

Archaeology in Central America Yields Practical Results

by Jeannie Hanson
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"In the past no one had money, but we ate well," the old woman said. "Now my husband grows sugar cane for the big company—he earns the money. Last week I had to ask him for some of it, and he threw it at me. Before, we grew our own food. It was *ours*."

The woman lives near the village of San Antonio in Belize, a British colony in Central America. She remembers some of the old ways of the proud and independent Mayan people whose history in Belize dates back to 1100 B.C. Their agricultural patterns had remained much the same from the time of the Spanish Conquest until about 20 years ago, when both the agriculture and the social structure began to change rapidly.

The residents of San Antonio are descendants of the ancient Maya, builders of one of the most complex prehistoric civilizations on earth. Flourishing between 600 B.C. and 850 A.D., they studied the stars, originated an elaborate calendar, and built shrines in the jungle that rival the pyramids and Angkor Wat. They also grew enough food to support 1,000 persons per square mile on land that now supports only three to five persons per square mile and is largely uncultivated.

Today, the society in Belize is undergoing painful transition. "The Maya have imported the modern way of life, but they have imported it piecemeal," said Olga Stavrakis, an anthropologist. She and her husband Dennis Puleston, an archaeologist at the University of Minnesota, are researching the daily life of both the present and ancient Maya.



Their method: "archaeology by experiment." Their focus: the agricultural and social patterns of the ancient and modern Maya. Their goal: to make archaeology and anthropology useful to the people being researched.

The husband-and-wife team are part of the Rio Hondo project in Belize. Researchers from the University of British Columbia, Harvard University, and the University of Minnesota are working there not only to uncover the past but to reconstruct it. In three years of work—digging in water-filled trenches under the tropical sun—they have uncovered evidence of several different methods of agriculture

This 3,000-year-old axe, used by Maya farmers to build fences, was found by Olga Stavrakis and Dennis Puleston, wife-husband research team. Photo by Tom Foley.

base for the villagers. The town leaders in Belize not only cooperate, but also suggest further topics for study, according to the Pulestons.

The effect of agricultural patterns on the village has been the research focus of Olga Stavrakis.

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nearby Guatemala to encourage areas not to specialize in one crop for money and develop an unbalanced diet and culture because of it. When wiser agricultural patterns are part of the recent and the ancient past, as in Belize, the prospects are especially promising. Land not being cultivated can be reclaimed through techniques that have not been used fully for 500 years.

The temples and jade carvings of the ancient Maya may have little value now for the villagers in Belize, but their indigenous and ingenious agriculture may prove to have great value. The Pulestons and the other members of the Rio Hondo project are helping descendants of the ancient Maya rediscover their past to enrich their present. □

Regents Pass New Bylaws

In a time when public bodies are coming under more and more scrutiny, some of them are spelling out procedures that had been informally agreed upon in the past.

A new set of bylaws for the University of Minnesota Board of Regents is an example.

What is significant about the bylaws is their completeness, said Duane Wilson, secretary to the Board. Procedures are outlined for terms, duties, and election of Regents' officers and for meetings of the Board and its several committees.

Besides making procedures explicit, Wilson said, the bylaws represent some changes. Under the new bylaws, there is no executive committee of the Regents. Most business is referred to committee, and the Committee of the Whole is established as another standing committee.

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Savings Bond Drive in April

The University is participating this month in the nationwide 1976 Bicentennial U.S. Savings Bond Campaign.

The national goal of the U.S. Treasury Department is to sell 7.6 billion dollars' worth of Series E bonds during the bicentennial year. The University's campaign is part of the state campaign during the month of April.

"It is our hope that all University employees will be made aware of the opportunity to buy U.S. Savings Bonds through payroll deductions," said Vice President James F. Brinkerhoff, voluntary chairman of the University campaign.

Canvassers have been appointed for every 20-25 employees on all campuses of the University. Congressman Donald Fraser will speak at the canvassers' kickoff workshop April 2 at 10 a.m. in the Great Hall of Coffman Memorial Union.

The current rate of interest for Series E bonds is 6 percent when held to maturity of five years. In the University campaign, bonds are available only through payroll deductions. □

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Some 3,000 years ago, the Maya had dug drainage ditches around their fields, constructing a complex raised-field, flood-plain agricultural system. The "moats" also prevented inch-long leaf cutter ants from reaching the crops and permitted fish to be raised for their food value and for the rich sediments they contributed to the next season's fertilizer supply. The raised fields yielded ample corn in areas too low, too small, and too swampy to be used for anything else.

The Rio Hondo project's discovery of these fields has required archaeologists to revise their entire view of ancient food production in the tropics. The Maya did a lot more than "slash and burn" (brief cultivation, then abandonment, of a cleared area). Their fields made possible permanent, continuous agriculture—the kind of food production needed for a large, stable, and advanced civilization.

Detailed information about prehistoric agricultural patterns can often best be gained by both excavation and experiment. Pollen from ancient domestic corn found through excavation in Belize was planted as an experiment. Information about weeds, tools, and the whole ecology of the ancient agriculture then began to emerge. The Pulestons believe this "archaeology by experiment" yields knowledge that also can be quite practical.

One immediate result is that two fields reconstructed by Dennis Puleston are now being cultivated successfully by the ancient methods, supplementing the food supply and broadening the nutritional

Stavrakis.

Until about 20 years ago, the men of the village worked on large-scale agricultural production while the women raised pigs and chickens, grew the family's fruit and vegetables in multi-crop gardens, and earned money by selling the surplus. Everyone ate corn and beans and fresh meat, fruit, and vegetables.

Then the sugar cane trade came to Belize, offering money. Soon villagers could "afford" to grow only the cane. Everyone wanted what the money-based economy could bring, from cosmetics to appliances to hospital care for babies, and few people wanted to grow food.

Now that everyone works in the cane fields, there is money, paid to the men, but less fresh food to buy. Social patterns have changed, and families depend more on canned food and milk, white rice, and white flour tortillas—all relatively expensive, less nutritious foods.

"The villagers are very conscious of what's happening," Stavrakis said, "but they find it hard to do anything about the changes."

Raised-field agriculture and multi-crop gardening, the means of survival 2,000-3,000 years ago in the area, seem a key to its future. With a modern reconstruction of the ancient system, the village could have the advantages of the past—fresh food and stable social patterns—along with the advantages of the present money economy.

The Rockefeller Foundation has already begun to fund multiple-crop projects in

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This role for the Committee of the Whole is "somewhat unusual," Wilson said. Budgets and other major agenda items of concern to all Regents are sent to the Committee of the Whole. The committee also provides an open forum for Regents to introduce questions of their own.

The bylaws provide for special meetings to consider specific matters that arise between regular meetings. A special meeting could take the form of a conference telephone call, Wilson said. "We would still meet the requirements of the open meeting law," he said. Members of the press would be notified and representatives given an opportunity to listen in.

As is typical with small organizations, Wilson said, the Regents can elect officers only when seven of the 12 members vote for a candidate. Without this provision, an election could be held with a quorum of seven members present and an officer could be elected with only four votes.

The nominating committee for election of officers is to be named by the chairman of the Regents. In the past, this group was named by the President of the University. The change is proper, Wilson said, because "the President is the chief executive officer hired by the Regents."

The bylaws include protocol for Regents' meetings and provisions for testifying before the Regents.

Any request to appear before the Regents must be submitted in writing to the secretary at least four days prior to the meeting. The intent, Wilson said, is "not to stimulate or stifle appearances before the Regents, but just to provide for an orderly procedure." □