

SOUTHBOUND

Late Pleistocene Peopling of Latin America

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Editors

Laura Miotti - Mónica Salemme
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Michael R. Waters, General Editor
Ruth Gruhn, Series Editor



Center for the Study
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SOUTHBOUND: LATE PLEISTOCENE PEOPLING OF LATIN AMERICA

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INTRO

Introduction

INTRO

The Debate at the Beginning of the 21st Century on the Peopling of the Americas

Laura Miotti¹, Nora Flegenheimer², Mónica Salemme³, and Ted Goebel⁴

A meeting on the late-Pleistocene peopling of the Americas held November 2010 at La Plata, Argentina, was the fifth in a series of international symposia on this topic originally organized by Mexican scholars. This book and the bonds established between archaeologists are two main results this event produced. Both of them are crucial to the development of this area of inquiry and in different ways are relevant to filling the gaps in research on the early peopling of South America and the entire continent. Most of the papers in this book focus on southern South America. (At the conference the geographic focus was better balanced, and several papers on topics from Siberia, North America, and even Australia were presented.)

To appreciate the value of these contributions they should be placed in context. From our perspective, the knowledge gathered in the last hundred years about the peopling of the Americas has developed according to the perspectives of central and peripheral cultures (Anglo-Saxon and Latin America). We are convinced that archaeologists are builders of concepts, identities, and cultural images, and that the viewpoint underpinning archaeological research shapes its development. Consequently the cultural heritage of researchers is equally as important as their academic traditions. This book compiles papers from different Latin American archaeologists, anthropologists, and paleoecologists in an attempt to bridge divisions between the academic

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environments of the central countries and those of Latin America. Although current trends in globalization sometimes are perceived as veiled colonialism, the challenge nonetheless is to introduce both basic information and theoretical perspectives into the arena of international discussion, because very often this scientific discourse has been narrowly confined to the country of its inception. In the past archaeological science in Latin America related to the peopling of the New World has been strongly influenced by its colonial past and by the Native and African-American peoples that compose a large part of the population. Archaeologists, including those interested in early peopling, are nowadays becoming increasingly aware of the political implications of their work, and they are becoming committed to freeing their research from the parochial confines of their mother country.

In this book, authors present the highlights of selected reports and discussions from the La Plata meeting (including archaeology, genetics, cranial morphology, paleoenvironments, and history), all bearing on the significance and context of First Americans research in Latin America.

First Americans research has been quickly growing in volume and scope in recent years, with the result that national meetings now routinely include sessions focusing on the dispersal of humans in South America. This situation differs from the archaeology of North America—particularly of the U.S.—where theoretical and methodological advances made possible by support from academia were further assisted by public and government agencies intent on justifying and legitimizing their interests.

First Americans research is important in its wide geographical application and its consequences on an even wider scale. To understand the early peopling of the Western Hemisphere, scholars necessarily must be aware of information produced in numerous countries and published not just in English but also in Spanish, Portuguese, French, and even Russian. This enormous barrier—language—has prevented sharing vitally important data. Many publications circulate only locally, and although new ideas and information generated from the study of early sites is known and readily available within the researcher's mother country, too often the work is unknown elsewhere in the world. South American archaeologists have access to articles published in well-established journals and books from the Northern Hemisphere (which sometimes translate the articles into other languages). North American archaeologists, however, do not have ready access to information and ideas published in Latin America. Even though information is becoming more widely circulated every year, poor communication among different countries remains an obstacle to science and is sorely in need of further improving.

Latin American Archaeological Research Today

To illustrate the growth in information and ideas in First Americans research in Latin America, Figure 1 graphically shows the content of presentations given at the five recent international symposia “Early Man in America” since 2002. Presentations grew in number from 32 in 2002 to 132 in 2010. The number of contributions in archaeology, always the most popular topic, has increased from a low of 11 to a high of 41. Methodological papers increased from 4 to 23, and theoretical papers presenting or reviewing continental-scale or regional-scale models grew from 3 to 18. The last meeting saw remarkable growth in cultural-material studies. Perhaps most important is the tremendous increase in the number of participating countries, thereby enriching and enlarging the theme, spawning diverse ideas, and energizing sparkling discussion among participants.

The past five years particularly have witnessed major changes in archaeological thought

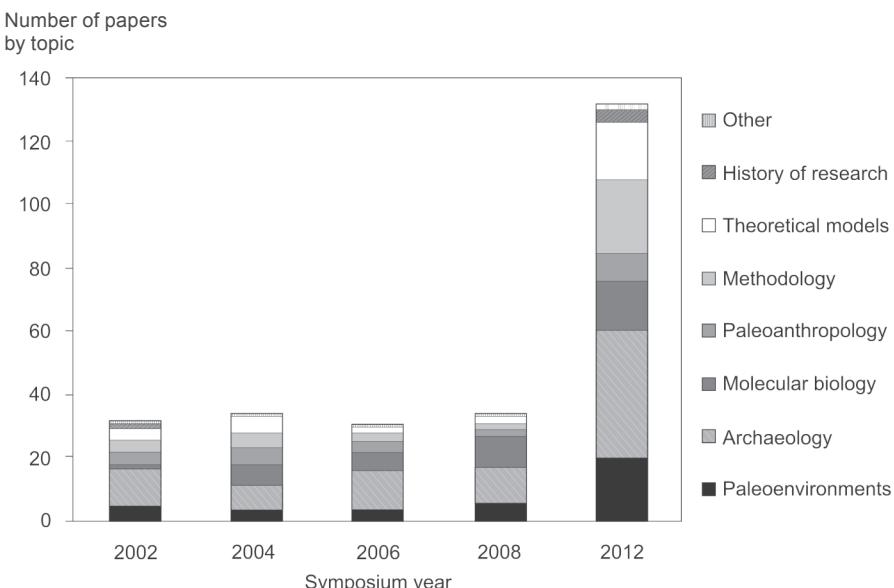


Figure 1. Chart showing variety and distribution of research themes presented at the “Early Man in America” symposia during the past decade, 2002–12.

among Latin Americanists. We have seen an increase in research productivity and significant improvement in the quality of scholarship. The far-reaching implications of these improvements are visible in expanded curricula in schools and in an awakening of public interest, which in turn have promoted further growth in archaeological science and related disciplines throughout Latin America. In particular, we have seen encouraging growth in new archaeological, biological, and radiocarbon data, new methods and theories, interdisciplinary research, and the number of research teams composed of members from different countries. We can credit this scientific progress to maturing academies and improved communication among institutions and scientists.

The Future

More than five decades ago, North American archaeologists recognized that the earliest trademark for the First American was the Clovis point (Wormington 1957); today we can confidently assert that the earliest Latin American trademark was significant diversity in material culture and human adaptation. Furthermore, as Bryan previously hypothesized (1973), tropical forests and mountains would not have been barriers for early colonizers. Now and in the future we can effectively address questions about when and how people dispersed across Latin America.

How do we perceive Central America? Perhaps it should be considered as a buffer zone, probably a corridor or land bridge for populations moving between the two continents; thus this area could show major archaeological conformities with one or possibly both hemispheres.

The VI Symposium, Colombia!

We propose that the current interdisciplinary, international effort be continued in the future. We believe it is crucial to construct the optimum framework for cataloguing and dovetailing

reports from various disciplines and for disseminating new knowledge produced in different countries since the last previous event. A quite successful venture in this regard was a thematic session held September 2011 during the UISPP Congress in Brazil. It served as an effective bridge between researchers and institutions of the last “Early Man in America” symposium and the next. We expect that the VI symposium, to be held in Colombia in 2012, will benefit from further development of ways to share new ideas.

We sincerely thank the authors who, by contributing their research findings, have enlarged our knowledge of the First Americans and made this volume possible.

References Cited

- Bryan, A. 1973 Paleoenvironments and cultural diversity in late Pleistocene South America. *Quaternary Research* 3(2):237–56.
- Wormington, H. M. 1957 Ancient Man in North America. *Denver Museum of Natural History, Popular Series* No. 4, Denver.

Part 1

Peopling Models and Bioanthropology

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