

ARCHAEOLOGY AND PUBLIC EDUCATION



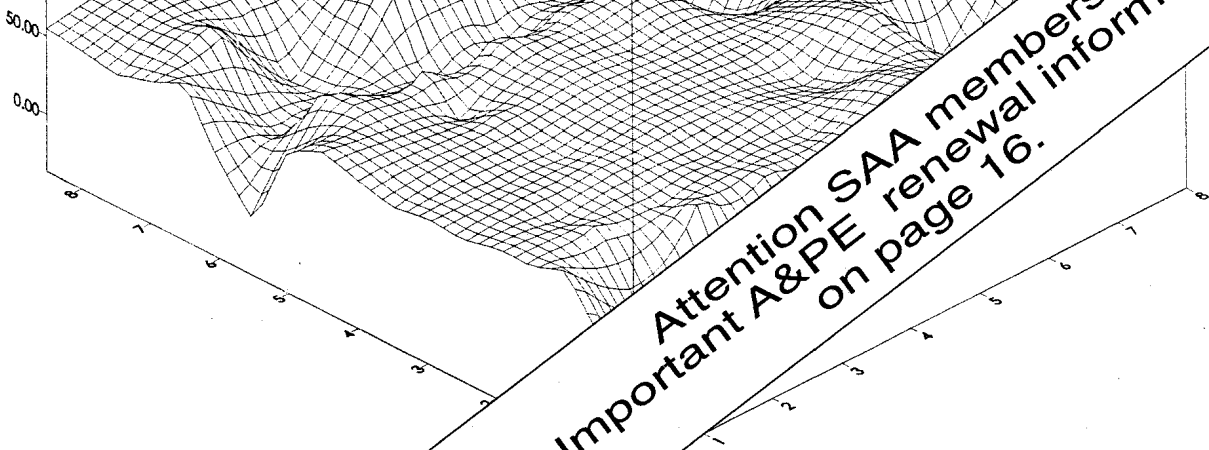
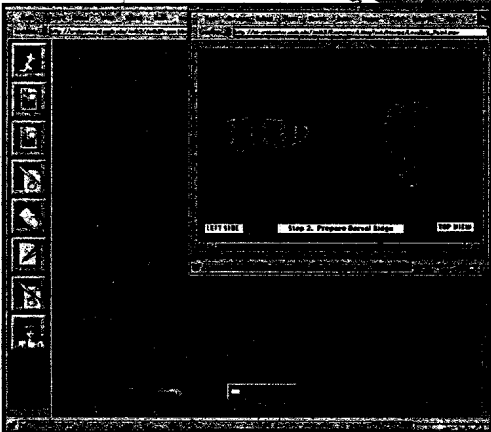
Society for American Archaeology, Public Education Committee

Vol. 8, No. 1, 1998



Archaeologists In Computerland

From Database To Cyberspace



Attention SAA members!
Important A&PE renewal information
on page 16.

Archaeology and Public Education

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The Public Education Committee exists to promote awareness about and concern for the study of past cultures, and to engage people in the preservation and protection of heritage resources. Our publication aims to aid educators, interpreters, archaeologists, and others who teach the public about the value of archaeological research and resources.

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GUEST EDITORIAL

COMPUTERS AND ARCHAEOLOGY A VIRTUAL PAST?

David L. Carlson

As archaeologists grow increasingly dependent on computers, we might wonder whether the past is about to disappear into a giant computer. While our knowledge of the past still rests safely in artifacts and sites, the ways in which we coax information out of them rely more and more on computers. Archaeologists now use computers at every stage in their research. This increases the opportunity for creative approaches to the past. It also contributes to the growing pains and missteps along the way that come whenever we try to learn new ways of doing things. In the early 1960s, computers in archaeology were limited to number crunching. Now, computers are found at every step in the study of archaeology.

In the planning stages of a research project, archaeologists communicate with one another via email and electronic conferences. On an electronic conference such as ARCH-L, an obscure question rapidly is disseminated to 1,900 archaeologists in 48 countries. There is no faster way to find out whether someone is involved in research related to yours. On-line databases can provide an archaeologist with information about published articles and books from around the world. Grant proposals and research designs are written using word processors so that they can be revised readily and incorporated in later stages of a project.

In the field, computers are linked to global positioning systems (GPS) so that the location of a site can be determined precisely. Sites are mapped and the positions of artifacts are recorded with electronic distance measurement equipment (EDMs) linked to computers. Field notes and forms increasingly are entered on computers rather than on paper forms.

In the laboratory, database management systems now track artifacts from the field, through processing and analysis, to final curation. Increasingly that software allows measurements such as length, width, or weight to be entered from digital calipers and scales, reducing the potential for human error. Images of the artifacts also can be incorporated into the digital catalog.

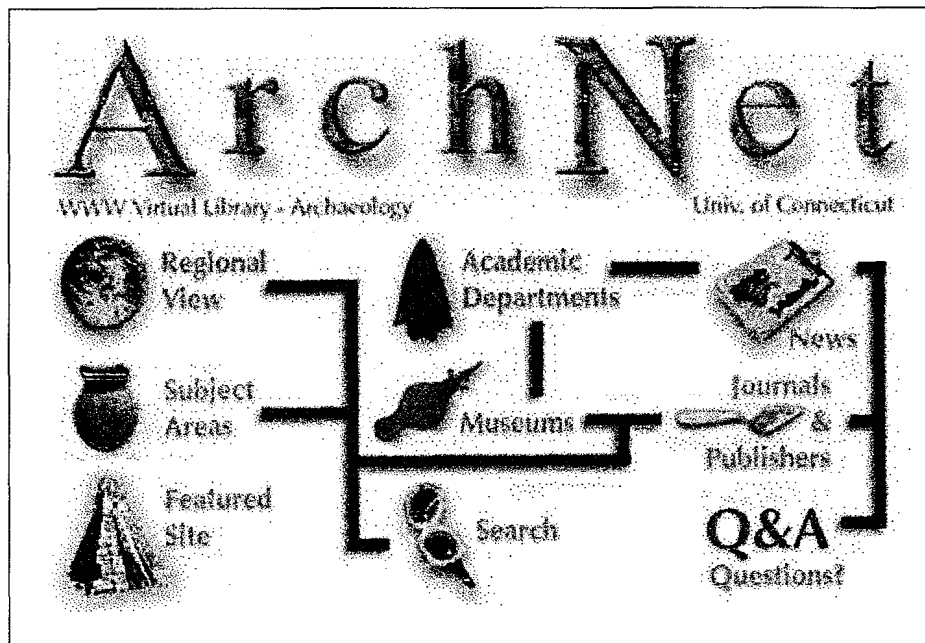
At the analytical stage, computers run software for various quantitative analyses. Distributions of sites and artifacts can be produced quickly to search for interesting patterns. Groups of artifacts or sites can be generated using any of the information stored about them to find similarities and differences among them that might indicate variations in the range of activities performed or changes over time.

Publication of archaeological results has been transformed by desktop publishing software, CD-ROMs, and the World Wide Web. Archaeology is a very visual discipline, and computers greatly have reduced the cost of producing images, maps, and graphs. Use of the web has reduced the cost of publication and the cost of color images.

The ability of archaeologists to engage the public also has benefitted from computers. Simulation models allow students to try excavation techniques without accidentally destroying anything. They allow the creation of simplified models of the past to see how they work and how their implications might be checked against the archaeological record. Virtual worlds on the web let people explore sites and museums that they cannot visit in person because they are too far away or because they no longer exist.

Computers have changed the way we study the past and the way we communicate our ideas about it. Whatever the disadvantages, there is no going back.

David L. Carlson is an associate professor of anthropology, Texas A&M University, 234 Anthropology Building, College Station, TX 77843; (409) 845-5242.



Over the past four years, archaeologists have embraced the World Wide Web as a medium for publishing articles, site reports, data sets, and educational materials. The web has proved to be an effective tool for teaching archaeology and has been adopted for classroom use at all levels of education around the globe. The web is interactive, and because the teaching of archaeology often relies on visual aids, the multimedia documents found on the web actively engage readers and enrich the educational process.

With more than 40,000 documents relating to archaeology currently on-line, traversing and evaluating this broad range of materials can be a daunting, and often frustrating, task. The scope and volume of archaeological materials on the web poses several problems for teachers at primary, secondary, and collegiate levels who are searching for material to use in developing curricula or as multimedia supplements to classroom presentations.

Within the vast array of site reports and artifact catalogs, the web also has become a forum for the publication of "fringe" archaeological literature of dubious quality. The ease of access and ability to publish has made the web a "wild frontier" that can be difficult to navigate, and it can be even more difficult to assess the quality of on-line information. Teachers and students often are overwhelmed by the volume of web pages relating to archaeology, or they are unsure of the quality of available materials and their usefulness in the classroom.

ArchNet (www.lib.uconn.edu/ArchNet) is an index of reviewed archaeological "sites" on the Internet. This project started in fall 1993 as an experiment in using the World Wide Web to publish multimedia artifact catalogs and site reports at the University of Connecticut. At the time, only two other archaeological "sites" existed on the Internet—at the University of Michigan and Oxford University.

ArchNet has evolved as a guide to the on-line world of archaeology and serves as the World Wide Web virtual library for archaeology. Every day, authors from around the world submit new archaeological web site addresses to ArchNet for review via an on-line registration form. All submitted sites are visited by ArchNet team members before

ARCHAEOLOGY'S VIRTUAL LIBRARY

Jonathan Lizee

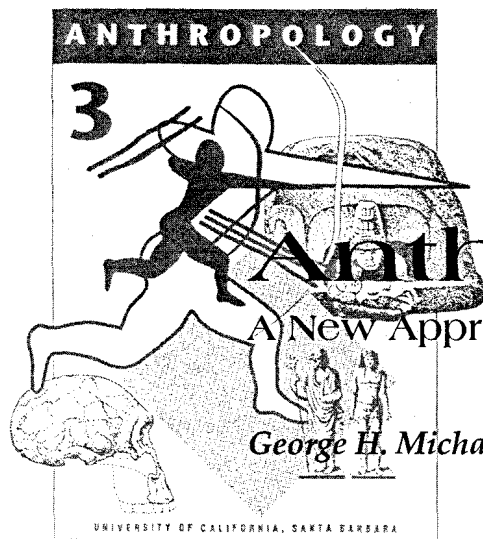
they are listed in one of the topical or geographic subject areas of the index. Not all potential sites become listed at ArchNet. The review criteria are not rigid, but materials that lack original content, have a commercial focus (such as catalogs of artifacts for sale), or contain information that could lead to site vandalism or looting routinely are rejected. The result of this effort is an ever-expanding catalog of archaeological web sites that have been checked for quality in terms of usefulness in teaching and/or research.

ArchNet information is categorized by geographic region and subject. Selecting the former option leads to a world map; one can click on any portion of the map for a list of servers providing reports, images, and archaeological data. Selecting the latter option reveals a list of 14 topical areas of information. Browsers also can look for material through a simple word search. ArchNet also provides lists of institutions that have anthropology and archaeology programs or departments; museums that are identified by their specializations; and journals, publishers, news-groups, and listserves. The home page is available in seven languages.

ArchNet's leadership role in the on-line teaching of archaeology recently was recognized by the National Endowment for the Humanities (edsitement.neh.fed.us). Responses from students and teachers regarding the on-line world of archaeology also have been enthusiastic and positive. As web technology continues to evolve, we can expect to see a more widespread use of interactive multimedia applications in publication and teaching that are sure to excite the imagination and cultivate greater appreciation for the field of archaeology.

Jonathan Lizee is a research associate in the Department of Anthropology, University of Connecticut, Storrs, CT 06269; (860) 233-2800, ext. 11. For information about ArchNet, contact Lizee or Thomas Plunkett by email at archnet@spirit.lib.uconn.edu.

On the cover: Computer graphic by John E. Cornelison, Jr., National Park Service Southeast Archeological Center. Photo of students using computers during an archaeology field exercise courtesy of Hamline University. Illustration of page from Anthropology 3 manual by George Michaels, University of California, Santa Barbara.



Anthropology 3

A New Approach To Introductory Archaeology

George H. Michaels and Brian M. Fagan

Anthropology 3, the introductory archaeology course at the University of California, Santa Barbara (UCSB), traditionally has been one of the largest undergraduate archaeology classes in the United States. With an average enrollment of 300 students, keeping the course compelling has been a constant challenge. For the past seven years, that challenge has been met by using a substantially revised pedagogical approach, combined with multimedia learning modules.

The traditional format of Anthropology 3 should be familiar to anyone who has gone to a university in the past 1,500 years. The entire class met three times a week for lecture. Teaching assistants ran discussion sections for groups of up to 30 students once a week. Students were assigned readings and two papers. In all, it was a very traditional and typically passive learning experience—clearly not the most compelling way to teach what should be one of the most inherently interesting courses that most college students take. However, given the sheer number of students, it appeared that there were few alternatives.

That situation changed in summer 1988, when one of us (Fagan) saw a demonstration of what was then a new program, HyperCard, and quickly realized the potential for making archaeology come alive for students in the introductory course. Over the next year-and-a-half, with the aid of the UCSB Office of Instructional Consultation, we completely revised Anthropology 3 and brought a completely new course on-line in the 1990 winter quarter. While the multimedia components of the course are the most visible elements, they are not the most important. The most important change was in the instructional model.

We realized that the full potential of any multimedia modules that we might develop would be achieved only if they were embedded in a substantially different model of information flow in the course. After a careful analysis of the various kinds of information that had to be conveyed to the students, we determined the best medium for transmitting that information. In the end, we had a model of information flow that put the student at the center of a web of resources, with lecture, discussion sections, readings, multimedia modules, teaching assistants, instructors, and other

students constituting those resources.

The structure for the course is provided by a desktop-published course study guide that leads the students from one learning resource to another as the assignments and the academic quarter unfold. While lectures provide an invaluable sense of community for the class and allow us to present the larger context, or intellectual cement, for the course, we decided that one hour a week was sufficient. The other two hours that students ordinarily would have spent in lecture now are spent working on their own. Instructors and teaching assistants spend their additional time in the Learning Center, engaged in one-to-one or one-to-a-few discussions.

Another change in the course was in the grading philosophy. Normally, courses of this size are graded on a curve. The problem with this approach is that it puts all students into a competitive pool, largely removing any incentive for them to help each other to master the course material. To dispel this disturbing trend and to foster active student interaction and mutual assistance, we eliminated the curve and competitive grading. We also developed several multimedia exercises as small group projects to get students to work on significant problem-solving exercises as teams. The best students get to exercise their leadership and teaching skills, while less-well-prepared students get much-needed and valued individual assistance.

Computer-based components of the course fall into three general categories: visualization tools, communication tools, and simulations. Visualization exercises allow students to grasp complex, large-scale phenomena—such as the flux of global ice sheets during the Pleistocene—through animations and simple simulations. Communication elements revolve around electronic mail to facilitate and promote communication between instructors, students, and teaching assistants. For early versions of the course, we had to develop our own email system since undergraduate email was not available.

Simulations fall into two general categories: archaeological and ethnographic. An example of the former relates to the Basin of Mexico simulation, wherein small groups of students are given a budget and asked to design, conduct, and analyze a surface survey of this area. The simulation employs actual survey data from the region. Groups are required

to report on their choice of sampling strategy, results, and interpretations of those results. This then provides the teaching assistants with a wonderful opportunity to discuss with students the realities of archaeological field research.

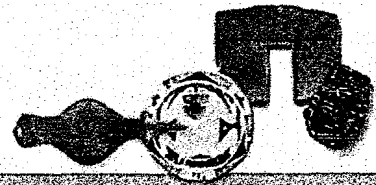
An example of an ethnographic simulation is the Gwembe Tonga simulation. In this exercise, which occurs during the week that we discuss the transition to food production, students are asked to be subsistence farmers in the Middle Zambezi River valley. Based on excellent ethnographic data from the region, the students must engage in the same decision-making process during the simulation required of a subsistence farmer. The idea is to help students to understand the complexities of life as a subsistence farmer and the full ramifications of the transition to food production as a way of life.

Student reactions suggest that the new version of the course is extremely successful. We regularly hear students comparing our introductory archaeology course with their calculus classes in terms of the mental effort involved and the challenge offered. Our colleagues have found that students who have taken the new Anthropology 3 usually are better prepared for upper-division courses in archaeology than students previously had been. The level of understanding of general principles and the process of archaeology are enhanced substantially. In sum or in part, the course now is used in at least eight other colleges and universities in the United States and Canada.

From the beginning, our efforts in this course have been guided by two notions: that most of our students will not become professional archaeologists and that most probably will have little direct contact with archaeology after they leave college. Consequently, this one course helps to cultivate a group of citizens who understand how archaeology works, why preserving the past is important, and how they can support archaeology and preservation during their adult lives. The introductory archaeology classes of our colleges and universities are the greatest points of contact between the archaeological profession and the general public, and it is crucial that we use every means to engage students with the intellectual challenges of the science of archaeology and the richness that is our common archaeological heritage.

George Michaels and Brian Fagan are affiliated with the University of California, Santa Barbara, CA 93106. Michaels is an instructional consultant in the Department of Instructional Consultation, (805) 893-2378; Fagan is a professor in the Department of Anthropology, (805) 893-2257.

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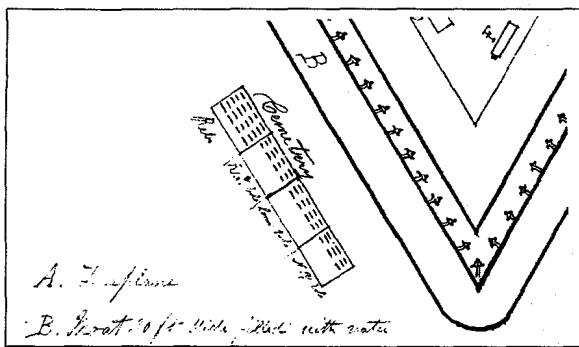
In 1993 the leadership of the Society for American Archaeology discussed how the organization could communicate more effectively and responsively with its large audience of members, as well as with others interested in archaeology in the Americas. The idea for SAAweb was born.

SAA's first venture onto the web was placing the *SAA Bulletin* on a site at the University of California, Santa Barbara, thus providing an augmented distribution method for the latest in society news and archaeological issues. Later, the experience gained from this installation and the knowledge and assistance of SAA members Jon Lizee and Tom Plunket, creators of the ArchNet database web site, led SAA to its own place on the Internet.

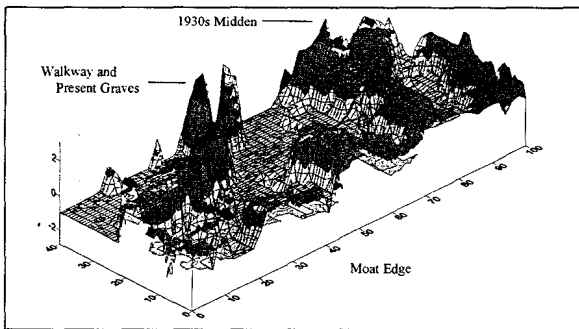
Since its establishment in 1996, SAAweb has become the society's vehicle for disseminating information by means of the World Wide Web. Because many government agencies and universities already provide large databases of archaeological information, SAA targeted other interests that could be satisfied by its programs. SAAweb features information about society awards and scholarships, positions and statements on the direction archaeology and the direction of the society, current topics and details concerning the annual meeting, and the many publications that the society offers.

Some publications presently are offered in their entirety with select back issues, such as Current Research, synopses of contemporary research being conducted in the Americas, and back issues of the *SAA Bulletin*, to which SAAweb is "linked." In the SAAweb's latest endeavor, our directory of members is featured as an on-line searchable database. Other publications on teaching archaeology in primary and secondary schools, archaeological papers, academic journals, and discussions of ethics are presented with their content

Continued on page 13



In 1865,
Union officer Lt. Jason Sexton created
a pen sketch of Fort Pulaski, Georgia, that
included a drawing of the cemetery.



In 1997,
National Park Service archaeologists
created a computerized image of the
cemetery, based on research at the site.

Computer graphic by David M. Brewer and John E. Cornelison, Jr.,
courtesy of the NPS Southeast Archeological Center.

MAPPING THE MYSTERIES OF THE PAST

Guy Prentice

The rapid evolution of the personal computer in the last decade has changed dramatically the way that modern scientists do their work, and archaeologists are no exceptions.

In particular, the development of relatively inexpensive desktop computers with hundreds of megabytes of memory and gigabytes of hard-drive space has permitted the widespread adoption of computer cartography by the archaeological community as it strives to manage ever-growing inventories of information. This, in turn, has led to the common use of a number of computerized map-generating methods, the most common being computer assisted drawing (CAD) and geographic information systems (GIS).

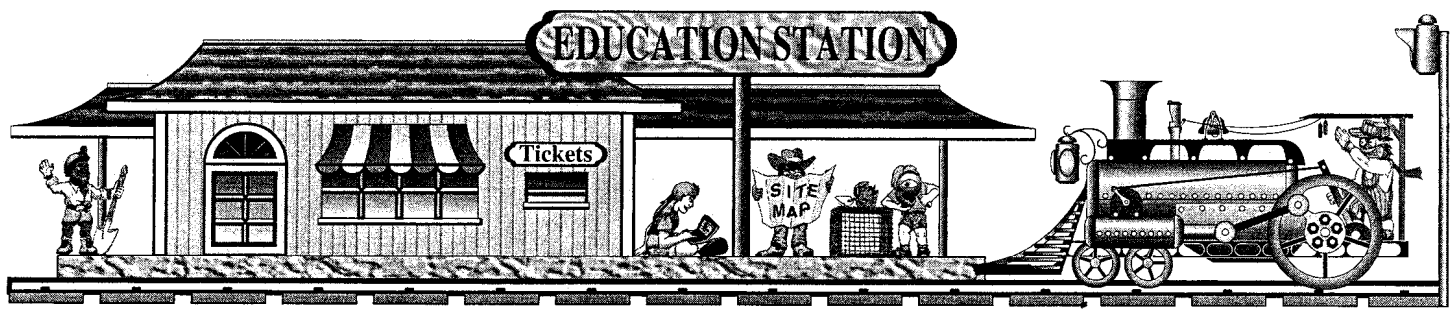
When these types of software are linked to archaeological databases of various kinds, an archaeologist can visually display the spatial relationships of features at an archaeological site in three dimensions. In addition, he or she can ask the computer to generate answers to specific analytical questions. Some of these questions may be fairly simple—for example, “What is the total living space, or floor area, within a structure?” Others may be far more complex—for example, “Is there a statistical relationship between the distributions of different artifact types within a particular level at a site?” or “Is there a statistical correlation between site locations and the distribution of a particular natural resource, such as tillable soils?” In short, archaeologists are able to use the computer to do spatial analyses much more efficiently and with a greater range of variables than ever before.

Working hand-in-hand with these computer software

systems are a number of data collection methods that permit faster and more accurate computer map production. These include the use of “total stations”—computerized transits that use lasers to calculate and record distances and angles; remote sensing such as satellite and aerial photography; and global positioning systems (GPS), which use radio signals from satellites overhead to get accurate locations in three dimensions on the ground. In the near future, archaeologists no doubt will use new mapping techniques that only now are being tested and developed. Among these are laser-scanning devices that are deployed in aircraft and that have the capability of rapidly mapping large areas in three dimensions at very high accuracy, with less than 3 cm of error.

The wedding of archaeologists to computer cartography is a natural outgrowth of archaeology’s fundamental concern with the spatial arrangements of artifacts and cultural features on the landscape and the contextual relationships inferred from those spatial distributions. As our computerized mapping capabilities and skills grow, the questions and demands that we put on computer cartography will increase as well. In the relatively short time that it has existed, computer cartography has become an indispensable tool to the modern archaeologist. In the future, as we increasingly integrate computerized information with other scientific fields such as soil sciences, botany, zoology, this technology will become even more indispensable.

Guy Prentice is an archaeologist with the National Park Service, Southeast Archeological Center, 2035 E. Paul Dirac Dr., Johnson Building, Tallahassee, FL 32310; (850) 580-3011, ext. 129.



The Education Station is designed as a pull-out section of resources and information for archaeology educators

Games Review Project Includes Computer Activities

Pam Wheat and Carlos Colón

Lessons and units about archaeology are popular in the classroom. Archaeology provides an adventure in learning that can benefit the educational and archaeological communities. Educators can teach problem solving, critical thinking, and cultural sensitivity in fascinating, interdisciplinary lessons. Archaeologists can share what they learn about people of the past, introduce investigative techniques, and promote stewardship of archaeological sites.

To ensure that educational materials effectively teach important archaeological concepts, criteria for evaluating resources were completed in 1995 by the Formal Education Subcommittee of the SAA Public Education Committee (PEC). These criteria, entitled "Guidelines for the Evaluation of Archaeology Education Materials," were used to annotate a collection of games, including simulations and board games that are commercially available to educators. Completed by the authors earlier this year, the annotation project was funded by a grant to the PEC from the Bureau of Land Management.

Most of the 14 games that received review had been collected by PEC member KC Smith as part of the Education Resource Forum, the committee's traveling exhibit of archaeology education materials. The authors/reviewers augmented this list by sending requests for information to professional journals and newsletters for archaeology, science, social studies, and gifted education. Well-known distributors of games also were consulted, as were the files of the Educational Resources Information Center (ERIC). Several popular games were not included in the review process be-

*A new project evaluates 14
archaeology education games
including five activities that
are computer based:*

*Adventures in Fugawiland
Archaeological Detective
Bluegrass Bluff
Exploring Ancient Cities
Exploring the Lost Maya*

cause they are no longer in print.

Numerous committee members read and commented on the draft document once the annotation had been completed. Bonnie Christensen of the Mississippi Valley Archaeology Center did preliminary testing with teachers.

Standard information about each activity was recorded to assist educators who use games in the classroom. Each game was played, then rated according to five important archaeological concepts as well as secondary principles. Adapted from the "Guidelines," these concepts are considered to be fundamental to the content of any archaeology education re-

source. The five primary concepts included:

- Cultural systems are the focus of anthropological study;
- Antiquity is a fundamental element of archaeological study;
- Archaeology is a study of culture, based on the materials remains;
- Humans affect and are affected by cultural resources;
- Stewardship of archaeological resources saves the past for the future.

One star (★) was given if no aspect or very little of a particular concept was included in the game strategy; five stars indicated full inclusion of a concept. An overall rating also was given. The purpose of this rating was not to evaluate the game critically but, rather, to note that important archaeological concepts are included, on the premise that educators might use a particular game to enrich classroom activities.

Continued on page 13

ARCHAEOLOGICAL RESEARCH

On The Net

Overview

Teachers and students are introduced to Internet research with activities that provide hands-on experience.

Objectives

Students will

- become familiar with Internet terms, search engines, and newsgroups
- learn about and use the subject tree and key word search techniques
- compare and assess these methods to develop more effective research strategies
- apply search techniques to answer specific research questions

Subjects/Skills

- all subject areas
- research, organization, comparison, analysis

Grade Level

Secondary; adaptable to all grades

Materials

- copies of the student handout, "Getting to Know the Net"
- research topics or copies of research questions
- blank overhead transparencies and markers
- computer terminals with Internet access

Time Required

Allow 60 minutes to prepare for this activity. Presentation time will depend on the number of computer terminals available to students.

Background

Background information is pro-

vided in the student handout, "Getting to Know the Net."

Preparation

1. Decide how the computer research will be organized. If necessary, reserve terminal time with the school librarian, media specialist, or computer lab coordinator. Try to arrange for several terminals to be available at one time.

Project 1 (older students)

2. Prepare copies of the student handout for each student.
3. Determine how the class will be divided into six groups and select an archaeology-based topic for each group to research.

Project 2 (younger students)

4. Select one research topic, prepare a list of related research questions, and make copies of the list of questions. (A sample topic and research questions are presented in the box.)

Procedure**Project 1**

1. Divide students into groups and distribute copies of "Getting to Know the Net." Ask students to read the handout and discuss the information in their groups, then lead a class discussion to ensure that everyone understands the primary concepts and search methods.
2. Distribute several overhead transparencies and a marker to each group. Assign each group a search engine from the list on the handout and an individual research topic.
3. Explain that each group will gather information about its topic using both the subject tree or key word search techniques, and create a flow chart of the process of discovery for each technique. The flow charts will be recorded on the overhead transparencies.
4. When the research is completed, ask

groups to share their flow charts, then lead students in a discussion to compare, contrast, and evaluate the search engines and search methods.

Project 2

5. Discuss information from the handout with students.
6. Distribute copies of the research questions and ask students to use the Yahoo search engine to answer them.
7. When the research is completed, ask students to share their findings and to discuss their Internet experience.

Adapted from a lesson prepared by Cathy MacDonald, teacher; Susan Clancy, librarian; and Debbie Hughes, Kevin Pope, Kristin Plue, and Lindsey Vandelloo, archaeology students, at Father Leo J. Austin Catholic Secondary School, 1020 Dryden Blvd., Whitby, Ontario L1R 2A2, Canada; (905) 666-2010.

SAMPLE TOPIC

Students who worked on this lesson found information about the Aztecs of Mexico using the subject tree and key word search methods.

1. In what year did the Aztec world end? [1525]
2. How many months were in the Aztec year? [13]
3. What were the Aztec's most important musical instruments? [two drums]
4. Name one of the Aztec emperors. [e.g., Moctezuma]
5. Who was the mother in the Aztec creation story? [Coatlque (koh-ot-lee-qway)]
6. What language did the Aztec speak, and what did the pictures in their language symbolize? [Nahuatl (nah-waddle); ideas and sounds of syllables]
7. What was the Aztec's central deity? [sun or earth god]

INTERNET GETTING TO KNOW THE NET

The Internet provides thorough, current information that many other research media do not provide. A useful tool when searching for resources on archaeology, it can assist teachers and students with lesson plans, independent study projects, and career and volunteer opportunities.

How is information stored on the Internet?

The Internet consists of hundreds of thousands of computer systems throughout the world, so information is stored at a multitude of locations. Different networks store different types of materials, which they organize in different ways. To find what you are looking for, you may need to search in many places.

Why search the Internet?

Retrievable data is so current that it may have been placed on the Internet while you actually are connected to it. There are in-depth discussions with points of view from many people, and the Internet has fewer space and time constraints than print or broadcast media.

How reliable is the information?

Because many sources of information exist on the Internet, you should be careful in evaluating the reliability of data that you gather. Not everyone supplying information is an expert, and, currently, no one controls the flow or the quality of this material.

What are some common search engines?

A search engine is an on-line locator for addresses and sites on the World Wide Web. Some of the more popular search engines are listed below. Every web site has a unique address called a Uniform Resource Locator (URL). To begin a search, plug in the URL address, but remember that each search engine may find different documents for the same search because each is programmed to explore different areas of the Internet.

COMMON SEARCH ENGINES

Yahoo	http://www.yahoo.com
WebCrawler	http://www.webcrawler.com
Open Text	http://www.opentext.com/omw/f-omw.html
Deja News	http://www.dejanews.com
Excite	http://www.excite.com
Lycos	http://206.101.96.100

What should I know about "search jargon"?

Most Internet searches take the form of key words used with "logical operators" to help to determine the search criteria. This kind of search is known as a "Boolean Search." The most common logical operators are "and" and "or." If you do a search with two key words using "and" (Aztec and pottery), the search engine will only look for documents where both key words occur. If your search uses the same key words with "or" (Aztec or pottery), the engine will locate all sources with each word singly and together. To narrow your search, use "and," but to broaden it, use "or."

What are the most effective ways to search?

There are two ways to find information on the Internet: by subject (using subject trees) or by key words (using search engine forms).

Subject tree search

Subject trees are directories of information available through the Internet that are organized into topic or subject categories. They are called "trees" because information organized by categories and subcategories creates a branching system. For example, a general category such as "recreation" may have subcategories such as "sports" and "hobbies." Subject trees also may be called catalogs, indexes, or lists.

A subject tree search is straightforward; you simply read through lists of topics, following what you think are appropriate links. To avoid unnecessary backtracking, it is most efficient to read all the way through a list before following any of the links. By quickly reviewing the links, you usually can decide which to try first.

It is a good idea to start with subject tree searches if you do not know enough about a topic to choose an appropriate term (or terms) for a key word search. One helpful outcome of subject tree searches is that you often will turn up good key words that can be used for more specific investigation.

Key word search

A key word search is more automated. Software search engines, programs designed to explore the Internet for information, carry out the search for you by looking for particular words that you specify. Finding information through a key word search works best when you are able to choose a specific key word. If you are an inexperienced searcher or know little about your topic, begin with subject tree search. Related information there should assist you with a key word search.

RESOURCES FOR TEACHERS

Compiled by Joelle Clark and KC Smith

The World Wide Web offers myriad resources for educators seeking information and activities to enhance their classroom experiences. Here are some web sites that provide a starting point for searching archaeology-related topics, as well as several interactive sites to check out for your students. Be sure to look at other sites listed in Vol. 6, Nos. 2 and 3, of this newsletter.

To search On The World Wide Web

A number of "search engines," or software systems that help one to locate information on the Internet, are listed in the lesson idea on page 9. These are not the only search engines that are available, and as you become familiar with the variety of information-locating mechanisms, no doubt you will identify two or three that you turn to regularly. Some that specialize in archaeology, anthropology, history, social studies, museums, and cultural sites are discussed below.

Archaeology/Anthropology

<http://www.execpc.com/~dboals/arch.html>

Part of a history and social studies site for K-12 teachers, this page provides a comprehensive list of locations, grouped into eight categories: news-groups, university pages, journals, organizations/museums, digs and site/regional reports, concept and teaching sites, and research fields. The site is useful for teachers and older students searching for archaeological resources.

Public Education and Archaeology

<http://www.uiowa.edu/~anthro/arched/pubed.html>

This site lists resources for educators interested in teaching archaeology, including newsletters, listserves, and related web sites.

Anthropology in the News

<http://www.tamu.edu/anthropology/news.html>

Links are provided to several hun-

dred news stories published on the web since July 1997 by ABC, CNN, *USA Today*, *Washington Post*, *Archaeology*, and many other print media.

ArchNet

<http://spirit.lib.uconn.edu/ArchNet/ArchNet.html>

ArchNet serves as a virtual library for archaeological resources by region and subject. Sites are reviewed according to specific criteria before being listed. (Read about ArchNet on p. 3.)

Musée

<http://www.musee-online.org/>

This site offers a directory of museums on the web including information about their educational, entertainment, archive, and shopping opportunities.

Interactive Experiences On The World Wide Web

To give your students hands-on activities relating to archaeology, explore some of the sites listed below.

Virtual Archaeology

<http://ted.educ.sfu.ca/people/staff/jmd/archaeology/>

This site allows a browser to learn about archaeology by engaging in four activities involving survey, testing, stratigraphy, and field writing. Augmented by a glossary and links to other web pages, this site is useful for introducing archaeology to students and reinforcing concepts already learned.

Raiders of the Lost Art

<http://tqd.advanced.org/3708/>

This web site features the art of four cultures. The browser is an archaeologist who must use the artifacts to study that culture.

The Traveler: Ancient Civilizations of the Middle East and Beyond

<http://tqd.advanced.org/2840/>

This site allows the browser to be a time traveler who studies ancient cultures in the Middle East.

Odyssey in Egypt

<http://www.website1.com/odyssey/>

Odyssey in Egypt is an on-line project in which students work in a 10-week curriculum project with archaeologists conducting research in a 4th-century Coptic monastery.

MayaQuest

<http://www.mecc.com/MayaQuest.html>

Join archaeologists on a bicycle trip to learn more about ancient Mayan sites and the rain forests in Central America.

Citing Electronic Sources

For guidelines for citing Internet information, see the following sites.

MLA-Style Citations

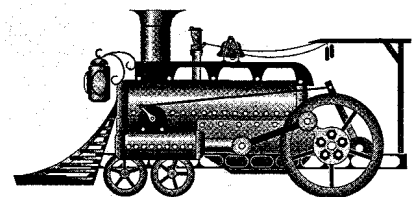
<http://www.cas.usf.edu/english/walker/mla.html>

This site gives styles adopted by the Modern Language Association (MLA).

JWA Information

<http://wings.buffalo.edu/anthropology/JWA/citation-guide.html>

Nearly 30 references for citing electronic information are provided.



The Education Station invites examples of lesson plans and activity ideas, comments about useful resources, and articles about unique approaches to teaching archaeology. Please accompany text with illustrations or photographs. Black-and-white prints are preferred, although color slides and prints can be used. Do not send negatives.

Send material to Cathy MacDonald, 570 Walsh Drive, Port Perry, Ontario L9L 1K9, Canada; (905) 666-2010.



63RD ANNUAL MEETING
SEATTLE, WASHINGTON
MARCH 25-29, 1998

SAA Annual Meeting Includes Full Agenda Of Education Events

Teresa Hoffman and Dorothy Krass

SAA's forthcoming annual meeting in Seattle will offer many events highlighting archaeology education. Many will be sponsored by the Public Education Committee (PEC), including two symposia, two workshops, a public session, and a poster contest. Details are available in the preliminary program sent to members in late December and on SAAweb at www.saa.org/meetings/SAA98/program.html.

The PEC will hold its annual meeting all day on Wednesday, March 25, and the Network of State and Provincial Archaeology Education Coordinators will meet on Thursday evening, March 26.

- ***Coordinating Information, Coordinating Funding: How Can We Work Together to Educate the Public About Archaeology?***

This symposium will feature three recipients of SAA pilot grants for state archaeology education coordinators and three coordinators funded by other means who offer an assessment of what works and what we need to improve. Organizer: Dorothy Schlotthauer Krass.

- ***Raising Public Awareness***

This symposium will report on a variety of public projects, many by members of the PEC. Organizer: S. Alan Skinner.

- ***Presenting Archaeology to Children: Tools and Tips;***
- ***Presenting Archaeology to Adults: Tips for Successful Programs***

These two workshops offer complementary approaches to archaeology education for children and adults. Organizers: Jeanne Moe and Mary Kwas, respectively.

- ***What Lies Beyond the Shore? Underwater Archaeology of Prehistoric and World War II Sites***

Florida State University anthropology professor Michael Faught and National Park Service underwater archaeologist Larry Murphy will be the featured speakers at the eighth annual public session, which will take place at the Museum of Flight. The title of Faught's lecture will be "Underwater Archaeology—The Prehistoric Sites." Murphy will discuss "A Fisheye View of World War II in the Pacific Theater." Organizer: Carol Griffith.

- ***State Archaeology Week/Month Poster Exhibition and Contest***

Posters from across the United States will be on display

in the exhibit hall beginning Thursday morning. SAA members will have the opportunity to vote for their favorite poster before the polls close at noon on Friday. Prizes for the top three will be awarded at the annual business meeting Friday afternoon. Organizers: Ann Valdo Howard and Dan Haas.

- ***1998 Excellence in Public Archaeology Education Award***

This award will be presented at the SAA annual business meeting to a teacher, museum educator, administrator, or interpreter who has made substantial contributions to public education.

In addition to these programs, two independent education sessions also will be available, including a poster session ("Survey, Management, and Education") and a general session ("Public Archaeology and Education") consisting of volunteered papers. The latter is of interest because it appears to be the first time that the number of volunteered papers about public archaeology and education has warranted an independent dedicated session at the meetings.

Teresa Hoffman is an archaeologist with Archaeological Consulting Services, 424 W. Broadway, Tempe, AZ 85281; (602) 894-5477. Dorothy Krass is the manager for public education at the SAA executive office in Washington, DC; (202) 789-8200.

Poster Contest Entries

States that wish to enter the "Celebrate Archaeology 1997-98" poster contest at the SAA annual meeting should send two unmounted and unfolded posters, along with a contact name, address, and phone number, to Dan Haas, National Park Service, Archeology and Ethnography Program, 1849 C Street, Washington, DC 20240. The deadline for submitting posters is March 3; however, if your poster will not be ready by that date, contact Dan at (602) 542-7138 to discuss the situation. The contest is being sponsored by the PEC Archaeology Week and Network subcommittees and the Council for Affiliated Societies.

Deadline for spring issue: January 30
Theme: Federal Archaeology Programs

Make Your Plans, Pack Your Bags

Prepared by Phyllis Messenger

Crow Canyon Summer Teacher Workshops

Crow Canyon Archaeological Center, 23390 Road K, Cortez, CO 81321; (800) 422-8975.

- *Teacher to Teacher: Exploring Classroom and Culture, June 21-27*

Focuses on teaching anthropology and culture in K-12 classrooms and includes trips into northern New Mexico. Cost: \$900; for two optional credits, \$975.

- *Archaeology for the Classroom, July 26-August 1*
Presents archaeological methods and classroom applications with participants selecting a research or materials development track. Cost: \$900; for two optional credits, \$975.

- *Maya Culture and Civilization, July 6-15*
On-site study of ancient Maya culture in Belize. Cost: \$1,895; with two optional credits, \$1,970.

Hamline Univ. Graduate Continuing Studies

Phyllis Messenger, Box 1634, Department of Anthropology, Hamline University, 1536 Hewitt Ave., St. Paul, MN 55104; (612) 523-2682.

- *Immersion Archaeology for Educators, July 26-31*
Week-long field experience in northern Minnesota with excavations at the Felknor Site and cultural activities with Anishinabe elders from the Leech Lake Band of Ojibwe. Three college credits; \$471, includes room and board.

Mississippi Valley Archaeology Center

Bonnie Christensen, MVAC, 1725 State St., La Crosse, WI 54601; (608) 785-8454.

- *Archaeology for Teachers, June 23-26, July 1*
Classroom introduction to archaeology and pre-European cultures of the region. Two college credits; tuition plus \$30 materials and travel fee.
- *Archaeology Field School for Teachers, July 6-10, 13-17*
Training in excavation and survey. Two college credits; tuition plus \$100 course fee.
- *High School Archaeology Field School, July 13-17*
Training in excavation and survey for high school students. Cost: \$200; with some meals: \$225.

Passport In Time

Passport In Time Clearinghouse, P.O. Box 31315, Tucson, AZ 85751-1315; (800) 281-9176.

Passport In Time (PIT), a program of the U.S. Department of Agriculture Forest Service, is a volunteer program that engages the public in archaeological and historic research

while working with Forest Service archaeologists and historians. Activities range from archaeological excavation to historic building restoration, and projects vary from a weekend to one month. There is no registration fee. See the March issue of *PIT Traveler* for a calendar and an application.

Northern Arizona University

Joelle Clark, Northern Arizona University, Science and Mathematics Learning Center, Box 5697, Flagstaff, AZ 86011-5697; (520) 523-8797.

- *Center for Excellence in Education Archaeological Institute for Teachers, July 5-9*

Designed for teachers who wish to learn about cultural resources of the Colorado Plateau. Cost: \$40.

Society for American Archaeology

Jon Czaplicki, Bureau of Reclamation, PXAO-1500, P.O. Box 9980, Phoenix, AZ 85068; (602) 395-5693.

- *Archaeology for Native American Educators: Building Curriculum, Building Bridges*

This five-day workshop, offered free of charge to qualified educators, will provide up to 30 Native American educators with materials and strategies for developing curricula using the scientific concepts and findings of archaeology.

Texas Archeological Society

Texas Archeological Society, Center for Archeological Research-UTSA, 6900 North Loop 1604 West, San Antonio, TX 78249-0658.

- *TAS Field School, June 13-20*
Survey, excavation, and lab research with focus on mission Indian lifeways at a site near Victoria, Tex.

University of La Verne/Archaeological Survey

Craig R. Lesh, Youth Archaeology Field School, University of La Verne, 1950 Third St., La Verne, CA 91750

- *Association of Southern California Youth Archaeology Field School, February 21, March 28, April 25, May 16, September 26, October 17, November 14*

Day-long archaeology workshops (required for teachers attending Youth Archaeology Field School), geared for 5th- to 8th-grade educators.

Washington University, St. Louis

Washington University Summer School Office, 1 Brookings Dr., St. Louis, MO 63130-4899; (314) 935-6720.

- *Archaeology for Teachers, July 13-August 14*
Classroom lessons, outdoor activities, lab sessions, and field trips.

Games Project . . .

Continued from page 7

Of the games that were evaluated, five involved electronic media. A summary of their annotation follows. A complete version of the report, including information about all of the games reviewed, soon will be available on SAAweb.

Adventures in Fugawiland

University of Wisconsin-Madison, Mayfield Publishing, 1990; ISBN 0874849489.

Students analyze site plans, maps, artifacts, and remains in an effort to understand the cultures under investigation. The simulation includes excavation of 10 fictitious, but realistic, prehistoric sites from northern Wisconsin. *College level or advanced high school; requires introductory instruction and background.*

IBM compatible; includes user's manual, 3 floppy disks, teacher's guide; **\$21.95 plus shipping.** Order from Mayfield Publishing Co., 1240 Villa St., Mountain View, CA 94041; (800) 433-1279.

Ratings: Concept 1, 5 stars; Concept 2, 4 stars; Concept 3, 5 stars; Concept 4, 4 stars; Concept 5, 4 stars. Overall rating: 4 stars.

Archaeological Detective

Montreal Museum of Archaeology and History, 1997.

Students try to discover the identity of a mysterious skeleton found at the Pointe-à-Callière site. They need to complete five missions to solve the mystery. Movies and photos illustrate this CD-ROM as it explores the stages of the archaeological process—preparation, excavation, analysis, interpretation, and information sharing. *6th grade; self-paced, requires no supervision.*

Macintosh and IBM compatible; includes 1 CD-ROM; \$45.00 plus shipping. Order from Fas-Track Computer Products, 130 Burrer Dr., Dept. C-2, Sunbury, OH 43074; (800) 927-3936.

Ratings: 5 stars in all concept categories. Overall rating: 5 stars.

Bluegrass Bluff

The Learning Company, 1991; ISBN 0792901835.

In this simulation, students dig for artifacts and analyze how these relate to the layers in which they were found and to each other. They excavate pottery, jewelry, statuettes, and carvings from various eras in American history. *6th grade; self-paced, requires no supervision.*

Macintosh compatible; includes 3 disks, user's manual; \$20 plus shipping for single copy, \$50 plus shipping for lab pack with 5 copies. Order from The Learning Company, 6160 Summit Dr. North, Minneapolis, MN 55430; (800) 685-6322.

Ratings: Concepts 1-3, 5 stars; Concept 4, 3 stars; Concept 5, 2 stars. Overall rating: 4 stars.

Exploring Ancient Cities

Scientific American, Sumeria, 1996; ISBN 1570470111

Dozens of photos and movies illustrate four *Scientific American* articles on Teotihuacan, Pompeii, Petra, and Crete.

Concept Criteria Used In Rating

- Concept 1:** Cultural systems are the focus of anthropological study.
- Concept 2:** Antiquity is a fundamental element of archaeological study.
- Concept 3:** Archaeology is a study of cultures, based on the material remains.
- Concept 4:** Humans affect and are affected by cultural resources.
- Concept 5:** Stewardship of archaeological resources saves the past for the future.

This CD-ROM features interactive city maps. *6th grade; self-paced, requires no supervision.*

Macintosh and IBM compatible; includes 1 CD-ROM; \$49.95 plus shipping. Order from Sumeria, Inc., 329 Bryant St., Su. 3-D, San Francisco, CA 94107-9680; (415) 904-0800.

Ratings: Concept 1, 2 stars; Concept 2, 1 star; Concept 3, 3 stars; Concept 4, 2 stars; Concept 5, 1 star. Overall rating: 1 star.

Exploring the Lost Maya

Sumeria, 1995; ISBN 1570470162

Based on original photographs and video taken at 40 different archaeological sites, this CD-ROM covers the history, culture, and ultimate demise of the ancient Maya culture. *6th grade; self-paced, requires no supervision.*

Macintosh and IBM compatible; includes 1 CD-ROM; \$49.95 plus shipping. Order from Sumeria, Inc., 329 Bryant St., Su. 3-D, San Francisco, CA 94107-9680; (415) 904-0800.

Ratings: Concept 1, 2 stars; Concept 2, 3 stars; Concept 3, 2 stars; Concept 4, 3 stars; Concept 5, 2 stars. Overall rating: 1 star.

SAAweb . . .

Continued from page 5

listings and information about ordering them from the executive office in Washington, D.C.

Ongoing projects will continue to make SAAweb more usable as a resource and center for information on the society. We are assembling reviews of different educational materials in various media and also an annotated bibliography to assist educators and others interested in learning more about archaeology. Another goal is to provide some of the publications geared to educators in an on-line format. Further discussions on additional information that can be provided to members and the community will take place at SAA's 63rd Annual Meeting in Seattle in March 1998. Keep watching the site, and let us know if you have any comments.

Jim Young is manager of information services at the Society for American Archaeology, 900 Second St., N.E., Suite 12, Washington, DC 20002; (202) 789-8200.

Electronic News

Joelle Clark, *Electronic Communications Chair*

In response to a growing number of requests for on-line resources, the SAA Public Education Committee (PEC) organized a new subcommittee in 1996 to explore ways to use electronic media more effectively for internal and external communications. This includes not only messages shared among PEC members, but also information that the committee wants to provide to archaeologists, educators, and the public. It is appropriate that the Electronic Communications Subcommittee's (ECS) first column in the newsletter should appear in the issue devoted to computers and archaeology.

As its first task, the subcommittee facilitated communication within the PEC by establishing an internal "listserve." This method of exchange allows someone to communicate with numerous people at once by posting a question or initiating a discussion at one central address. The address contains a list of subscribers who receive the message.

Because the first listserve was well received, another listserve was initiated for the PEC's Network of State and Provincial Archaeology Education Coordinators. The objective of this effort was to help distribute information to states in a timely manner and to promote communication among

the coordinators. A complete list of state network coordinators can be found at <http://www.saa.org/Education/PubEd/statenet.html>.

Another ECS project currently in progress involves expanding educational information on the SAAweb pages. Our goal is to make these pages a primary source for archaeology education information. Look for some changes in the coming months involving a detailed directory of past issues of *Archaeology and Public Education* and the on-line publication of "Guidelines for the Evaluation of Archaeology Education Materials."

In the future the Electronic Communications Subcommittee hopes to review web sites and multimedia resources and to share these with newsletter readers and visitors to the SAA home page. Some of the web resources for educators listed on page 10 of this newsletter are part of this effort.

If you have ideas, experiences, or resources that you would like to share with our new subcommittee, please contact me at the Science and Mathematics Learning Center, Northern Arizona University, Box 5697, Flagstaff, AZ 86011; (520) 523-7953.

Archaeological Parks

Mary L. Kwas, *Parks Column Editor*

Looking for archaeological parks on the World Wide Web? Here's how to find them, along with the types of information that is included.

A good place to start is the National Park Service web site entitled Ancient Architects of the Mississippi. The site provides information about mound-building cultures and mound sites in the lower Mississippi Valley. Good pictures and links to pages about Parkin and Toltec Mounds in Arkansas, Chucalissa and Pinson Mounds in Tennessee, and Emerald Mound in Mississippi are included. Access the site at <http://www.cr.nps.gov/aad/feature/feature.htm>.

Locating web sites for archaeological parks often is as simple as searching for the site name and perhaps the state—for example, "Angel Mounds, Indiana." This frequently results in one or more pages about the selected park. On the other hand, some archaeological parks are more difficult to find. Those associated with state or federal park systems, or state historical societies or museums, often cannot be found by a simple name search. The best way to find these locations is to hunt first for the system under which a site is administered—for example, "Louisiana State Parks."

National parks can be accessed at <http://www.nps.gov/parklists/byname.htm>. Federal parks are listed by name in alphabetical order, and clicking on a name takes you to a park's home page. (More information on national parks will be included in the next issue of this newsletter.)

Information included on archaeological park web sites varies considerably. The simplest ones usually have a photo of a site feature such as a mound or pueblo; a brief written description about the site history; and information on location, hours of operation, admission prices, and address and phone number. Check out a very cool drawing of the Serpent Mound in Ohio, found at <http://www.ohiohistory.org/places/serpent>, or the attractive page of Pueblo Grande in Arizona, at <http://www.arizonaguide.com/pueblogrande>.

Other web sites for archaeological parks include quite a bit of information—including site histories, maps, virtual tours, descriptions of exhibits, lists of upcoming events, and related links. At the sites for Chucalissa in Tennessee (<http://www.people.memphis.edu/~chucalissa>) and Angel Mounds in Indiana (<http://www.angelmounds.org>), you can even view photos of craft items offered for sale in their gift shops. For information on upcoming events, check out Dickson Mounds (<http://www.museum.state.il.us/ismsites/dickson>) and Cahokia Mounds (<http://medicine.wustl.edu/~kellerk/cahokia.html>), both in Illinois. Finally, for a look at the offerings of the new Teacher's Activity Guide being developed by Aztec Ruins National Monument in New Mexico, access <http://www.nps.gov/azru>.

Here's a reminder: archaeological parks can send news to me at the Arkansas Archeological Survey, P.O. Box 1249, Fayetteville, AR 72702-1249; (501) 575-6560.

WORTH NOTING

SAA Establishes Scholarship

SAA has established a scholarship for Native American and Native Hawaiian students and cultural preservation program personnel. Named in honor of the first SAA president, who served from 1935–36 and who was of Seneca ancestry, the Arthur C. Parker Scholarship will provide up to \$1,500 to support training in archaeological methods, including fieldwork, analytical techniques, and curation. Native American or Native Hawaiian high school seniors, college undergraduate or graduate students, or employees of tribal or Native Hawaiian cultural preservation programs are eligible. Individuals may apply on their own behalf or be nominated by a teacher, professor, or supervisor. For information, contact Rick Peterson at the SAA executive office, (202) 789–8200.

New Network Coordinator

Vermont State Archaeologist Giovanna Peebles has agreed to serve as her state's liaison to the SAA Public Education Committee Network of State and Provincial Archaeology Education Coordinators. Network coordinators serve as contacts regarding public archaeology resources and events in their area. Peebles can be reached at the Division of Historic Preservation, 135 State St., Drawer 33, Montpelier, VT 05633–1201; (802) 828–3050, (fax) 828–3206. A list of all coordinators appears at www.saa.org/Education/PubEd/statenet.html.

Project Earns UNESCO Support

The United Nations Educational, Scientific and Cultural Organization has announced its sponsorship of the Fort Ross–Global Village project, a multiyear Internet education program being conducted by the Society for California Archaeology in cooperation with the University of California, Berkeley; California State Parks; and other organizations. The project focuses on the archaeology and history of Fort Ross in northern California, and involves school children in California, Alaska, and Russia—the three areas from which original settlers arrived. By linking children together in their studies, the project strives to recreate the same sense of community and cooperation that marked the original settlement, which existed from 1812 to 1841. For additional information, see the SCA web page about the Global Village project at <http://www.scanet.org/global.html>.

People Of The Past

The Bureau of Land Management (BLM) Anasazi Heritage Center has completed a multimedia, interactive computer program that allows users to take a walking tour through Lowry Pueblo, a National Historic Landmark in southwest Colorado. Viewers of the CD-ROM will see the pueblo as it appears today and how it might have looked in A.D. 1100, with people inhabiting its spaces to meet their daily needs. The program presents both archaeological and Puebloan cultural perspectives on the past, using Quick Time, photos, audio, animation, and computer-generated imagery.

Heritage education and enhanced appreciation of archaeology and Native American cultures are the primary goals of the project. A complementary teacher activity guide is in the final stages of preparation. Funding was provided by the Colorado State Historical Fund, BLM Field Incentives Award, and Southwest Natural and Cultural Heritage Association, with in-kind support from Living Earth Studios and Paradox Productions of Bluff, Utah. The program is available on CD-ROM and is both Macintosh and IBM compatible. The CD may be purchased alone or with the teacher guide from the Southwest Natural and Cultural Heritage Association, 27501 Hwy. 184, Dolores, CO 81323; (970) 882–4811.

Southwest Web Site

Southwestern Archaeology (SWA), an Internet web site, delivers electronic research data and current events information about the American Southwest to anthropologists and the avocational public. Developed in 1995 by Brian Kenny and Matthias Giessler, SWA is the "type site" for World Wide Web archaeology as practiced in the Southwest. Check the site at <http://seamonkey.ed.asu.edu/swa/sasig.html>.

Researchers On-line For Students

The Bureau of Land Management's (BLM) Resource Explorers program allows students and teachers to pose questions to researchers working on public lands. Wyoming archaeologist Mike Bies, who has discovered pithouses and associated artifacts that are nearly 5,000 years old, recently was the featured researcher. Mike used a digital camera and a laptop computer to answer questions from his field location. As discoveries were made, the web site provided updates on his progress.

Students and teachers are encouraged to ask questions of the featured researcher by contacting <http://www.blm.gov/education/expert>. For more information about the Resource Explorers program, contact Jeremy Brodie at jbrodie@wo.blm.gov; or see the program web site at <http://www.blm.gov/education/education.html>.

Special Thanks

A&PE editors Amy Douglass and KC Smith thank Phyllis Messenger, program associate with the Hamline University Department of Anthropology, for serving as a guest editor of this issue of A&PE.

Email Addresses

SAA Executive Office: headquarters@saa.org
Dorothy Krass: dorothy_krass@saa.org
Ed Friedman: efriedman@do.usbr.gov
Shelley Smith: sjsmith@aecl.apgea.army.mil
Shereen Lerner: lerner@mc.maricopa.edu
Amy Douglass: amy_douglass@tempe.gov
KC Smith: kcsmith@mail.dos.state.fl.us
Cathy MacDonald: parrothead@mail.magic.ca
Mary Kwas: mkwas@comp.uark.edu
Phil Carr: pcarr@mdot.state.ms.us
Joelle Clark: Joelle.Clark@nau.edu

Last Chance for SAA Members!!

**Have you renewed your subscription to
Archaeology and Public Education??**

If not, this is your last issue!

In the previous issue of *Archaeology and Public Education*, we requested that you renew your subscription for 1998. If you haven't already done so, this is your last issue!! (*Note: renewing your SAA membership does not automatically renew your A&PE subscription. You need to contact SAA separately to do so.*)

You can renew your *A&PE* subscription today in one of two ways: (1) send a copy of the mailing label below to "*A&PE* Renewal," c/o the SAA executive office at the address below, or (2) send an e-mail to headquarters@saa.org, stating that you wish to renew your subscription.

If you renew your subscription immediately, you'll ensure uninterrupted delivery of the remaining two issues of *A&PE* in 1998. If not, this will be the last issue and the last reminder you'll receive.

(NOTE: Only SAA members need to renew their subscriptions as noted above. Nonmember individual and institutional subscribers should return their renewal notices with their \$10 payment.)



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