Ceramics from Site 13, Lapita

by Patrick V. Kirch

Scarlett Chiu's dissertation research involves the analysis of pottery from the "Lapita" site on the island of New Caledonia.

Scarlett was introduced to the study of Lapita Cultural Complex during her first year at U.C. Berkeley when she took a course with Professor P.V. Kirch. In that course she was assigned to record and study pottery remains from Boliu Island, Mussau Islands, Papua New Guinea. Since then she has become more and more interested in the stylistic and technological changes that occur in pottery remains and what can be learned from them.
Encouraged by Professor Kirch, she applied for and received a Robert H. Lowie Graduate Fellowship which funded her initial participation in the excavation of Site WKO013A (Lapita, New Caledonia) in the summer of 1996.

She was then urged by project director Dr. Christophe Sand (Museum of New Caledonia) to undertake the analysis of Lapita pottery collected during 1992-6 from this site for her doctoral dissertation research. With support from the Stahl Endowment Fund and a Social Science Research Grant that she received in 1997, she was able to start the recording process for the sherds excavated in 1996. She just ended her second three-months field work in Nouméa this summer (June-September 1999), and hopefully will finishing up the recording by the end of this year. She is planning to conduct chemical analysis (both XRF and Microprobe analysis) here in the Department of Geology of U.C. Berkeley by the beginning of next year.

Once a full database of this site has been established, it will be available for further data generation and model testing of the prehistoric production and exchange systems of the Lapita cultural complex of the southwestern Pacific Islands.

Excavations carried out by Dr. Christophe Sand and his research assistants during 1992-1996 and the discovery of two almost complete ceramic vessels (so far unique in the Pacific) in Site WKO013A in 1994, have made the ceramic collection from this site one of the largest, best-controlled assemblages of Lapita ceramics yet excavated to date in the Pacific. It is now possible for archaeologists to conduct a representative study of the local Lapita decorative motif inventory, and to test the hypothesis of the validity of a "Southern Lapita Province" recently proposed by P. V. Kirch. Thus, it will be a major contribution to the characterization of the founding cultural horizon of Southern Melanesia. Furthermore, it provides archaeologists with a valuable database to examine the various exchange models proposed by different scholars.

In her project, she plans to employ a methodology that examines Lapita pottery in three different aspects: a) physico-chemical analysis of paste to source the origin(s) of clay and non-plastic inclusions (temper) used; b) stylistic analysis of design motifs to investigate the structural rules of design combinations; and c) morphological and technical analysis that emphasizes on the identification of both vessel forms and different techniques employed to produce ceramics in the Lapita tradition. Each one of these analytical methods has its advantages and limitations. By examining the significant co-variations among these three aspects of ceramic materials, she expects to overcome some of the major shortcomings of each of these methods if used separately, and to demonstrate the usefulness of interdisciplinary studies of ceramics in the study of prehistoric ceramic production and exchange systems.

Lapita Pottery Project

by Scarlett Chiu

Project aims

This project aims to address the importance and possible social meanings of decorated Lapita pottery in the prehistory of New Caledonia. To accomplish this goal, it is exploring various social and economic reasons for the high complexity and diversity of ceramic decorations during the initial period of colonization, and the probable rapid disappearance and progressive replacement of dentate-stamped pottery. In particular, the three major foci of research include: (1) Identification of specialization and standardization of Lapita pottery production; (2) Identification of the extent of local exchange network(s); and (3) Assessment of the progress of localization.

By separating out potsherds of exotic origins and local origins through chemical analysis, with the aid of stylistic analysis, this project is expected to provide indications of local innovation and the incorporation of borrowed stylistic and technological traits into the local Lapita inventory through time. Special attention will be given to identify shifts in terms of technology and decorative style in their contextual settings through time and space.

Results to date

A total number of 19,680 sherds have been recorded into a Paradox database. Fifty-six x-ray fluorescence (XRF) analyses of major elements and 148 analyses of trace elements have been completed. Motifs from almost 7,000 decorated sherds have been recorded and analyzed.

Correlation between general temper types and decorative motifs has been conducted. There is no clear one-to-one relation between the clay-mixture used and the motif decorative technique applied. There is also an indication of a shift in clay-mixture used through time, from calcite-rich materials to non-calcite materials.

Work in progress

Petrographic analyses for each major type identified by XRF tests will be conducted with the help of Dr. Bill Dickinson of the University of Arizona. Cross-examination of petrography studies and XRF analyses are also being carried out. Reconstruction of vessel forms and their relation to decorative motifs and possible functions is the next step of investigation. Cooperative efforts to establish a new general classification system for motif categories is underway with Dr. Glenn Summerhayes of The Australian National University.