

SOCIETY FOR AMERICAN ARCHAEOLOGY

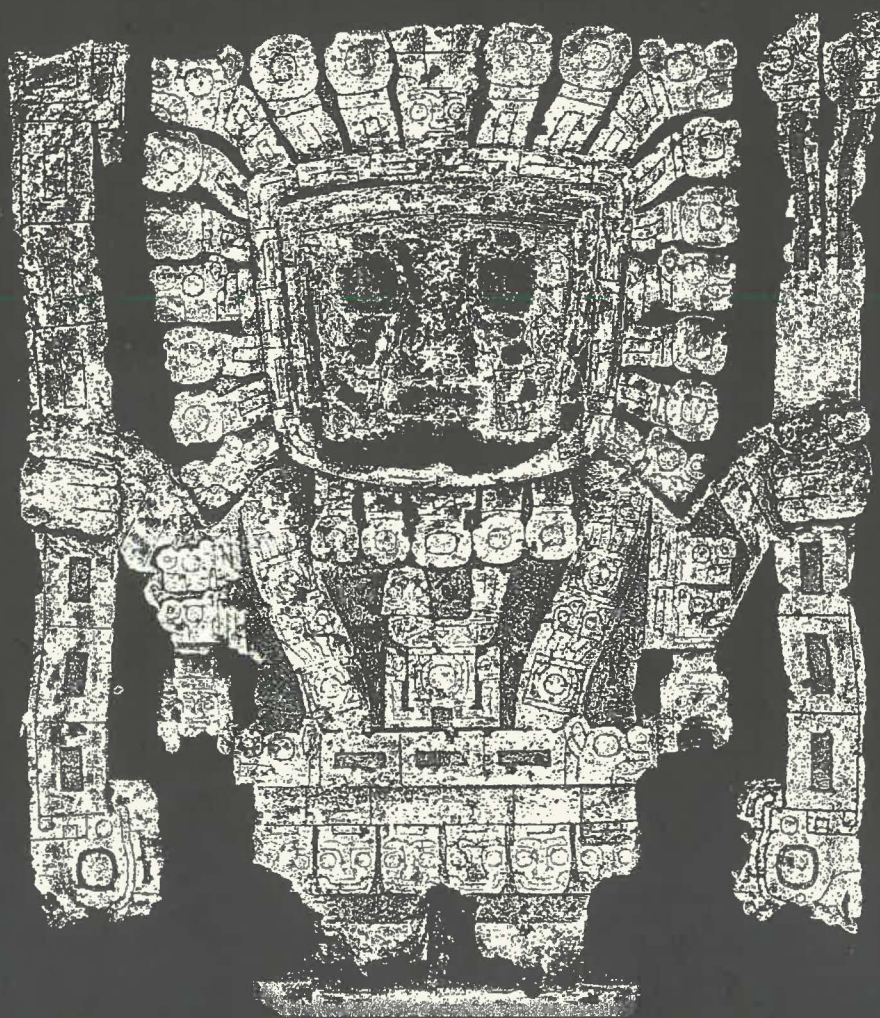
SAAS

# Bulletin

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*New Research at Tiwanaku, Bolivia . . . pp. 8-9*



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## **Congress Moves on Funding, Preservation Bills**

*Loretta Neumann, SAA Washington Representative*

As usual, the first year of the two-year Congressional cycle has been relatively quiet, with federal appropriations receiving the most attention. Absent a statutory or political deadline, most bills get hearings the first session, but are not enacted until the second. Congress is expected to adjourn its first session in October, and reconvene in January. Some highlights from the first session of interest to the Society include:

**Appropriations:** Congress acted more quickly than usual on appropriations bills this year, hoping to meet the October 1 deadline that marks the beginning of the 1992 fiscal year. The SAA's attention has been focused primarily on the Interior and Related Agencies bill, which funds the bulk of the archaeology and historic preservation programs in the United States.

The Society lobbied hard for increased funding for those agencies whose programs affect or support archaeological resources. The final numbers, however, will not be available until after the conference committee votes in September. The House passed a \$12.9 billion Interior budget, that generally would keep cultural resources programs at the levels requested by the Administration. However, the House cut the Bureau of Land Management's (BLM) cultural resource program by \$500,000 to \$9.2 million, increased the Forest Service cultural resource programs by \$1.28 million, to reach \$27.173 million, and added \$400,000 to the National Park Service's (NPS) operations budget for archaeological resources protection, for a total of \$900,000. The Historic Preservation Fund would gain nearly \$1.5 million over last year for a total of \$35.9 million, including \$950,000 for grants to Indian tribes. The NPS applied ethnology program would get \$200,000.

**Historic Preservation Amendments:** Field hearings are set for September 5-6 in Macon and Augusta, Georgia, on S. 684, the National Historic Preservation Act Amendments of 1991. Introduced by Sen. Wyche Fowler (D-GA), the bill is pending before the Senate Energy Subcommittee on Public Lands. S. 684 would strengthen the nation's historic preservation programs in a variety of ways. The bill would offer states the option of adding responsibilities, and would give Indian tribes authority to assume certain preservation roles, such as that of state historic preservation officer. It would also create a national center for preservation technology under the NPS, and establish an education and training program to increase public participation in historic preservation. The bill would require that archaeologists working on federal lands, or with a federal permit, either federal employees or contractors, meet professional standards developed by the Secretary of the Interior. For sites on private lands, S. 684 mandates the Secretary to develop guidelines for identifying sites, and to provide information to land owners on site preservation. The bill would also direct the Advisory Council on Historic Preservation to convene an international conference on the illegal trade of artifacts. Senate staff indicate that additional hearings are possible in New Mexico, followed by a hearing in Washington, DC, and mark-up soon thereafter. No House action has been scheduled on the companion bill, H.R. 1601, introduced by Rep. Charles Bennett (D-FL).

*Continued on p. 15*



## SURVEYING THE FIELD

Lynne Goldstein's review of the committee structure of the SAA in this issue of the *SAA Bulletin* (pp. 5-6) highlights the most important mechanism by which the Society gets things done: volunteerism. Volunteerism is more than just sloganeering on the part of First Ladies looking for worthwhile projects to sponsor. Volunteerism means contributing time and skills on behalf of a cause, usually without financial reward.

Like many other scholarly/professional organizations, the Society for American Archaeology is a volunteer-based organization. We have very few paid employees. Instead, most of the work of the Society--from making up the budget to organizing the annual meeting, to editing the publications, to writing to legislators in Washington--is accomplished by volunteers.

People who volunteer their time to serve the SAA are members just like you. They have jobs, research interests, personal relationships, hobbies . . . lives, in other words . . . and all of these interests compete for the hours in their days. Yet they still find time to make the phone calls, write the letters, and attend the meetings in order to help the Society's business get done. When asked to serve on a committee or task force, or run for elective office, they said, Yes.

Why do people volunteer their time and effort to serve the Society? There are a number of advantages and benefits that volunteers frequently mention, whether they are working for the SAA or for community service. One is the opportunity to broaden networks, to meet new people with shared interests, to communicate with and learn from them. Another is a sense of responsibility to share special skills and, in so doing, "give something back" to the profession and the organization that has been working for them. Perhaps the most common reason people volunteer is a spirit of activism, a desire to bring about change and to "make a difference."

The SAA has a varied constituency within its membership, and their expectations for what the Society should be doing for them and for the field as a whole is constantly growing. In recognition of these expectations, as the SAA moves beyond being a strictly scholarly organization, our activities have been expanding. During the last two years, the SAA has added a new journal, started the Foundation for American Archaeology, and added the Council of Affiliated Societies. In addition, to meet the needs of these and other varied groups and interests within the field of archaeology, we have established at least nine new committees or task forces. The work of all of these is conducted by volunteer members of the Society.

Membership in the SAA is not just a matter of reading the journal and attending the annual meeting. Membership includes the responsibility to contribute time and effort periodically in order to help the Society achieve its goals. All members have valuable interests and skills that can be matched with those of the committees: public education and outreach, curation, government affairs, awards, publications, women's studies, history of archaeology, ethics, relations with other professional societies, annual meetings, finance and fundraising, and so on. These are only some of the many critical activities represented by the current committee organization.

I would like to urge all members to familiarize yourselves with the committees and task forces described in this issue of the *Bulletin*. Compare them to your own interests and skills, and to your satisfactions and dissatisfactions with the Society's endeavors. Can you make a difference? Volunteer! To do so, express your interest to any of the Society's officers, editors, or Executive Board members. Their names and affiliations are available in Volume 9, Number 3 of the *Bulletin*, and in your issues of *American Antiquity*.

*Prudence M. Rice, President*



## Avocational Affairs

### Affiliated Society Representatives Meet

William D. Hohmann, *Arizona Archaeological and Historical Society*

After five years of hard work and preparation, Earl Lubensky of the Missouri Archaeological Society called to order the first meeting of the Council of Affiliated Societies (CAS) of the Society for American Archaeology in New Orleans on April 26. Twenty-one of the 26 local, state, and regional societies which have affiliated with the SAA thus far were represented. They came from 17 states and one Canadian province.

Packed into an all-too-short two-hour meeting were recommendations for important structural changes to the affiliation requirements, changes that will insure that all societies with non-profit status are open to the general public, and that these have objectives and programs consistent with the SAA's.

Also discussed were programs that would provide for exchange of information between the affiliated societies, as well as those societies eligible for affiliation. This column is one of the results of that discussion. It was also decided that affiliated societies would be encouraged to exchange newsletters. Use of *SAA Bulletin* articles in local newsletters is also to be encouraged (with attribution).

To enhance the contributions of avocational archaeologists to the work of American archaeology, two committees were formed. One, under the direction of Earl Lubensky, will explore the possibilities for research in the collections of museums and local historical societies. The other committee, directed by Hester A. Davis, is looking into the need for, and possible form of, a certification/accreditation program or policy on the local and national level.

Of great concern at the meeting was the promotion of membership in the Council of Affiliated Societies--a difficult task, but one that should be made easier as local, state, regional, and provincial societies learn of the benefits of membership. Some of the tangible benefits have been discussed above. Perhaps the greatest benefits are those to be gained through the joint efforts of the avocational and professional archaeologist in their support for American archaeology.

The last item of business was the election of officers for 1991-92: William D. Hohmann of the Arizona Archaeological and Historical Society, Chair; Leland W. Patterson of the Houston Archaeological Society, Vice-Chair; and Jane McGahan of the Massachusetts Archaeological Society, Secretary. David R. Jeane of the Louisiana Archaeological Society volunteered and was duly appointed contributing Editor of this column.

## Public Education

### Committee on Public Education Tackles Site Destruction with Long-Term Solutions

Teresa Hoffman, *Arizona State Parks*

In its continuing efforts to address the issue of archaeological site destruction, the SAA Executive Board created the Committee on Public Education on April 19, 1990, in Las Vegas. The establishment of this committee is a significant step along the road that began in May, 1989, with the SAA Anti-Looting Working Conference in Taos ("Saving the Past for the Future", see *SAA Bulletin*, Vol. 8, No. 4). A consensus emerged from the conference that public education remains the most effective long-range and broadly based solution to the problem of site destruction.

The Committee on Public Education is chaired by Ed Friedman, with assistance from Vice-Chair Phyllis Messenger. Four subcommittees have been established to further the goals of public education in archaeology: 1) Public Sessions Subcommittee, George Smith, Chair; 2) Special Interest Group Subcommittee, Lawrence G. Desmond, Chair; 3) Formal Education Subcommittee, Karolyn Smardz and Paul Hooge, Chairs; and 4) Education Resource Forum Subcommittee, K.C. Smith, Chair.

The committee made considerable progress over the past year, and a few of their accomplishments include: 1) Initiating a quarterly newsletter, *Archaeology and Public Education*, in September 1990; 2) Conducting two teacher workshops, "Archaeology in the Classroom," at the 1990 and 1991 SAA annual meetings; 3) Hosting a session at the 1991 SAA annual meeting designed specifically to present archaeological information in a public forum; and 4) Presenting a resource forum for educational materials at the 1991 SAA annual meeting. In conjunction with the public session at the 1991 annual meeting, an essay contest on the topic of "Protection of Prehistoric and Historic Sites" was held in the Louisiana public schools and over 100 entries were received from 8th-9th graders. Plans are already being made for a public session and teacher workshop at the 1992 meetings in Pittsburgh, and once again an essay contest will be held, this time with the participation of public school children from Ohio and Pennsylvania.

To become involved with the committee, and/or to receive the committee newsletter, contact Ed Friedman, Chair, SAA Committee on Public Education, Bureau of Reclamation, Denver Federal Center, P.O. Box 25007, Denver, CO 80225-0007, Attn: D-5530; (303) 236-9026. Articles on Public Education in archaeology for the *SAA Bulletin* can be submitted to Teresa Hoffman, State Historic Preservation Office, Arizona State Parks, 800 W. Washington, Suite 415, Phoenix, AZ 85007.



## The Structure of the SAA: Committees

Lynne Goldstein, University of Wisconsin, Milwaukee

*This is the final section of a three-part description of the structure of the Society for American Archaeology. See Volume 9, Number 2 and Volume 9, Number 3 of the Bulletin for discussions of the By-laws, the Executive Board, the Editors, the Washington representative, and the annual meetings.*

### STANDING COMMITTEES

Standing Committees are those specifically required by the By-laws. Each Standing Committee has an Executive Board member as a liaison.

**Nominations:** The Nominations Committee is a special Standing Committee elected each year by the Board. The Committee is composed of five individuals, one of whom must be a former SAA officer; the former officer serves as Committee Chair. To select the Nominations Committee, the Board develops a list of nine nominees, then each Board member ranks the nominees; the five individuals with the highest ranks are asked to be on the Nominations Committee. If someone is unavailable, the Board moves down the list until five are selected.

**By-Laws:** The By-Laws Committee recommends by-laws changes and also examines proposed by-laws changes.

**Membership:** The Membership Committee advises the Executive Board about ways and means of enlarging SAA membership, and about specific services that the membership would find useful but are not presently available.

**Publications:** The Publications Committee oversees the three publications of the Society, evaluates requests for new Society publications, and examines other related issues.

### ADVISORY COMMITTEES

Advisory Committees are permanent committees, but are not specifically designated in the By-laws. Each Committee has an Executive Board liaison.

**Finance:** The Finance Committee oversees the Society's financial status, and makes recommendations for future directions. The Chair of the Committee assists in developing the Society's annual budget.

**Government Affairs:** The Governmental Affairs Committee coordinates efforts with the Washington Representative in tracking issues of interest to the Society in Congress and in government agencies. The Committee's yearly agenda is approved and reviewed by the Executive Board. COPA, the Society's grassroots information/lobbying network,

is a subcommittee of the Government Affairs Committee.

**Professional Relations:** The Professional Relations Committee maintains communication between the Society and other related professional organizations.

**Public Relations:** The Public Relations Committee has recently focused its attention on how the SAA might deal with the press to promote itself as well as archaeology.

**Public Education:** This committee developed out of the Anti-Looting Conference, and addresses public education in its many aspects, including programs for the general public and for schools.

**Student Affairs:** This committee focuses on student issues and is a regular contributor to the *Bulletin*.

**National Historic Landmarks:** This committee allows the SAA to have direct input into designations of archaeological National Landmarks by the U.S. Department of the Interior. The committee reviews and sometimes prepares landmark nominations.

### LIAISONS TO OTHER ORGANIZATIONS

The Society maintains official representatives to several other professional organizations. The individuals keep the SAA informed on issues of mutual interest.

**AAAS Representative:** The SAA appoints a representative to the American Association for the Advancement of Science.

**SOPA Representative:** The SAA is represented by a seat on the SOPA Board. The SAA submits names of candidates to SOPA for election to their Board.

**USNC/INQUA Representative:** The SAA submits the name of an SAA member to the National Research Council, Board on Earth Sciences, for consideration as a member of the U.S. National Committee for the International Union for Quaternary Research (USNC/INQUA). This individual represents archaeology and the SAA among Quaternary Studies.

### AWARDS COMMITTEES

Awards Committees are permanent committees that have been grouped together for organizational purposes. They operate under an Awards Coordinator, who works to make sure each award is prepared properly and on schedule.

**Crabtree Award:** Named after the late Donald Crabtree, an amateur archaeologist internationally



known for his flintknapping skills, the Crabtree award is annually presented to an outstanding avocational archaeologist.

**Dissertation Prize:** This prize is awarded for an outstanding dissertation in archaeology. The committee solicits nominations from the membership and reviews each dissertation received.

**Distinguished Service:** The Distinguished Service Award is presented to a member who has performed outstanding service to the Society. Although this award has often been given to individuals for lifetime achievements, it is not limited to such individuals.

**Fryxell Award:** The Fryxell Award is a special recognition of interdisciplinary excellence by a scientist (not necessarily an archaeologist) whose research has contributed significantly to American archaeology. The Award is made possible through the generosity of the family of the late Dr. Roald Fryxell, a geologist whose promising career in archaeological research was cut short by his death at a relatively young age. The committee cycles the award through earth sciences, physical sciences, zoological sciences, botanical sciences, and a general category, and is composed of one representative from each disciplinary area.

#### TASK FORCES AND AD HOC COMMITTEES

Task Forces and ad hoc committees are usually formed for special purposes, and often are of limited

duration. Sometimes these committees become permanent committees, other times they are "decommissioned" when their work is completed. For example, the new **Council of Affiliated Societies and Foundation for American Archaeology** were organized and instituted as a direct result of task force activities. The work of the **Anti-looting Initiative**, the SAA's Save the Past project, led to the formation of the **Public Education Committee**. And the **Archives Committee**, an ad hoc committee to insure that the Society's records are being maintained, has been merged with the **History of Archaeology** ad hoc committee as part of an active program of recording the development of our discipline. Two other task forces are currently active:

**SAA/Native American Relations:** The SAA established this task force to develop positive relationships and programs with Native Americans on a number of issues of mutual interest.

**Repatriation:** The Repatriation Task Force tracks national legislation, testifies when necessary, and tries to represent the SAA in discussions and negotiations on these issues. Its work is coordinated with the Government Affairs Committee and the Executive Board.

The above constituted the committees and task forces of the Society prior to the Executive Board's meeting in New Orleans in May. New ad hoc committees and task forces are being considered as a result of actions taken by the Board at that meeting.

### TOOLS FOR QUANTITATIVE ARCHAEOLOGY

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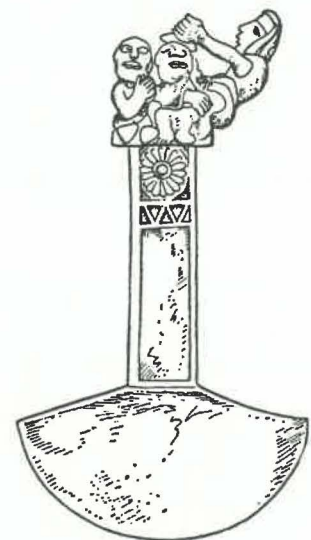
**Two Way:** Chi<sup>2</sup> and G tests of independence (including for very small samples), Fisher's Exact Test; several measures of association; median polish, Mosteller, and other two-way table standardization.

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## *Archaeology and Outreach: The One Percent Solution*

*David A. Phillips, Jr., Museum of New Mexico*

For years archaeologists have talked about the need to do more public outreach. As taxpayers or consumers, the public ultimately pays for everything we do; as members of a democratic society we need to share our results with the community of which we are a part. In recent months the number of archaeologists involved in outreach has grown rapidly, but they are still the minority. On the whole, archaeological outreach continues to be an occasional and disjointed effort.

It is possible, however, to propose a solution that could radically improve our outreach efforts in the space of the next five years. This solution is based on the following premises:

Cultural Resource Management (CRM)-based studies have become the mainstream of our profession, in terms of numbers of archaeologists, levels of research activity, and levels of funding. There are at least three CRM archaeologists in the United States for every archaeologist holding an academic position. Therefore, CRM programs provide a broader resource base for outreach efforts than academic programs.

Unlike active academic programs, which are concentrated in a fairly small number of institutions, CRM programs are widely distributed, and thus provide more effective geographic coverage for outreach. In addition, CRM programs often work directly with local governments and business communities, and can better use existing contracts to develop long-term grass-roots support for archaeology.

CRM archaeologists are, therefore, the ideal people to take the lead in outreach. The problem is, of course, that most CRM work is contingent on client funding, and we have generally failed to approach our clients about doing outreach as part of their overall compliance package. I am sure that many of us have thought about "hitting up" our clients for this purpose, but we have been highly unsure as to what contribution is appropriate or fair.

My solution is to propose a rule that will provide us with a simple, clear, and consistent goal in soliciting client support for outreach. It will reflect the client's own need to keep costs down, and will, in the long run, transform our ability to take our message to the community. This rule is "one percent for outreach." For all research projects over \$10,000, the client will be asked to add one percent to the total project cost. The funds will then be used, on a break-even basis, to take that project back to the community.

Under the "one percent" approach, the level of outreach will vary according to the size of the project.

For a \$10,000 project, the outreach funds may allow an archaeologist to spend one day in a local school, describing project results in the broader context of site conservation and archaeological research goals. For a million-dollar project, a formal program can be designed around several different outreach approaches. And, in the country as a whole, a "one percent" approach will mean over a million dollars a year spent for archaeological outreach.

There are benefits besides the obvious financial ones. At present, "outreach" often means a tongue-tied archaeologist who stumbles through a show-and-tell with a box of artifacts. This approach is understandable, considering how little outreach has been done up to now. However, if outreach becomes an integral (and funded) part of CRM work, we will suddenly have the "critical mass" needed to train people in archaeological outreach and to develop useful educational kits. In other words, it is not only a matter of doing more outreach, but of doing better outreach thanks to better funding.

The "one percent" program would be a voluntary one and many clients may refuse at first. In the long run, however, I believe that any client will embrace the concept, and even provide funding above the one percent level. Almost all CRM archaeology is done as part of commercial development efforts and the sponsors of the work often have serious problems with a poor public image, or perhaps active opposition to their efforts, even when they are sincerely prepared to deal with local concerns. Conventional public relations approaches often have limited value in such cases, because of inherent public distrust of "PR" programs that toot a company's own horn. Archaeological outreach provides the same company with a chance to show what it is actually doing to protect the local cultural heritage of a community. For most clients, archaeological outreach will be "one percent of one percent" of a project's total costs. As such, outreach is a real bargain from a public relations point of view.

Wider adoption of the "one percent" approach can be encouraged by the clients themselves, especially when the client is a public agency. Such agencies can stipulate a one percent outreach set-aside on all contracts over \$10,000, and allow bidders to propose specific outreach programs based on that set-aside. Technical proposals can be scored, in part, on the creativity and effectiveness of the proposed outreach program.

If the "one percent for outreach" program shows some success as a voluntary program, I suspect that in time it will become a legal requirement of CRM archaeology—just as adequate technical reports were once optional in "salvage" work and are now mandatory. Meanwhile, however, there is no reason why we cannot begin asking for a one percent line item for outreach on our projects.



## Tiwanaku and Its Hinterland

Alan L. Kolata  
The University of Chicago

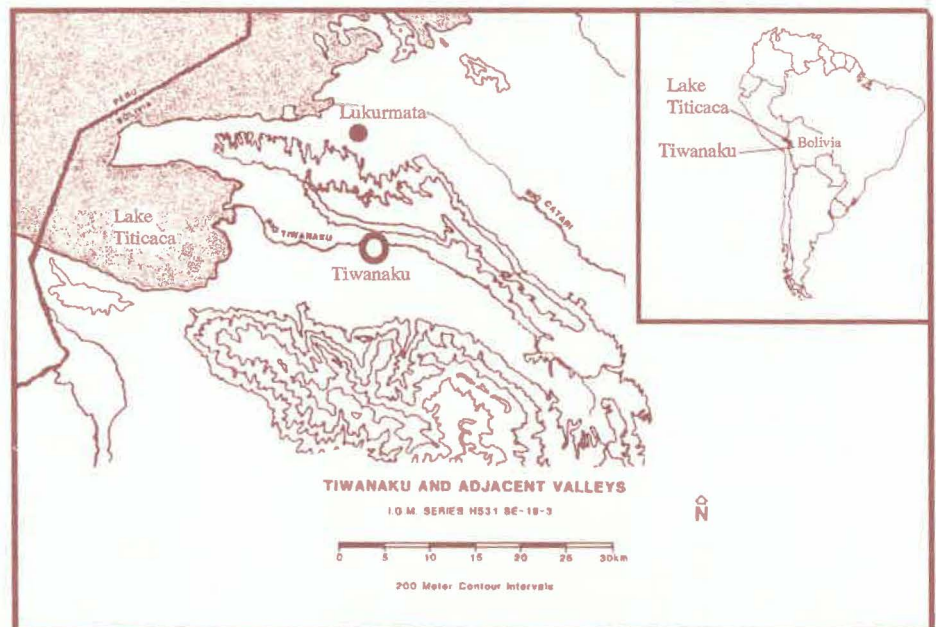
During the first millennium, the native city of Tiwanaku and its rural hinterland formed the core of a metropolitan zone of unparalleled economic and political importance in the Lake Titicaca basin, Bolivia. Despite Tiwanaku's central historical role in the emergence and dynamics of civilization in the south central Andes of South America, fundamental questions regarding the character of Tiwanaku urbanism and political economy remain. Despite decades of attention by archaeologists, little is known about Tiwanaku's demographic, economic, or socio-political organization, or of the processes by which its hegemony grew and then declined during the period A.D. 400-1000.

In 1986, the *Proyecto Wila Jawira* was organized by Alan Kolata (University of Chicago) and Oswaldo Rivera (Director, Instituto Nacional de Arqueología de Bolivia) as a program of systematic studies of the Tiwanaku state. The investigations have taken a regional perspective, simultaneously focusing on Tiwanaku itself, the secondary urban settlement of Lukurmata, and the broader territory of the Lake Titicaca basin in which Tiwanaku and Lukurmata are situated. Current research activities are framed around three questions: (1) What is the character of domestic occupation, and of domestic production within Tiwanaku urban center?; (2) What were the associations between the domestic occupation and the monumental architectural complexes that define Tiwanaku's civic-ceremonial core?; and (3) What were the political and economic relations between Tiwanaku and the extensive network of rural settlements and agricultural systems in its hinterland?

Of particular interest at the outset of *Proyecto Wila Jawira* was investigation of the technology

and organization of intensive agricultural production in Tiwanaku's hinterland. The Tiwanaku region is at high altitude (3800 masl), and near the upper climatic boundary for viable agriculture. Modern and paleoecological studies have also shown that Lake Titicaca responds rapidly to climate variation, periodically flooding enormous areas of arable land and rendering long-term agriculture difficult. Therefore, one goal of our research has been to determine the potentials for, and constraints to pre-industrial agricultural production in this environment.

Programs of broad horizontal excavations, intensive surface collections, and topographic mapping in the urban zones have been conducted in tandem with environmental and settlement surveys farther afield. Together these strategies are locating Tiwanaku within an historical context of demographic and socio-political change, and of large-scale alteration of the physical landscape. In addition, the *Proyecto Wila Jawira* is incorporating the results of paleolimnological (especially the



analysis of sediment cores extracted from Lake Titicaca), paleoethnobotanical, and hydrological research to address questions about the agricultural component of Tiwanaku's political economy.





Ancient raised agricultural fields in the near hinterland of Tiwanakau. Fields preserved on the surface generally date to the period A.D. 900-1100.

The specific objectives of the project's paleoecological research are to reconstruct lake-level variation during the past 5000 years, analyze climate variation in the Tiwanaku region, and determine the ecosystem consequences of changing agricultural practices. Integrated with traditional archaeological research, this multidisciplinary approach is gradually revealing how the populations of Tiwanaku altered local ecosystems in such a way that agriculture could be sustained for nearly a millennium.

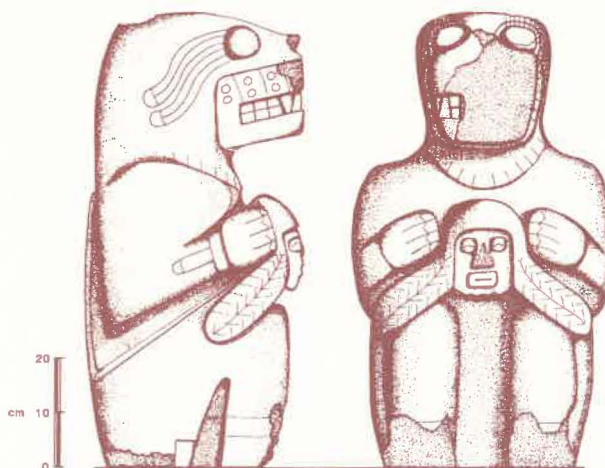
While data analyses from all aspects of *Proyecto Wila Jawira* are still in preliminary stages, the evolving image of Tiwanaku's structure is one in which the state's political economy depended upon an agricultural region reclaimed from the flat, marshy shores of Lake Titicaca. Under technologically sophisticated hydrological manipulation, this zone was capable of sustained yields that provided for the state's subsistence needs, and which facilitated and supported the natural expansion of its demographic base.

Tiwanaku's intensive agricultural production was made possible by a system of human-engineered canals, aqueducts, and groundwater regulation, articulated with extensive zones of raised fields--where the raised fields were elevated planting platforms ranging from 5 to 10 meters wide and up to 200 meters long. The organization of agricultural production in this core

territory required extensive interaction between urban and rural settlements. This interaction was hierarchically organized and characterized by centralization of decision-making, with resource management involving large-scale mobilization of corporate labor.

The population in Tiwanaku's core was not distributed broadly across the landscape. Rather, there is a clear pattern of nodal population clustering in large urban centers, such as Lukurmata, and in intermediate scale settlements arrayed along the combined geological and human-altered terraces in the three central valleys of Tiwanaku's heartland. Here are contained some 190 square kilometers of relic raised fields

(19,000 hectares), providing an estimated potential population carrying capacity ranging between 38,000 and 1,111,500 persons, depending on whether one or two annual crops were raised per year, and on the degree to which all fields were utilized simultaneously. It is now apparent that the expansion of areas of raised fields, and the elaboration of the interconnected spring, reservoir, and aqueduct water delivery systems, paralleled in time and fueled the internal development of Tiwanaku as a city and a state.



Basalt sculpture representing a crouching, puma-masked human holding a trophy head, recovered near the base of the Akapana pyramid, Tiwanaku's largest ceremonial structure.



## *Cultural Resource Management and the Professional Archaeologist*

*Philip Duke, Fort Lewis College*

The overwhelmingly positive impact of Cultural Resource Management (CRM) on North American archaeology cannot be denied. I wish, however, to raise the issue of inadequate salaries and remuneration for CRM archaeologists—especially those at the baccalaureate level. This problem has consistently arisen during my eleven years of teaching archaeology in an undergraduate college and advising students on careers in CRM. My remarks are intended not as a review of the voluminous literature on CRM, but as a personal commentary on the problems my students face in entering the field of CRM, and the challenges that all archaeologists face in developing a more professional face to our discipline.

Many of my students see CRM as a temporary job until they can go to graduate school. Those with a B.A. who enter CRM as a full-time career often become so disillusioned that they move out of archaeology entirely. I do concede that in the past few years, the situation has improved a little, as some market forces have begun to operate. Nevertheless, the overall situation, in which qualified professionals with bachelor's degrees are offered low remuneration and benefits, and poor job security, is still in need of improvement. In a timely analysis of CRM salaries and benefits in the Southwest—based on data provided by the owner, principal investigator, or archaeologist in charge—Post and Phillips (1989:10) calculated a mean hourly wage of \$7.81 for a trained archaeologist/crew member (the figure included both the public and private sectors), which I interpret as the position that would be filled by a beginning B.A. archaeologist. The "perfect" salary for this level would range from \$6.50 to \$9.50 (Post and Phillips 1989:19). Of archaeologists within this rank, 46 of 135 (34%) lacked any health benefits (Post and Phillips 1989:12), while 89 (66%) lacked retirement plans (Post and Phillips 1989:13). There was no indication of how long one had to be employed before such benefits became available.

The main excuse I have heard for the relatively low levels of salaries and benefits is that the extreme competition of the business keeps compensation to a minimum. I suggest, however, that this is an insufficient reason. The secret to better salaries and benefits is not just simple market-forces, but the force of collective bargaining. Indeed, I would urge archaeologists to use existing national organizations to ensure minimum salaries and benefits for workers. Such an idea seems to be gaining popularity. For example, Post and Phillips (1989:7) suggest that regional employers' or employees' associations could collectively organize to provide better benefits for their members. Thus, local organizations might pro-

vide assistance for members, pending the development of politically stronger national organizations. It is impractical to suggest, of course, that the salaries and benefit rates would be constant throughout the country, given regional economic variability. Nevertheless, it is reasonable to expect our professional organizations to help guarantee minimal rates of compensation. Indeed, it probably surprises other professionals, whether they be physicians or plumbers, that this right is not already afforded to CRM archaeologists.

I have also been told by some CRM employers that they pay low salaries because many beginning archaeologists need on-the-job-training. It is true that academia and CRM have traditionally not mixed very well; colleges and universities can, and should, offer more appropriate courses. However, many departments, my own included, have been unwilling to create CRM programs when the end result for the student is often a job with minimal professional "kudos" or compensation. The pressure from university administrations to keep class "head-counts" high works against curricular reorganization, because this often leads initially to smaller classes. Also, field-school programs are lacking in many areas of the country for a variety of reasons. Even when a field school is available, many students naturally prefer a low-paying summer CRM job to a field school that they have to pay for. There are many CRM companies that will hire undergraduate students at low wages and give them a modicum of on-the-job-training in the mechanics of field work. Unfortunately, because of the nature of the business, this training more often than not fails to place field work within the wider disciplinary goals of archaeology and anthropology. Field work—the recovery of data—is thus often separated operationally from the discipline.

Our own field-school program has suffered from enrollments that are lower than would be predicted from regular school enrollments, precisely because of this hiring practice. A vicious circle is thus created, in which many field-schools are cancelled for lack of students and the CRM companies, who were partly responsible for their demise, complain about the lack of adequate field expertise of those they hire (thus giving them a reason to keep salaries low).

It is important to note that the costs of improved compensation and benefits packages would be passed onto the contracting agencies themselves, and not come directly out of the CRM companies' profits. Obviously, this increase ultimately will permeate down to all of us who pay taxes, but I suspect that a lot of increase is possible before the levels of compensations become such as to stir public criticism.

I believe that an improvement in remuneration will enhance the reputation of our discipline among other professionals and members of the public. Perhaps we should stop being so apologetic for our dis-



cipline and protecting our jobs by the dubious strategy of charging as little for our skills as possible. I reject, incidentally, any suggestion that increasing pay scales would bring the whole CRM industry into jeopardy. Archaeology has a vital role in society, otherwise the laws sanctioning the CRM industry would not have been passed in the first place. The laws, now part of the federal bureaucracy, are not going to disappear and neither is CRM.

I realize that my suggestions would require a fairly radical change to how CRM is undertaken. However, CRM should be a fully professional activity with as much right to exist as any other profession (and as important to archaeology as what goes on in the universities). Better compensation and benefits should be provided for all members of the industry, including those with a "lowly" bachelor's degree. Only archaeologists, both CRM employers and archaeological faculty can make this happen. Please, let us begin to take ourselves more seriously, because if we do not, how can we expect others to?

*Acknowledgments: This is a shortened version of a paper given at the 1990 annual meeting of the Colorado Council of Professional Archaeologists. I thank Gary Matlock, Douglas Scott, Brian O'Neill, Steve Plog, and several anonymous reviewers for their excellent and helpful comments. I am also most grateful to Stephen Post and David Phillips for their efforts in compiling the survey of salaries in the Southwest.*

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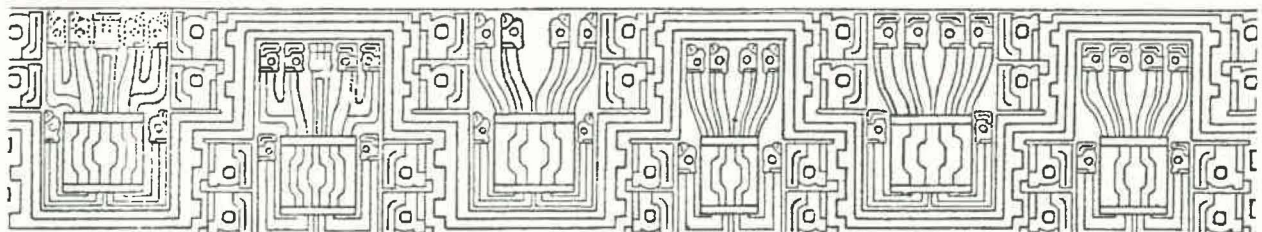
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## An Embarrassment of Riches: Axum and Graftool Technical Graphing Packages

Alex W. Barker, University of Michigan  
Michael Adler, Southern Methodist University

It's been said that most archaeologists think in pictures. If that's true, technical graphics packages like *Axum* and *Graftool* may be as important as typewriters and word processors in getting your ideas across.

Programs to create simple pie and bar charts have been available since the advent of the personal computer. Technical graphics packages let you do more. They handle vast amounts of data, support a variety of data smoothing and conversion routines, provide the ability to rescale and mathematically transform ranges of variables, calculate summary descriptive and analytical statistics, and let you not only illustrate your data but explore it.

The two leaders in technical graphing, 3-D Visions' *Graftool* and TriMetrix's *Axum* offer an extensive array of features. Each easily handles line, bar, pie, polar, scatter, contour, and XY plots in all their varieties, and that only scratches the surface of the charts each can create. *Graftool*, for instance, offers nine different kinds of three-dimensional charts. Some of the more esoteric graph types will be of little use, unless microwave engineering is a hobby.

With both programs data can be rescaled and transformed using a wide variety of mathematical and logical operators. In *Axum*, users have access to more than fifty functions, ranging from computation of Bessel functions to the cumulative density function of a Gaussian distribution. Both packages provide toolboxes of data smoothing techniques including weighted smoothing, interpolation and cubic splining, and curve fitting utilities including linear and polynomial regression. As an example of the variety offered by each, *Graftool* computes exponential, Fourier, geometric, and hyperbolic regressions, while *Axum* supports 3-D, lowess and weighted lowess regressions, and lets you save, plot, and analyze residuals and predicted values. Both provide a range of summary regression statistics.

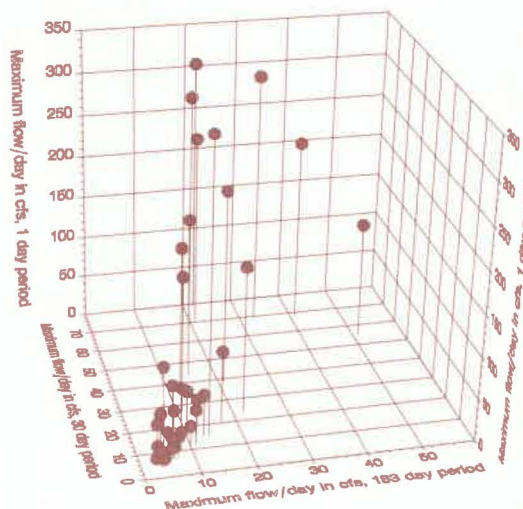
*Graftool* uses a graphical user interface that is nonstandard and occasionally quirky. Once you become familiar with the program, however, this feature and mouse support make the program easy and relatively intuitive, but the learning curve can be steep. New users are likely to get seriously lost if they venture far from the manual's examples. A menu appears in the upper left hand corner of the display, with a series of icons for common commands spread out beneath it. Users click on an appropriate item or icon to issue commands, but at times the program abandons mouse support in favor of the normal arrow keys on the keyboard. While *Graftool* does not provide any native drawing tools, it is possible to add as many overlays as desired, so lines, curves, etc., can be added as graphs and fitted over the original image.

*Axum's* interface, based on a non-graphic menu system reminiscent of *Harvard Graphics*, may be less confusing to experienced PC users, but its lack of mouse support makes movement, placement of objects, and selection of areas onscreen something of a chore. Strangely enough, *Axum* does provide a basic set of drawing tools, so you can directly add lines and curves to the graph. But without mouse support, it's rarely worth the effort. The menu system, however, is only a shell between the user and an interpreted language used to construct *Axum* graphs. The language, a subset of C++ with a variety of command interpreter additions, lets intrepid users get under the hood and tinker. *Axum* generates a history file during use, so that the precise sequence of commands used to produce a given graph can be printed as a guide to making similar graphs in the future.

Neither program is quick on the draw--when redrawing complex images they probably keep pace with the average glacial advance, but just barely. *Graftool* is by far the worst offender, particularly on VGA displays. It's even slower printing. Users will find math coprocessors more valuable than faster main processors in reducing wait-time. *Graftool* users might consider the software and a coprocessor (\$100

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Modern Channel Differs from Coles Creek Period Channel



Sample output, Graftool 3.30



and up, depending on the type and speed of your main processor) part of a single package. Without one, complex graphics can take forever to print.

Each program includes a data worksheet, lacking the power of a spreadsheet but adequate for most data entry tasks. Both programs accept Lotus WK1 file formats. Neither, unfortunately, supports graphics file input, but both can export files in common file formats.

Because of the complexity of the interfaces and the rich palette of available features, users will find they need to consult the manuals regularly. Unfortunately neither manual is particularly impressive. Both contain worrisome typographic errors, and in at least one case, one is simply wrong. *Axum* includes a 45 page update to the manual, detailing corrections and additions new to version 1.02. As with most powerful software packages, the manuals focus on what you *can*, rather than *should* do in graphing complex data sets. Cleveland's *The Elements of Graphing Data* should be mandatory reading with either package.

Both programs support a wide variety of printers and plotters, including encapsulated Postscript. *Graftool* supports color Postscript output. Neither program currently supports color film recorders, so slides must be produced from onscreen snapshots or printed output.

Both TriMetrix and 3-D Visions offer unlimited toll-free telephone support. Calls to each resolved problems quickly and effectively, and the technical support staffs knew their products inside and out.

Which program is better for you?. If most of your uses for technical graphics involve terrain mapping, 3D images, or surface charts, *Graftool* is probably the most powerful PC-based package currently available. It can handle up to 268 million data points, and shines when producing complex multicolor surface graphs. It lacks some typesetting niceties, but is unmatched in raw graphing power. *Graftool* onscreen images can be quite spectacular and users who plan to take screen snapshots for slide presentations should give *Graftool* a very close look.

*Axum* focuses on details. It provides 148 different fill types, to *Graftool's* seven. *Axum* offers 21 different fonts, seven times as many as *Graftool*, and *Axum* lets

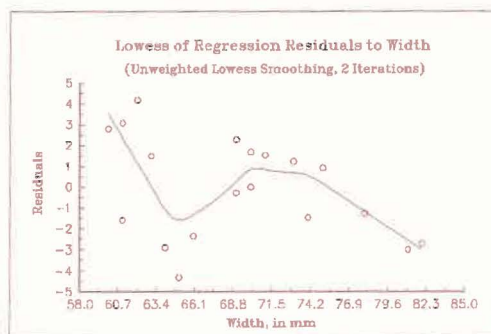
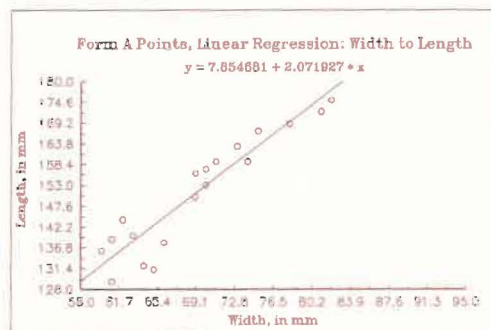
you include multiple font styles on a single graph. While less flashy than *Graftool*, it may prove better suited to intensive graph production for most publications and presentations, offering better control of the finer details of technical graphing, like kerning and leading of fonts. If you require a variety of available fonts, or plan to use the program for exploratory data analysis in conjunction with a statistical package, *Axum* may be a slightly better choice. Both packages provide summary statistics, but *Axum* does a somewhat better job of giving you the information you really need. It will also be preferable for power-users who want the ability to customize aspects of graph production through programming.

Both programs can produce impressive charts and graphics, and that can make you and your ideas look good. But perhaps more importantly, both provide tools to help you examine data from all sides and all angles. They not only illustrate your ideas; with judicious use, they can improve them.

***Axum, version 1.02:*** Address: TriMetrix, Inc., 444 N.E. Ravenna Blvd., Suite 210, Seattle, WA 98115; (206) 527-1801. Requirements: IBM PC or compatible, 640k RAM (512k RAM free), hard disk with 3.5 MB free space, DOS 3.0 or higher; CGA, EGA, VGA, or Hercules video card (additional cards supported). Recommended: Numeric co-processor Price: \$495 (educational and governmental discounts available, contact

TriMetrix for further information). Support: 60 day money-back guarantee; unlimited free technical support.

***Graftool, version 3.30*** Address: 3-D Visions Corporation 412 S. Pacific Coast Highway, Second Floor, Redondo Beach, CA 90277, (213) 540-8818. Requirements: IBM PC or compatible, 640k RAM (510k RAM free), hard disk with 2.2 MB free space, DOS 3.0 or higher; CGA, EGA, VGA, or Hercules video card. Recommended: Numeric co-processor. Price: \$495 (educational discount of 25% available). Support: 30 day money-back guarantee, unlimited free technical support.



Sample output, AXUM 1.02





## Positions Open

**UNIVERSITY OF PITTSBURGH**, Department of Anthropology, pending budgetary approval, seeks applicants for a tenure-track position in archaeology at the assistant professor level. Applicants should have a geographic focus on some part of North America east of the Mississippi. Well developed theoretical interests are essential, and methodological expertise to complement that of existing faculty is desired. Undergraduate and graduate teaching skills are critical. Women and members of ethnic minorities are especially encouraged to apply. The closing date for applications is December 15, 1991. Send vita and letter of application, including names and addresses of at least three references to James B. Richardson, Archaeology Search Committee, Anthropology Department, U of Pittsburgh, Pittsburgh, PA 15260.

**MUSEUM OF NEW MEXICO, OFFICE OF ARCHAEOLOGICAL STUDIES** invites applications for the position of director. The director oversees a contract and grant-based archaeology research program in Santa Fe with a staff of over 60 persons and a budget of over \$1.5 million a year. The position will open in September 1991. A Ph.D. is preferred and experience in the Southwest is required. Competitive salary and benefits. For more information, please contact Ms. Perla Anaya, Office of Cultural Affairs Personnel Officer at (505) 827-7355 by October 4, 1991. EEOC/AA employer.

**PUEBLO OF ZUNI, ARCHAEOLOGY PROGRAM**, in New Mexico, invites applications for the position of Assistant Director. The Assistant Director acts as Co-Principal Investigator on selected projects, develops proposals, has administrative and supervisory responsibilities for multiple projects, and supervises general business management aspects of the Program. Suitable candidates must minimally possess an M.A. in archaeology/anthropology or related field, have three years experience in CRM at an upper supervisory level, be computer literate, and should have basic business management skills. The position begins in November 1991. The application deadline is October 18, 1991. Send cover letter, vitae, and names of three references to Director, Zuni Archaeology Program, P.O. Box 339, Zuni, NM 87327.

**THE BISHOP MUSEUM IN HONOLULU** is seeking professional archaeologists to work on Hawaiian contract archaeological survey and excavation projects. Work is available immediately and pay is commensurate with education and experience; advancement in responsibility and salary is possible. Interested persons should send resumes and letter of interest to: Dr. Robert L. Spear, Applied Research Group, Bishop Museum, P.O. Box 19,000-A, Honolulu, HI 96817.

**GRAY & PAPE, INC.**, a cultural resources consulting firm, has positions open for historical archaeologists at the Principal Investigator and Field Director levels. Principal Investigator position requires M.A. in anthropology or related field and experience in historical archaeology and cultural resources management at a supervisory level. Field Director position requires B.A. in anthropology or related field and experience in field direction and report writing of historic sites investigations. Experience in cultural resources management preferred. Competitive salaries and benefits package. Send vitae to Gray & Pape, Inc., 1318 Main St., Cincinnati, OH 45210. For information, call (513) 287-7700.

**UNIVERSITY OF HAWAII, HONOLULU**, Department of Anthropology invites applications for a tenure track Asst. or

Assoc. Prof. (Pos. No. 84206), full-time, general funds, in archaeology, pending approval. Successful applicant will start in Spring 1992 or Fall 1992. The department seeks to hire an individual who will maintain and then develop our internationally recognized research program in Asian prehistory. Sub-regional specialties may include Southeast Asia, East Asia or South Asia. **Minimum qualifications:** For Asst. Prof. a Ph.D. is required at the time of hiring, as is research experience in Asia. Research skill in archaeometry or paleoenvironmental analysis, or archaeological method and theory is required. For Assoc. Prof., in addition to the qualifications for Asst. Prof., applicants must have a record of accomplishments, including nationally recognized scholarship, teaching experience and successful grant requests. **Duties:** Maintain and then develop our internationally recognized research program in Asian prehistory, undergraduate and graduate teaching of anthropology and Asian archaeology courses, supervision of undergraduate and graduate student research and conducting research in Asian archaeology, as well as contributing community service. **Salary range:** Asst. Prof. at \$36,408 to \$44,280; Assoc. Prof. \$42,576 to \$51,816. The U of Hawaii is an equal opportunity and affirmative action institution and encourages applications from women and minorities. Applicants should send a letter stating their teaching and research interests, vitae, and the names of three referees to: Dr. P. Bion Griffin, Anthropology Department, 2424 Maile Way, U of Hawaii, Honolulu, HI 96822. Closing date: Sept. 15, 1991.

**ARIZONA STATE UNIVERSITY'S OFFICE OF CULTURAL RESOURCE MANAGEMENT** has openings on a continuous basis for field and laboratory positions with Roosevelt Platform Mound Study. Majority are for field excavators (experience and B.A. or M.A. highly desirable) to work October-May. Occasionally seek supervisors and/or specialized analysts; Ph.D. degree and experience desirable. Send vitae and references to: Brenda Shears, Anthropology Department, Arizona State University, Tempe, AZ 85287; (602) 965-7181. Equal Opportunity/Affirmative Action Employer.

**THE CARNEGIE MUSEUM OF NATURAL HISTORY** is planning a permanent hall of Native Americans, including a component on Upper Ohio Valley prehistory. The curatorial assistant will assist the project curators with care of the 5 million-specimen archaeological collection and help in the development of this hall. The candidate should have an M.A. or equivalent in anthropology, with a specialty in Eastern North America and, particularly, Ohio Valley archaeology. Expertise in computer data entry, photographic dark room processing, and collections management required. The 4-year position will be for the duration of this project. Please send vita with references and any supplementary information by October 15 to Dr. Verna Cowin, Section of Anthropology, The Carnegie Museum of Natural History, 5800 Baum Blvd., Pittsburgh, PA 15206. EOE

**UNIVERSITY OF CALIFORNIA, LOS ANGELES** invites applications for a tenure-track position at the Asst. Prof. level in the archaeology of Mesoamerica/Central American complex societies. Geographic focus should be within non-Maya areas. Well-developed theoretical orientation, active field research, and demonstrated excellence in teaching and research required. Special expertise in one or more of the following desired: quantitative analysis of archaeological materials; ceramic analysis; or faunal or botanical analysis. Ph.D. at time of application preferred; required at time of appointment beginning July 1, 1992. Send letter, vita, and names and addresses of three references by November 30, 1991 to: Philip L. Newman, Chair, Anthropology Department, U of California, Los Angeles, CA 90024-1553. EOE/AEE. Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment.



*Funding and Preservation Bills, continued from p. 2*

**Mound City and Chaco:** S.749, introduced by Sen. Howard Metzenbaum (D-OH), renames and expands Mound City Group National Monument in Ohio. The new name would be Hopewell Culture National Historical Park. Senate Energy subcommittee G held a hearing on the bill May 21, in which the SAA supported the testimony presented by Mark Michel, President of the Archaeological Conservancy. The bill was approved by the full Energy Committee July 15. It is pending on the Senate calendar, with a vote expected before the August recess. A companion bill, H.R. 2328, was introduced by Rep Bob McEwan (R-OH) May 14, and went to the House Interior Subcommittee on National Parks. A hearing is likely in early September.

S. 772, introduced by Sen. Pete Domenici (R-NM), would expand the Chaco Outliers system in New Mexico to include significant sites in the San Juan valley. The bill was referred to the Senate Energy Subcommittee on Public Lands for a hearing on June 20. Full committee mark-up may take place in September. A House companion bill, H.R. 2577, was introduced by Rep. Bill Richardson (D-NM) June 6, and referred jointly to the Interior Committee's Subcommittee on National Parks and the House Agriculture Subcommittee on Forests. The National Parks Subcommittee is likely to hold a hearing in the Autumn.

**Surface Transportation Bill:** One measure likely to be enacted this year is the reauthorization of the Highway Trust Fund in the Surface Transportation Act. The SAA joined a coalition of groups spearheaded by the American Institute of Architects to enhance the highway programs with provisions to improve planning, and to make easements for preservation (including protection of archaeological sites) eligible for federal funding. Although the Senate-passed bill, S. 1204, contained some new planning provisions that environmentalists had sought, it also included a "property rights" amendment by Sen. Steve Symms (R-ID), granting the U.S. Attorney General broad power to block any regulations deemed to constitute a "taking" of private property. This provision could have a major impact on all environmental protection and land conservation measures, because it expands the definition of "taking" to include any impact on financial profit. Similar provisions are included in H.R. 1572, introduced by Rep. James Olin (D-VA) with 91 House co-sponsors. The House Public Works Committee introduced H.R. 2950, its own transportation reauthorization bill, on July 18. The bill is not expected to reach a House-Senate conference until September.

**Information:** Further information on the status of current legislation may be obtained from the Congressional Legis. Office at (202) 225-1772. Copies of bills, committee reports, and public laws—one each of up to six items—may be obtained by contacting the House Document Room, Room B-18, House Annex #2, Washington, DC 20515; (202) 225-3456, or the Senate Document Room, SH-BO4 Hart Senate Building, Washington, DC 20510 (Senate will not take phone orders). Or contact the SAA, Office of Government Relations, 1333 Connecticut Avenue, NW, Suite 400, Washington, DC 20036; (202) 293-1774; Fax: (202) 293-1782.

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**Sept 20 HOW TO PRESERVE COLLECTIONS IN A HOSTILE ENVIRONMENT**, the Chicora Foundation, Hilton Head Museum, Hilton Head Island, SC: a seminar to help museum, library and archive staffs control the effects of storage environments on collections. Contact: Debi Hacker, Chicora Foundation, Inc., P.O. Box 8664, 861 Arbutus Drive, Columbia, SC 29202; (803) 787-6910.

**Sept 30-Oct 1 ISSUES IN THE PROTECTION AND INTERPRETATION OF ARCHAEOLOGICAL AND CULTURAL MATERIALS SEMINAR**, Vail, CO. Sessions on methods and procedures of resource protection and public interpretation, and a day-long field trip to the Denver Museum of Natural History to observe and critique on-going interpretation activities. Contact: Broc Stenman, Interpretive Management Institute Coordinator, Mott Training Center, P.O. Box 699, Pacific Grove, CA 93950; (408) 649-2956.

**Oct 7-19 SYMPOSIUM ON THE OCCASION OF THE 75TH ANNIVERSARY OF THE NATIONAL PARK SERVICE**, Vail, CO. This symposium provides an opportunity to reflect on the accomplishments of the past, assess the challenges of the present, and develop strategies that will ensure the continued protection of the national park system in the future. Contact: National Park Service, 12795 W. Alameda Pkwy, P.O. Box 25287, Denver, CO 80225-0287.

**Oct 14-Jan 15 COLUMBIAN ICONOGRAPHY: IMAGINING THE NEW WORLD**, New York Historical Society, 170 Central Park West, New York, NY. The exhibition of over 150 paintings, watercolors, original prints, manuscripts, and maps will commemorate the 500th anniversary of Christopher Columbus's first voyage of discovery to the New World in 1492.

**Oct 16-20 45TH NATIONAL PRESERVATION CONFERENCE**, San

Francisco, CA. Theme: "Historic Preservation: The Next 25 Years", to commemorate the 25th anniversary of the National Historic Preservation Act of 1966. For more information, contact: National Trust for Historic Preservation, 1785 Massachusetts Ave, NW, Washington, DC 20036

**Oct 18-20 36TH ANNUAL MIDWEST ARCHAEOLOGICAL CONFERENCE**, hosted by the Mississippi Valley Archaeological Center at the U of Wisconsin in La Crosse, in the La Crosse Raddison Hotel and Convention Center.



Symposia include: geoarchaeology, new techniques in archaeology, Oneota, Hopewell, Plains/Woodland interaction and many others. Symposia proposals should be submitted no later than July 1, 1991 and abstracts are due by Sept 1, 1991. Contact: Jim Gallagher, Mississippi Valley Archaeological Center, U of Wisconsin-La Crosse, 1725 State St, La Crosse, WI 54601; (608) 785-8463.

**Nov 1-2 FORT DEFIANCE CONFERENCE**. Theme: "Contest for the Old Northwest: The United States, Canada, and the Ohio Country Indian Wars, 1790-1795." The symposium will commemorate America's struggle with Great Britain and the Northwest Indian tribes for control of the Northwest Territory during the post-Confederation era. Contact: Larry L. Nelson, Fort Meigs State Memorial, Ohio Historical Society, P.O. Box 3, Perrysburg, OH 43551.

**Nov 7-10 24TH ANNUAL CHACMOOL CONFERENCE**, Calgary, Alberta. Theme: Culture and Environment, A Fragile Coexistence. The conference will explore past and present human relationships with the environment from a range of perspectives. The time depth of archaeological research provides a unique opportunity to examine both the positive and negative aspects of human-environment interaction. Contact: 1991 Conference Programme Committee, Dept of Archaeology, U of Calgary, Calgary, Alberta, CANADA, T2N 1N4; (403) 220-5227.

**Nov 7-10 AMERICAN SOCIETY FOR ETHNOHISTORY 1991 ANNUAL MEETING**, Doubletree Hotel, Tulsa, OK. Papers, organized sessions, special events and speakers that treat any world area are encouraged. Abstracts of 100-200 words, affiliation, and registration fees are due by June 3, 1991. Contact: Dr. Garrick A. Bailey, Dept of Anthropology, U of Tulsa, Tulsa, OK 74104.

**Nov 13-16 49TH PLAINS ANTHROPOLOGICAL CONFERENCE**, Holiday Inn, Lawrence, KA. Deadline for paper abstracts--Sept 14, 1991. Contact: William B. Lees, Kansas State Historical Society, 120 West 10th, Topeka, KA 66612; (913) 296-2625.

**Nov 20-24 90TH ANNUAL MEETING of the AMERICAN ANTHROPOLOGICAL ASSOCIATION**, Chicago Marriott Hotel, Chicago, IL.

1992

**Apr 8-12 57th ANNUAL MEETING OF THE SOCIETY FOR AMERICAN ARCHAEOLOGY**, Pittsburgh, PA. Deadline for submission of symposia proposals and paper abstracts is September 23, 1991. Contact: Gary Feinman, Dept. of Anthropology, 5249 Soc Sci, U of Wisconsin, Madison, WI 53706.