[Editor's Note: A recent discovery of a royal tomb at Sipán has focussed public attention on the Moche, an ancient but little-known Peruvian culture [see National Geographic reference]. Numbering as many as 50,000, the Moche were an agricultural people who resided along the northern coast of Peru as early as 1,200 years before the Inca. In one of the world’s driest deserts, they diverted streams from the adjacent Andes into a large network of irrigation canals to grow corn, beans, squash, peanuts, peppers, potatoes, and manioc as well as avocados and other fruit. They kept guinea pigs and ducks, herded llamas for wool and meat, raised crawfish in the irrigation canals, and fished and hunted sea lions from boats. Their territory stretched over 220 miles along the coast and included towns of up to 10,000 inhabitants: warriors, priests, nobles, artisans, traders, servants, farmers, and fishermen. To house their dead they built platforms topped with pyramids, today called huacas. Moche art and technology were comparable in sophistication to that of the Maya, their contemporaries. Beautiful gold and copper metalwork, inlays and beads of turquoise, shell and coral, woven materials, and richly decorated ceramics depicting everyday scenes, warfare, and ritual have been uncovered in the tombs. However, unlike the Maya, the Moche did not develop a writing or glyph system. John Verano, a Smithsonian physical anthropologist who assisted at the excavation, shares what he has learned about the appearance, health, and lifestyle of these ancient Peruvians.]

Ongoing excavations at the site of Sipán, directed by Peruvian archaeologist Dr. Walter Alva, are revealing a wealth of new
information about the ancient Moche civilization. Over the past several years, I have had the good fortune to be able to work with Dr. Alva in Peru, helping to analyze the skeletal remains from the Sipán tombs and other sites.

Ancient Peoples of the Coast

The Moche are one of several ancient civilizations that developed in the coastal valleys of northern Peru. The Moche Kingdom dominated the north coast from about A.D. 100 to A.D. 750. Their culture disappeared some 700 years before the Inca Empire began expanding out of the southern highlands. Best known for their beautiful ceramics and expressive art style, the Moche also left evidence of their relatively brief florescence in the form of numerous mud-brick pyramids, which still dot the river valleys of the north coast today.

Human occupation of the coast of Peru goes back many thousands of years. Survival in the otherwise inhospitable coastal desert of Peru is made possible by a series of seasonal rivers and streams that carry water down from the western slopes of the Andes Mountains. These rivers turn the narrow coastal valley floors into green oases, a stark contrast to the surrounding barren desert. Ancient peoples of the coast learned several thousand years ago to draw water off of these rivers into irrigation canals, turning desert into productive agricultural land. Over the centuries many technological advances were made in canal building, eventually leading to complex irrigation networks, which linked several valleys of the North Coast and provided productive agricultural land for thousands of coastal inhabitants.

When the Spanish conquistadors first passed through the northern coastal valleys in the 1530’s, they marvelled at the size and sophistication of the irrigation networks. Strangely, however, these first European visitors found many valleys only sparsely populated, and numerous agricultural fields abandoned. What the Spanish did not know at the time was that a devastating disease, probably smallpox, had spread through the Inca Empire some ten years earlier, taking thousands of victims with it. Smallpox, which had swept like wildfire through the Caribbean, Mexico, Central America and then down through Ecuador and Peru, was one of the most deadly of the many infectious diseases brought from Europe to the New World in the 16th century. New World peoples, who had no immunity to the disease, died by the thousands. The epidemic which swept through Peru in the 1520’s killed the Inca Emperor and his legitimate heir and led to a bitter civil war between contenders for the throne. It was this divided and traumatized empire that Francisco Pizarro and his soldiers boldly conquered in 1532.

Conquistadors and Huaqueros

By the end of the 16th century, disease, conquest, and social disruption had forever changed the face of the North Coast of Peru. The last of its great civilizations had collapsed, and much of its rich past was lost before it could be recorded by historians. Conquistadors who had sacked the last of the gold and silver from the storehouses and temples of the Inca, then turned to the pyramids and burial places of the Inca’s ancestors. Hoping to find the buried treasure of former Kings, they plundered pyramids and ancient burial grounds up and down the coast of Peru. Historians have recently found early colonial documents requesting formal permits from the Spanish crown to "mine" pyramids for gold. And mine them they did--teams of hundreds of forced laborers were used to tunnel into these structures. The scars of 16th and 17th century looting can still be seen at many coastal sites today. In the Moche valley on the north coast of Peru, a particularly determined group of "miners" in search of gold even diverted a river to cut into the center of a large pyramid.

The tradition of grave robbing, which began during the early colonial period, unfortunately has continued for centuries in Peru. "Huaqueros" as they are commonly known today, are professional grave robbers, many of whom make a lifetime career of digging up ancient graves and selling the artifacts. Although the looting and destruction of archaeological sites is strictly prohibited by law in Peru, the limited resources of police and local government officials are simply not sufficient to control the activity. Realizing the importance of preserving and studying its rich pre-Columbian heritage, the
Peruvian government actively supports archaeological research, both by Peruvian and foreign scholars. Such research is gradually bringing to light a long and fascinating sequence of pre-Columbian cultural development.

Reconstructing the Past

Peruvian archaeology traces its roots to the late nineteenth century, when archaeologists began making the first systematic attempts to reconstruct the prehistory of the region. Many of these early excavations focused on coastal Peruvian sites because of the exceptional preservation of perishable materials. The coast of Peru is one of the driest deserts in the world, receiving measurable rainfall only on rare occasions. Such dry conditions make for excellent preservation of plant remains, textiles, and wooden objects—things rarely encountered by archaeologists working in other areas of the world. Bodies buried in the hot, dry sand become naturally mummified, providing physical anthropologists like myself with rare glimpses of details such as ancient hair styles and body decoration (a number of tattooed mummies are known from coastal Peru). I will never forget a naturally mummified dog I helped excavate at an archaeological site on the North Coast several years ago. Some time around A.D. 1300, the dog’s owner had carefully wrapped the pet in a cloth shroud and buried it outside the wall of a desert city. Seven hundred years later when we unwrapped the shroud, the dog was perfectly preserved, with ears standing straight up and lips drawn back in a permanent snarl.

Despite the destruction of many pre-Columbian cemeteries by artifact hunters, physical anthropologists have been able to make some important discoveries about the physical characteristics of ancient Peruvians, both by studying skeletal material left behind by grave robbers, and increasingly in recent years, by working side by side with archaeologists conducting scientific excavations. Over the past seven years, I have been fortunate to participate in the excavation of several important Moche sites along Peru’s North Coast. Previous skeletal studies have characteristically focussed on only a few isolated sites. Through my study of the skeletal remains, it has been possible to acquire large collections that permit us for the first time to make observations of Moche health, diseases, and demography on a population level.

Physical Anthropology of the Moche

Until recently, the physical characteristics of the Moche people were known to us primarily through the way they depicted themselves in ceramic sculpture and painted murals. Their physical remains had received surprisingly little attention by physical anthropologists. Part of my recent research has concentrated on the study of Moche skeletal remains recovered over the past five years from excavations and surface collections at the site of Pacatnamu (pronounced Pah-caht-nah-moo), a major pre-Columbian ceremonial center. These collections, which are now housed in a research facility in Trujillo, Peru, constitute the largest sample of well-documented human skeletal remains ever recovered from the Peruvian North Coast and are, therefore, a valuable resource both for the study of physical variation among prehistoric coastal populations, and for understanding patterns of health and disease among ancient Andean peoples.

The Pacatnamu Skeletons

The Moche skeletal collections from Pacatnamu pertain to the final phase of the Moche Kingdom (Moche V), and date to approximately A.D. 500-750. The skeletal sample we have recovered to date is comprised of 65 burials excavated from a single cemetery, 26 burials encountered in other parts of the site, and surface collections (approximately 590 specimens) made from three large Moche cemeteries recently damaged by looters.

Life Expectancy in Moche Times

In both the large surface-collected sample and the smaller number of individuals recovered from Moche tombs at Pacatnamu, males and females were present in about equal numbers. Although individuals of all ages, from children to people over 50, were represented, skeletal remains of infants and young children were rare in the surface collections and infants were under-

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SUMMER FIELDWORK OPPORTUNITIES

If you are looking for adventure and an opportunity to acquire new knowledge and skills, become a member of an archeological excavation team or a scientific expedition in the United States or abroad. Several of the organizations listed below offer special programs for teachers and junior and senior high school students. Many other programs take young people 16 years of age or older.

Fieldwork opportunities may be available to you even within your own community. Anthropology departments of local universities and colleges, state historic preservation offices, and state archeological societies often engage in local archeological excavations and frequently accept volunteers with no previous fieldwork experience. The Archaeological Institute of America (AIA) offers a listing of state archeologists associated with the national organization as part of its yearly field school listing for the U.S. and abroad ($10.50 for members, $12.50 for non-members). Write: AIA, 675 Commonwealth Ave., Boston, MA 02215, or call 617-353-9361. Archaeology magazine, published by the AIA, features an archeology travel guide to sites open to the public in the Old World (March/April issue) and the New World (May/June issue). A field school listing is also available from the American Anthropological Association for $4.50 for members and $6.00 for non-members. Write: AAA, 1703 New Hampshire Ave., N.W., Washington, D.C. 20009 or call (202) 232-8800.

The Smithsonian Institution offers five-week High School Summer Internships to 40 graduating seniors interested in careers in archeology, art, biology, carpentry, history, photography, or vehicle maintenance. Session I runs from June 3 to July 7; session II from July 8 to August 11. Forty graduates will be selected, and interns will receive a $550 living allowance. Housing and transportation to and from Washington, D.C. is provided. Application packets must be requested no later than March 9 and be postmarked no later than March 16. Write: Intern '90, Arts and Industries Bldg., Room 1163, Smithsonian Institution, Washington, D.C. 20560 or call Julia Langdon at (202) 357-3049.

A National Seminar for Teachers titled "Teaching Writing Using Museum and Other Community Resources" will be offered (July 10-19) by the Smithsonian Institution for elementary and secondary teachers living more than 75 miles outside Washington, D.C. The course carries graduate credit from the University of Virginia, and tuition and fees will total approximately $325. In addition to learning about ways to use local museum exhibits and such diverse resources as cemeteries and houses as tools for teaching writing, participants will interview several Smithsonian staff writers to learn various approaches to writing. Applications must be postmarked by March 30. For more information and an application, write: National Seminars, Office of Elementary and Secondary Education, Arts & Industries Bldg., Room 1163, Smithsonian Institution, Washington, DC 20560; or call (202) 357-3049 or (202) 357-1696 (TDD).

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The Office of Elementary and Secondary Education also offers ten week-long seminars on a variety of topics for Maryland, District of Columbia, and Virginia teachers K-12, who want in-service credit. For more information, call Clare Cuddy at (202) 357-2404 for a registration form after May 1. For information on other Smithsonian summer workshops, call the National Zoo at (202) 673-4837 and the National Air and Space Museum at (202) 786-2106.

The National Endowment for the Humanities offers summer projects and seminars for elementary and secondary teachers; some of the topics are anthropology related. For information on the program "Humanities Instruction in Elementary and Secondary Schools," write: NEH Division of Education Programs, Room 302, 1100 Pennsylvania Ave., N.W., Washington, D.C. 20506, or call (202) 786-0377. Application deadline is March 15. For information on summer seminars, write: NEH, Division of Fellowships and Seminars, Room 316, 1100 Pennsylvania Ave., N.W., Washington, D.C. 20506, or call (202) 786-0463. Application deadline is March 1.

There are several organizations that offer volunteer public participation in worldwide research expeditions in various scientific disciplines. Many of these organizations, listed below, are non-profit and donations can be treated as tax-deductible contributions.

University Research Expeditions Program
University of California, Desk K-15, Berkeley, CA 94720
(415) 642-6586.

Earthwatch
680 Mount Auburn St., Box 403, Watertown, MA 02172.
(617) 926-8200
(Earthwatch has a special scholarship program for teachers.)

International Research Expeditions
140 University Dr.
Menlo Park, CA 94024
(415) 323-4228

Foundation for Field Research
787 South Grade Rd.
Alpine, CA 92001-0020
(619) 445-9264

CEDAM International
(CEDAM stands for Conservation, Education, Diving, Archeology, Museums)
Fox Road
Croton-on-Hudson, NY 10520
(914) 271-5365

Below is a selected list of organizations that offer fieldwork experience in the United States and abroad:

British Archaeology, sponsored by The Association for Cultural Exchange of Cambridge, England, offers a four-week (July 2-23) comprehensive introduction to British prehistory, including lectures at Christ's College, Cambridge; tours of major archeological sites; and archeological excavation. Inquire about scholarships and academic credit. Application deadline is April 1. Write or call: British Archaeology, U.S. Student Program Division, Institute of International Education, 809 United Nations Plaza, NY 10017; (212) 984-5330.

Crow Canyon Archaeological Center is a non-profit institution specializing in Southwestern archeological research and education. The following programs introduce participants to archeological field methods, laboratory techniques, and excavation. The Adult Research Seminars, consisting of week-long sessions, are conducted from May 27 to October 13. Transferable college credit is available. The High School Field School, also offering transferable credit, takes place from July 1 to 28; applications should be filed in ASAP. The Teachers' Workshop, conducted from August 4-12, offers three-hours of graduate credit. Write or call: Crow Canyon Archaeological Center, 23390 County Road K, Cortez, CO 81321; (800) 422-8975, (303) 565-8975.

A Teacher Institute: Colorado Plains Indians and Their Neighbors, sponsored by the Denver Art Museum and Denver Museum and Natural History, is scheduled on June 25-29. The course consists of lectures by scholars, participatory experiences, small group workshops and demonstrations, and panel discussions. Undergraduate credit (recertification) is available through the University of Colorado at Denver. Some
scholarships are available. For more information, call Gretchen Diner Johnson (Denver Art Museum) at (303) 575-2009 or Peggy Millett Zemach (Denver Museum of Natural History) at (303) 370-6321 or Jan Jacobs or Lisa Harjo (Denver Indian Center) at (303) 936-2688.

**Human Origins and Prehistory in Kenya: The Koobi Fora Field School,** offered by Harvard University Summer School and the National Museums of Kenya, introduces the wealth of paleoanthropological evidence at Koobi Fora and field methods in early man research. The field school consists of two six-week training sessions (June 7-July 18 and July 25-September 4). Write or call: Dr. Harry V. Merrick, Koobi Fora Field School, Harvard Summer School, 20 Garden St., Cambridge, MA 02138; (203) 481-0674, or (617) 495-2921 (Harvard University Summer School office).

**Cahokia Mounds Field School** (July 9-20), sponsored by Southern Illinois University, will excavate the central plaza. This field season will involve remote sensing and coring. For more information, write or call George Holley, Ph.D, Contract Archeology Program, Box 1451, Southern Illinois University, Edwardsville, IL 62026; (618) 692-2059.

The Institute for Minnesota Archaeology (IMA) is offering a four-day **Teacher's Workshop in Archaeology**, June 11-14, in Pine City, Minnesota. Teachers will work with IMA archaeologists and educators to develop units on archaeology. Registration limited to 15 teachers on first come, first served basis. Write: Teacher's Workshop, Institute for Minnesota Archaeology, 3300 University Ave., S.E., Suite 202, Minneapolis, MN 55414, or call (612) 623-0299.

Parsons School of Design offers two anthropology-related programs this summer for students and teachers: **Paleolithic Art and Archaeology of the Dordogne and Parsons in West Africa.** For more information, write or call: Parsons School of Design, Office of Special Programs, 66 Fifth Avenue, New York, NY 10011; (212) 741-8975. Early application is advised.

**Center for American Archeology, Kampsville Archeological Center** conducts educational research programs for junior and senior high school students, college students and the non-professional, and separate workshops for teachers. Write: Admissions Office, Kampsville Archeological Center, Kampsville, IL 62053, or call (618) 653-4316.

Northwestern University's **Ethnographic Field School** (June 18-August 11) offers students of all disciplines an opportunity to experience another culture. Students design their own independent research project to learn about the Navajo or Hispanic cultures in New Mexico and Arizona. Write or call: Department of Anthropology, Northwestern University, Evanston, IL 60201; (312) 491-5402 or Professor Oswald Werner at (312) 328-4012, evenings.

Science Museums of Charlotte, Inc. sponsors **Field Archaeology in San Salvador, Bahamas.** Join in the excavation of a Lucayan Indian site dating to the time of Columbus that last year yielded Indian and European artifacts. Four one-week field sessions beginning June 23 through July 21. Registration deadline is April 30. Write or call: Jerry Reynolds, Discovery Place, 301 North Tryon St., Charlotte, NC 28202; (704) 372-6261.

**Smithsonian Research Expeditions** offers an opportunity to work for two weeks alongside a Smithsonian researcher or curator as a member of a research team. Two-week anthropology-related projects include excavating a former Caribbean sugar plantation (three two-week sessions in July), organizing the Natural History Museum's large zooarchaeology collection (June 6-16), and reconstructing colonial ceramic artifacts (two sessions in August). Seven full scholarships are available for teachers and college students. For further information, write or call Smithsonian Research Expeditions, 490 L'Enfant Plaza, S.W., Suite 4210, Washington, DC 20024; (202) 357-1350.

**Smithsonian National Associates Study Tours and Seminars** offers travel opportunities around the world. The following are some anthropology-related programs: Southwest Indians (May 24-June 3; August 23-September 2), Pueblo Indians/ Santa Fe (July 14-22), Zimbabwe &

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Teacher's Corner: Choosing Texts for Global History or World Civilization Courses

If you are selecting a textbook for next year's world civilizations, global history, or global studies course, what basic questions should you ask? What issues are important? We are teaching these courses not only for knowledge about our world, but also because more and more of our students will meet people from different cultural backgrounds. If those encounters will bring understanding, not hostility, then what they learn in our classes must be accurate and teach an appreciation for cultural differences.

The following guide, the first in a series, suggests basic general points anthropologists would encourage you to consider as you evaluate textbooks. Future "Teacher Corners" will pose questions to ask and biases to watch out for in texts on China, Japan, Latin America, India, Africa, and the Middle East.

For this guide, the examples come from:

1. Basic Orientation

Who are the writers? the consultants? Each textbook has a particular orientation. The common ones are history, geography, cultural anthropology, sociology, area studies, or an integrated approach. Area studies often are written by political scientists or have an emphasis on politics. In multi-authored texts, subject emphasis in different chapters may be uneven, with different specialists writing different sections. If historical, is the emphasis on ancient or traditional culture or modern culture? Ideally, it should be balanced. Obviously, it is important for both teachers and students to know the particular orientation of the text.

2. Maps

Do they relate to the text? For example, in Global Insights, the text discusses the importance and location of rivers in India and China, but none of the rivers is labeled on the series of maps that follows. Also check to see if the maps are current and accurate.

3. Cultural Differences

The critical question for any textbook describing other cultures is: How are cultural differences explained?

First, does the text acknowledge that differences exist? It should.

Second, are those differences seen as the result of a complex interaction of history, natural resources, economic and political systems, values, religion, geography, and other factors? Some texts are weakened by a simplistic cause and effect analysis. For example, only history accounts for differences.

Third, are those differences discussed without prejudice? Too often all differences are analyzed in terms of the United States; a voice is adopted of "we" versus "they". Global History comes very close to doing just that with a tone of European superiority. The book begins with chapters on "Europe Unites the World,"
"Europe Dominates the World," and "Europe's Decline and Triumph." The other areas of the world are studied in light of Europe's scientific and political innovations.

Another possible bias of some texts is to present Europe always in conflict with Third World countries. For example, Europeans are seen as the only colonial aggressors in modern history; colonialism on the part of the U.S., Soviet Union, Japan, or China is ignored. Some texts also present all problems in the Third World as caused by colonial experiences.

Are the behaviors in countries other than Canada, the U.S., and Europe seen as exotic or strange? *Global Insights* occasionally suggests that other countries have dress codes, strange eating habits, and exotic customs of gift-giving as if none exist in the U.S. Do authors really believe that a corporate lawyer in New York or Washington, D.C. can wear anything she likes to the office? Examples that avoid this prejudice include a discussion of the Shang dynasty in China where a question "was inscribed on a polished piece of bone or shell, and heat applied to the bone to make it crack. The shape, arrangement and direction of the cracks were interpreted for the 'Yes' or 'No' answer. Similarly, teacups and palms are 'read' in the United States today for answer to questions about the future" (*Global History*, p. 312). A caption under a picture reads "This [doctor] is using acupuncture anesthesia. This form of anesthesia has sparked much interest among doctors in the United States and Europe" (p. 365). In explaining a culture trait, *World Geography Today* notes that "a typical American teenager eats dinner with a knife, fork, and spoon. However, a typical Chinese teenager eats with chopsticks, and Malaysian teenagers are comfortable eating with their fingers. Nonetheless, each trait is considered the best method in its own culture" (p. 87).

An imbalance between urban and rural life is another possible bias. In addition, a text should not have people from a particular country or even continent, for that matter, presented as the same throughout the country. Similarly, differences may be seen only in monolithic terms such as Christians versus Moslem areas or a global "East Asia" combining China and Japan. In *Global Insights*, a sari is supposed to identify a person from India, yet clothing of Indian women differs greatly by region.

Another problem is that differences may be seen as existing only in the past. *Global Insights* implies that if people from China, Japan, and Africa had different histories all those people would be just like us. If only the British had never entered the picture, the Chinese (and the Africans—who are treated as if they are all the same) would be like the Americans. This suggests that there are no substantive differences in values among peoples of the world. Does a balance exist between the views of outsiders and insiders. For example, *Global Insights* uses primary source material including some written by natives of the region under discussion. In the section on India, for example, the quotations are extremely well-balanced including observations by both native and outside scholars.

In spite of the emphasis so far on understanding cultural differences, a multicultural text should not only emphasize differences. Any student should come away from a reading able to answer just how the other peoples differ from Americans and how they are the same.

Alison Brooks  
JoAnne Lanouette

### NATIONAL SEMINAR ON WOMEN AND MUSEUMS

During Women's History Month, the Smithsonian Institution will sponsor the seminar "Gender Perspectives: The Impact of Women on Museums," on March 8-10. Based on their research and professional experiences, men and women will present their views on scholarship, education, and communication and on the impact gender has made in these areas. For more information, write or call Artemis Zenetou, Seminar Coordinator, Arts & Industries Building, Room 2225, Smithsonian Institution, Washington, D.C. 20560; (202) 357-1331.
ANTHROPOLOGICAL LINGUISTS AID IN CULTURAL SURVIVAL

[Editor’s Note: The following two articles are written by anthropological linguists who have gone beyond the traditional work of accumulating vocabularies and grammars to bringing their linguistic expertise back to the native American speakers whose languages they have studied. Dr. Robert Laughlin and Dr. Kathleen Bragdon describe, respectively, their work with a Mayan community in Chiapas, Mexico and the Passamaquoddy of Maine.]

ME AND SNA JTZ’IBAJOM (The House of the Writer)

My work with the Mayan Indians of Chiapas in southern Mexico began in 1959. I was a member of the Harvard Chiapas Project, whose goal was to document culture change in a Mayan community. There I met Romin Teratol, a Tzotzil Mayan Indian who was employed as a puppeteer of the National Indian Institute (INI). My wife and I moved briefly into his mother’s second house and began learning his language. My predecessor in the project, Lore Colby, had typed up a provisional dictionary, but it was just a start. Soon I was collecting folk tales and thereby adding vocabulary to the dictionary. Then I collected dreams. However, when I suggested the possibility of publishing those dreams, I was advised that I should be able to analyze them according to Freud, Jung, and who knows who else. So I decided it would be easier to compile a thorough dictionary. This process took the next 14 years, and in 1975 The Great Tzotzil Dictionary of Santo Domingo Zinacantán was published. The following year I published Of Shoes and Ships and Sealing Wax: Sundries from Zinacantán, based on the journals of Romin and his neighbor, Antzelmlo Peres, who had become my collaborators. They had twice travelled to the States to finish our opus and offer a description of life in another world.

Eventually the collections of folk tales and dreams were published in Tzotzil and English: Of Cabbages and Kings: Tales from Zinacantán (1977) and Of Wonders Wild and New: Dreams from Zinacantán (1976).

Selections from these have recently been published in The People of the Bat: Tales and Dreams from Zinacantán (1988), Carol Karasik (ed.). My most recent publication, The Great Tzotzil Dictionary of Santo Domingo Zinacantán (1989), is a translation and reordering of a 16th century Spanish-Tzotzil dictionary that I found in my home town of Princeton in 1974.

In 1982, aided by the Mayan poet, Jaime Sabines, brother to the governor of Chiapas, Mexico, a group of Tzotzil Mayan Indians who had worked with me or with anthropology colleagues over many years secured funding for a writers’ cooperative and published two bilingual booklets. However, the governor’s term was ending, and, lacking further support, this light was permanently cut. I was then approached by the late Romin’s son, Xun, by Antzelmlo Peres, and by Maryan Lopis Mentes of neighboring Chamula, whom I had known for many years. I had hoped, during the many years of my anthropological and linguistic research, that
somehow my work might return to Zinacantán. I saw this as an opportunity—an opportunity to help bring Mayan literacy to Chiapas.

By chance, a conference that same year celebrating "40 years of Anthropological Research in Chiapas" was scheduled to begin. I urged my Mayan friends to address the many assembled anthropologists and linguists. This they did, explaining, "You have awakened our interest in our own culture, you have published many studies, but always in other countries where we never see the results. Our young people are now literate in Spanish and think they are very smart, but they don't know a quarter of what their fathers know. We would like, at least, to put on paper our customs for the sake of our children and grandchildren."

The next few years, aided by Cultural Survival, a human rights non-profit organization, we founded Sna Jtz’ibajom, a Tzotzil-Tzeltal writers' cooperative.

Currently the cooperative publishes bilingual booklets in two Mayan languages; these booklets cover history, oral history, and customs. The cooperative has also established a puppet theater, a live theater, and a weekly Tzotzil-Tzeltal radio program. The puppet theater draws on folk tales, but also presents didactic skits on alcoholism, medicine, and bilingual education. The live theater has dramatized a folk tale and created a family planning play.

The cooperative also has started a Tzotzil literacy project. Initially I contacted two religious scribes and a secretary of the school committee of Zinacantán to teach. Currently the teachers (who have never been teachers before, and hence, have not been taught to scorn their own culture), give two hour classes in Tzotzil twice a week in their own homes to 10-12 of their neighbors. The interest in the project was so great that one teacher requested to teach overtime.

Those eligible to participate in the literacy program must already be minimally literate in Spanish. Initially there was some discussion as to whether women should be allowed to take classes. The idea of women and men spending time together in the evening at first made many feel uncomfortable. One prospective student thought that learning Tzotzil would enable him and his girlfriend to write secret messages to each other since his father only knew Spanish. In two years, the project has awarded 500 diplomas to men, women, and children in two communities. Presently we have two directors, 14 teachers, and 144 students enrolled each semester. Although Tzotzil is not the government or official language, that has not discouraged the Mayans’ enrollment in the evening language classes. Students are encouraged to record personal and family histories as well as to produce creative writing. Stories are reviewed and edited by Sna Jtz’ibajom. The federal publisher has agreed to print 3,000 copies of each work submitted by the cooperative. Students give the following reasons for learning Tzotzil: to improve their Spanish by working with translations, to learn, to become smarter, and to appreciate their own tradition.

Besides the personal enrichment the students receive from learning to read and write their native language, the Mayan society also benefits through the national and international recognition the cooperative is receiving. The cooperative's success has been due in part to the talent of its members as writers, actors, artists, and/or teachers, and also to the great pride that the people have in their culture and their new desire to be literate in their mother tongue, to "become smart."

We have already come a long way since our beginning eight years ago. We next would like to see the establishment of culture centers in each community, linked to a Mayan Academy of Letters based in San Cristóbal, where teachers could be trained to spread our activities throughout the Mayan areas of the state.

My first responsibility to the cooperative as an anthropological linguist has been to train its members how to write their language correctly. While spelling is quickly learned, the decision as to where words begin and end is a problem even for linguists. For example, should the particles to and ox, when they occur together, be kept separate or merged?

Second, the economic crisis in Mexico, severely restricting government funding,
combined with the lack of a tradition of charitable giving in Mexico, forces the cooperative to look outside for support. Very few foundations grant internationally, and of those a very small number support cultural projects. Even then, support is limited to two to three years, so it is difficult to plan for the future. I have been able thus far to steer the cooperative to appropriate foundations. For a weaving cooperative, self-sufficiency may be possible, but for writers?

As a member of Sna Itz’ibajom, I see the significance of the project as strengthening the Mayan culture for the Mayans themselves and offering an alternative to the non-Mayan media barrage. Just as important, the cooperative is awakening an interest among non-Indian Mexicans in their Indian heritage and informing the outside world that Mayan culture is alive and flourishing.

Robert Laughlin
Department of Anthropology
Smithsonian Institution

AN ANTHROPOLOGICAL LINGUIST LOOKS AT PASSAMAQUODDY

The mist was rising off the inlet, the tall spiky outlines of the weirs just visible through the haze, as I drove for the first time into the small Passamaquoddy Indian reservation at Pleasant Point, near Perry, Maine. The reservation is spread out in a sinuous pattern, running along the shore of the inlet, and ending short of a narrow isthmus that bears the road running towards Eastport, a fishing/resort community on the coast. The conspicuous landmarks of the community include the Wabanaki Mall, where signs for the restaurant, auto repair shop (now closed) and grocery store are in Passamaquoddy and English, the native-run supermarket, and the Passamaquoddy Museum, home of the Passamaquoddy Bilingual-Bicultural Program.

I have come to begin a study of the Passamaquoddy-Maliseet language. Passamaquoddy is a language of the eastern sub-group of the Algonquian language family. I am already familiar with a related language, Massachusetts, which I have studied with Dr. Ives Goddard, with whom I co-authored Native Writings in Massachusetts. Massachusetts, however, is an extinct language, and what is known about it comes from writings left by native speakers who became literate in their native language in the seventeenth and eighteenth centuries. My plan is to study Passamaquoddy and thereby to familiarize myself with a living Algonquian language, for the comparisons it will make possible with Massachusetts, and for the insights it will give me into language use. For instance, do people within the community use Passamaquoddy in formal as well as informal situations and does speech differ among different age groups?

At the Wabanaki Mall, shoppers and employees speak softly in Passamaquoddy. I catch perhaps one word in five. Fortunately for me, all speak English as well. I purchase a basket and ask about the maker, a woman still living at Pleasant Point and well known for her skill. I am then directed to the Passamaquoddy Museum to meet Joseph Nicolas and David Francis, two Passamaquoddy men who have
been most influential in sustaining the Bilingual-Bicultural program at Pleasant Point.

Both men are articulate about the needs of their community and their concern for the preservation of the Passamaquoddy language. Both spend much of their time creating and editing materials for school use, taping stories, and working on translations. The museum, the center of the Title-Four funded educational program, consists of two rooms filled with displays of baskets and other objects, as well as murals and life-sized models dressed in traditional clothing.

As a newcomer to Pleasant Point, I am more a receiver of knowledge than a giver. Both here and at Peter Dana Point, where Wayne Newell oversees the vigorous sister program, materials traditionally supplied by the linguist, such as dictionaries, grammars, and translations, have been begun or completed by community members, with the occasional assistance of other linguists and educators such as Phillip LeSourd, Robert Leavitt, and Carl Teeter. Here, as elsewhere in native communities across the United States and Canada, the people are beginning to take a more active role in generating information, and in making important decisions for the future, about their language and culture.

As an outside observer, it is this native involvement that I can perhaps describe and analyze as a community member could not. In pursuit of such understanding, I have begun to interview various community members about their use of and feelings about their native language. These interviews, in combination with well-established ethnographic techniques of field observation, allow me, even as a novice in the language, some insight into the way Passamaquoddy is being used, by whom, and for what reasons.

Fortunately, I encounter little resistance and hostility. The people of Pleasant Point and Peter Dana Point are proud of their language, proud of the fluency of their leaders and elders, and proud to discuss and describe their language to an outsider. As a beginner, I am dependent on them for information, which they generously supply. Their attitude greatly encourages my study and creates enjoyable working conditions.

As the work of a number of modern sociolinguists has shown us, language preservation is not simply a question of recording texts, or creating grammars and dictionaries, but of working to create and foster natural (as opposed to formal teaching) situations in which the native language can be used (for example, teaching basket making or revitalizing fishing and hunting skills). In other words, language preservation can encourage social contexts in which the native language has a legitimate and valued place. Here, comparative information, derived from studies like mine of languages that did not survive, is important, as is the information from other successful language preservation programs in other contemporary native communities.

Yet all of this is in vain if the people of the community cannot or do not wish to make the enormous commitment to sustained preservation programs that is required. Among the biggest problems facing the Passamaquoddy and others like them today is the conflict between their increasingly strong desire for language and culture preservation, and their need to provide relevant education, job training, and an acceptable standard of living for community members, especially the young. In Pleasant Point today, the percentage of people under 30 who are fluent speakers of the language is declining, and young parents are not using the language with their children. Although native language classes are held in the elementary schools, these classes are seen by the children as having little relevance to their daily lives. There is relatively little published material in Passamaquoddy, and all technical and advanced educational literature is in English. Studies elsewhere have shown that only when native students are "immersed" in the language, and only where all official agencies provide truly bilingual services will the language have any hope of survival.

Leaders of the Bilingual-Bicultural program at Pleasant Point and Peter Dana Point are aware of this and are actively searching for new ways to involve the community in the language preservation effort. Some options to provide natural contexts for native language use include native language newspapers, closed-circuit native-language television shows, and the encouragement of
traditional subsistence and manufacturing skills. The use of Passamaquoddy in newly composed songs, poetry, and literature offers another intriguing avenue of potential involvement.

As an anthropological linguist, I have found the efforts of the Passamaquoddy communities fascinating and informative. I now have a deeper understanding of the relationship between anthropology and education and of what makes a successful bilingual cultural program, information I am sharing with colleagues.

In an era where native people are becoming increasingly active in disseminating information about their own languages and cultures, the work of anthropologists and linguists takes on a different kind of significance. Scholars are now being called on to witness a revitalization of native awareness of their languages, and in many cases to assist native-run programs of language preservation. It is a great privilege to be allowed to observe and to assist in such efforts.

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NEW PUBLICATION

Anthropology and Education is a new international newsletter published bi-annually. It is designed to promote archaeological education by creating a network among archaeologists, classroom and museum educators, and historical agencies. Each issue will focus on a theme and will include articles, teaching strategies, and upcoming events and publications on prehistoric, historic, underwater, industrial, and classical archaeology. A $5.00 subscription fee covers mailing costs. If you would like to subscribe or contribute to the newsletter, please write to the following address: Archaeology and Education Archaeological Resource Center c/o Danforth Technical School 840 Greenwood Avenue Toronto, Ontario Canada M4J 4B7

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Botswana (May 8-25), India Arts and Crafts (March 7-April 3), Caves and Castles (Dordogne, France)(June 16-29). Write or call: Smithsonian National Associates Study Tours and Seminars, 1100 Jefferson Dr., Room 3045, Washington, DC 20560; (202) 357-4700.

Archaeological Rescue Inc., a nonprofit educational organization in affiliation with the Anthropology and Education Sections of the Milwaukee Public Museum, is conducting field schools during the summer months at Sheboygan Marsh in Sheboygan County, Wisconsin where there is evidence of human occupation dating to 8000 B.C. From June 18 through August, one- and two-week and daily sessions are available with special sessions scheduled for educators, students, families, and adults. Registration fee includes meals, primitive lodging, equipment, and laboratory supplies. No experience is necessary. For more information, call (414) 352-2515.

Southwestern Archaeology Workshop for Teachers (June 6 to July 6), sponsored by the Anthropology Department, Northern Arizona University, is an introductory level course for teachers who want to include archaeology in their curriculum. Includes excavation at Elenden Pueblo (an 11th-13th century Sinagua site near Flagstaff) and trips to various archeological sites. In addition, the Elenden Pueblo Project sponsors several public programs such as week-long day camps for 4th to 6th graders and 7th to 9th graders, Arizona Archaeological Society (amateurs) certification programs, and the Family Camp Excavation Program. For more information on the teacher workshop and on the various public programs, write or call Dr. Carl Phagan, Anthropology Department, Box 15200, Northern Arizona University, Flagstaff, AZ 86011; (602) 523-3180/7431/3038.

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represented in the excavated burials. Remains of children are more fragile and preserve less well than bones of adults, although it is possible that not all infants and children were buried in cemetery areas.

In the cemetery, which we excavated completely, the remains of 67 individuals were recovered. Almost a third of these (20) were under 5 years old, while only 4 individuals were represented in the child and adolescent age range (ages 5-19). This age distribution is consistent with the U-shaped mortality curve commonly observed in living human populations, where probability of death is highest during the first year of life, declines during early childhood and adolescence, and climbs sharply again in the adult years. Of the individuals who died after childhood, about one third lived to a mature middle age, dying between 35 and 49 years. But a significantly larger proportion of males (12 out of 23) died as adolescents (15-19 years) and young adults (20-34 years), while the majority of females (12 out of 23) fall into the old adult age class (50+). If this sample is representative of the Moche population at Pacatnamu as a whole, these differences suggest that Moche women had a substantially greater probability of reaching old age than did men. Was this due to greater violence or more hazardous activities among men or to greater susceptibility of males to disease? We do know that the Moche frequently depicted scenes of warfare and the capture and sacrifice of prisoners. However, we have found very little skeletal evidence of fractures or other injuries in the Moche sample from Pacatnamu, making it difficult to attribute earlier mortality in males to warfare.

Physical Characteristics of the Moche People

Based on his early studies of ancient Peruvian skeletons, Aleš Hrdlička of the U.S. National Museum (presently the National Museum of Natural History) described prehistoric peoples of the Peruvian coast as broadheaded (brachycephalic) and of relatively short stature. The Moche population at Pacatnamu conforms well to this description. Living stature calculated from Moche skeletons for both males (av. 5'3") and females (av. 4'11") is very similar to that of present day North Coast people of Indian origin. The Moche had wide faces and prominent, relatively narrow noses. Approximately half of the Moche skulls we studied show artificial cranial deformation. This deformation varies from a mild to pronounced flattening of the back of the skull, with flattening of the forehead region occasionally visible as well. Broadening of the cranial vault and slight broadening of the cheeks are noticeable in most deformed skulls, although I believe the deformation we see was probably the unintentional result of infant cradle-boarding rather than a conscious attempt by the Moche to alter the shape of the head. No depictions of infants in cradleboards are known from Moche art, nor have physical remains of cradleboards been found in a Moche context, perhaps because of poor organic preservation. However, well-preserved cradles and cloth bands which were used to fix an infant's head to the cradleboard have been recovered from later coastal cemeteries, along with skulls showing the same form of deformation observed among the Moche at Pacatnamu.

Family Cemeteries

One preliminary but intriguing finding on Moche mortuary practices has come out of my study of skeletons at Pacatnamu. Here, I expected to find one large cemetery where the local population buried their dead, as I had found at other sites in this area. I found, instead, numerous small cemeteries throughout the site and began to investigate answers as to why so many cemeteries were in use during a single time period.

Variation in the morphology of the facial skeleton is known to be a sensitive indicator of population differences, and has been used successfully by physical anthropologists to differentiate ancient populations as well as to identify the population affiliation of recent forensic cases. By applying some of these techniques to Moche skulls at Pacatnamu, I was able to determine that individuals buried in the same cemetery resembled one another (in their facial morphology) more closely than they did individuals buried in other cemeteries of the same time period. Since greater resemblance implies closer genetic
relationship, I interpreted the results as suggesting that the Moche buried their dead by family group. This conforms with the findings of the sixteenth century Spanish Chronicler, Cieza de Leon, who on his travels in 1547 through the valley where Pacatnamu is located, learned that native people buried their dead by kinship group in the hills and bluffs above the valley floor. This, along with the results of my research at Pacatnamu, suggest that burial by family group was a very ancient practice in the valley.

Health and Disease

All the Moche skeletal material excavated or surface collected at Pacatnamu was examined for evidence of disease or nutritional deficiency. Infants and children showed little sign of nutritional stresses due to low protein or insufficient calories, (something which I found in some later burials at the site), and adults were relatively robust. All the older individuals and several younger adults had some degree of arthritis in the joints, particularly in the hips, knees, shoulders, and elbows. In the older adults, arthritis of the temporomandibular (jaw) joint was also common. The Moche also suffered from tooth decay and loss; middle-aged adults (35-49) had lost an average of 4.9 teeth and had cavities in an average of 3.6 of the remaining teeth, while old adults over 50 had lost an average of 17.2 teeth. Remaining teeth were frequently affected by periodontal disease. This is consistent with a growing body of data on dental disease among prehistoric agriculturalists, indicating that people who eat diets rich in soft foods and carbohydrates frequently have a high incidence of cavities and other dental disease, even in the absence of refined sugars.

Understanding the Moche: Ongoing Research and Future Prospects

Recent archaeological excavations at sites such as Sipán are rapidly increasing our knowledge about ancient Moche culture. The study of their skeletal remains is providing additional information about their physical characteristics, health, and mortality patterns. The high status tombs found at Sipán pose some new research questions, which we are currently working to answer. For example: Are there differences in the health, stature, or other physical characteristics of the Moche elite that might reflect a lifestyle and diet different from that of Moche commoners? Do the skeletons of the elite show any rare or unusual skeletal traits that might suggest a lineage of hereditary Moche rulers? Do the skeletons that surround the central occupants of elaborate tombs at Sipán represent retainers or relatives of the deceased?

Ongoing research may provide answers to these and other questions about the population responsible for this remarkable prehistoric South American culture. It may well be that the next generation of school children will be as familiar with the Moche as with the Inca, who dominated the coast of Peru 1,200 years later.

Suggested References:


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