting an increasing number of investigators, a dichotomy of opinion concerning its cause. On the one hand are those who think with Loren Eiseley that man had little to do with the Pleistocene extinctions, and on the other, those who agree with Alf Prufer and Richard Foster Flint in believing that man's influence in terms of his early culture was largely responsible for producing the extinctions. Although this collection of papers presents and collates a great amount of new material and significant data, it does not bring the two sides closer together.

Three distinctive features of this volume in addition to its attractive format, the well-arranged name and subject indexes, the bibliography and references for each paper, the excellent reproductions of photographs, drawings, diagrams and charts, are the lucid and informative preface, a delightful and extraordinarily useful "Bestiary for Pleistocene Biologists," and E. S. Deevey's literate, witty, inclusive and scholarly introduction.

The first of the two major sections of the book is concerned with the general problems of Pleistocene extinctions. The view that man is largely responsible for what happened is supported by Paul S. Martin in his "Prehistoric Overkill." He is joined in this issue by the contribution of John E. Guilday's "Differential Extinction During Late-Pleistocene and Recent Times." The remainder of the participants in this portion of the book support either Martin's or Guilday's position. William Ellis Edwards discusses "The Late-Pleistocene Extinction and Diminution in Size of Many Mammalian Species"; Bob H. Slaughter considers "Animal Ranges as a Cue to Late-Pleistocene Extinction"; James J. Hester is directly concerned with "The Agency of Man in Animal Extinctions"; and Arthur J. Jelinek points out "Man's Role in The Extinction of Pleistocene Faunas."

The second section covers the regional aspects and certain of the newly developed case histories of Pleistocene megafaunal extinctions. The areas involved include the earth's land surface with the exception of the Near East, southern Asia and the East Indies. The opening paper by Estella B. Leopold is concerned with "Late-Cenozoic Patterns of Plant Extinction." C. Vance Haynes, Jr. then describes "Carbon-14 Dates and Early Man in the New World." Ernest L. Lundelius follows with the "Late-Pleistocene and Holocene Faunal History of Central Texas." Gerald E. Schultz discusses "Four Superimposed Late-Pleistocene Vertebrate Faunas from Southwest Kansas," from the middle Illinoian to late Wisconsin times. The "Associations of Early Man with Horse, Camel and Mastodon at Hueyatlaco, Valsequillo (Puebla, Mexico)" are es-

tablished in terms of prehistoric sequence by Cynthia Irwin-Williams. The investigations of Kazimierz Kowalski, "The Pleistocene Extinction of Mammals in Europe," and N. K. Vereshchagin on "Primitive Hunters and Pleistocene Extinction in the Soviet Union" treat the faunal extinction problem in terms of human activities. D. A. Hooijer fills an important territorial gap with his treatment of "Pleistocene Vertebrates of The Netherlands Antilles." The final two papers deal with the relatively difficult situation on the island of Madagascar, where prehistoric vegetation evidently underwent drastic and complex changes. "Ecologic Changes in Protohistoric Madagascar" is treated by R. Battistini and P. Vérin, while Alan Walker discusses "Patterns of Extinction Among Subfossil Madagascar Lemuroids."

P. S. Martin and H. E. Wright, Jr., as editors, and E. S. Deevey, Jr., as amanuensis, are to be congratulated for assembling such high quality manuscripts from The VII Congress of INQUA from a variety of well-known workers in the field. It is quite clear that although several subjects are discussed more than once, the book is never repetitious. The differences in approach toward 'the search for a cause' show refreshing originality and insight. The publisher is also to be congratulated for issuing a handsome volume unusually free from error at a relatively reasonable price.

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