

Teacher-to-Teacher

Students Dig This New Summer Course

Cynthia Donahue

A group of gifted high school students recently excavated a simulated archaeological site in the second annual Summer Archaeological Research Project (SARP) at Brevard Community College in Titusville, Florida.

"We wanted the participants to have a feel for what it means to be a practicing scientist," said Fred Johnson, division chairman of Brevard's North Campus and the first to envision the project. Years of teaching chemistry led Johnson to make the following observation: "Traditionally in science classes, we talk a lot about practicing the scientific method, that is, making observations and searching for regularities. In this 40-hour course we wanted to improve upon the typical classroom experience which is somewhat like teaching science in a vacuum."

The project was funded by the Florida Governor's Summer Program for Gifted High School Students. Participants had to be nominated by their high school teachers to be eligible to enroll. Upon successfully completing the course, they earned three college credits in escrow.

Although archeological simulations have occasionally been created at universities or archaeology field schools, the SARP project may be the first of its kind at the community college level. There are numerous unexcavated Indian settlements and burial grounds in Florida but the decision to use a simulated rather than a real site was made for several reasons. First, by creating a site adjacent to the campus, field work could be combined with classroom lectures and lab analysis of the excavated material. A carefully prepared site would ensure that each student would "find," excavate and analyze a substantial number of artifacts within the three-week summer term.

The site for the project was prepared in an orange grove behind campus,

and the chemistry and computer labs were made available to support the

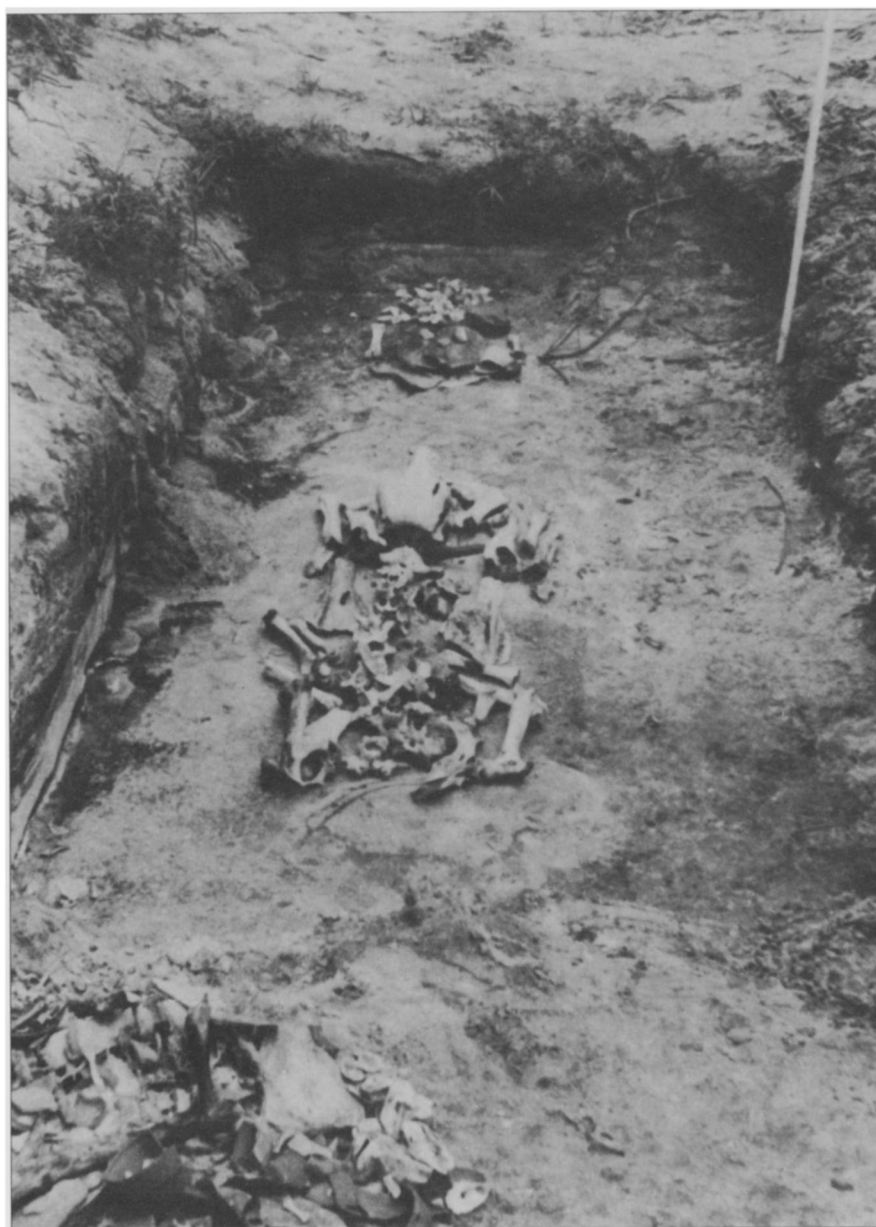


Figure 1. Site preparation: The bones of a large animal in the pit, one of several features that will be covered over for excavation in class.

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Figure 2. A prehistoric cooksite with scallop shells, animal bones and pottery shards.

research. Dave Dickel of the Florida State University anthropology department supervised the field work and a faculty member from Brevard's chemistry department instructed the students in lab procedures.

Dickel had been in Titusville for three years excavating a burial site of prehistoric Florida Indians. The Windover Project, named after the neighborhood in which the burial ground was discovered, made national headlines in 1984 when Dickel's team found human brains inside the 7000-year-old skulls of the buried corpses. (The unprecedented state of preservation of organic matter in such an ancient site was due to a unique topographical phenomenon that occurs in Florida. The shallow pond into which these corpses were interred was lined with peat, a substance that created an airtight seal between the pond and the surrounding landscape. The Indians' burial practice involved submerging a body in the pond and weighing it down with wood planks almost immediately after death. Each corpse was buried in a thick layer of peat; therefore none of the normal effects of the deterioration process had time to act on the brain tissue.)

To prepare the SARP site, an L-shaped pit, 25 feet long on a side,

was unearthed. In one "wing" of the L-shape, archaeological remains suggested a prehistoric, that is, pre-literate, culture of Florida natives. The other wing was designed to simulate the settlement of a much later historic, or literate, people. This allowed stu-

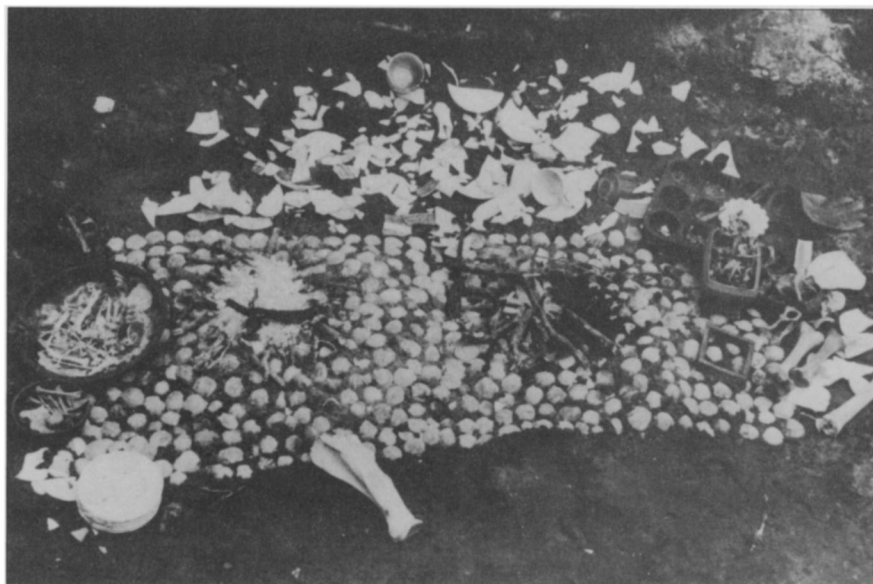


Figure 3. A historic cooksite on a bed of shells, with glazed ceramics and metal cookpots.

dents to make anthropological comparisons of the two cultures after the dig was completed.

Objects similar to those that might actually appear in such sites had to be either found or made (Figure 1). Dickel fashioned "projectile points"—arrowheads and spearheads—from bottle glass for the prehistoric site. In an authentic site, projectile points would be made from obsidian, a naturally occurring volcanic glass that was prized by many ancient cultures for its sharp edge. A scraping tool was made with a wooden handle and a leather strip wound around it to firmly attach the "obsidian" blade to the handle. Baskets, clay pots and shell necklaces, needed for the prehistoric site, were purchased. Scallop shells and animal bones helped to recreate a cooksite (Figures 2 & 3). The scallop shells were acquired from a processing plant nearby. Animal bones, donated by an alligator farm, had to be scrubbed so they resembled sun-bleached, long-buried bones. In the historic site, glazed dishes and metal cookpots, hinges and spikes gave evidence of a later and more advanced culture.

Prehistoric fireplaces were lined with shells and flat stones and strewn with bits of charcoal. Discarded scallop and snail shells and animal bones were mounded nearby. An inverted turtle shell and several baskets lined with pitch, nestled on top of a fireplace, appeared to have been used as cooking vessels. (Dickel explained that prehistoric people heated a smooth "cookstone" to red hot in a fire, then

dropped it into a vessel containing water; in just over a minute the water boiled.) Finished tools such as arrowheads and scrapers were placed in the site along with a scatter of “debitage,” the waste flakes that are chipped off during flintknapping. Near the fireplace, symmetrically spaced animal bones and skulls suggested the performance of religious rituals (Figure 4). In the historic site, the presence of animal bone that had been cut rather than broken indicated the availability of metal tools. After the individual “features” had been arranged in the pit they were gently covered over again with dirt.

The class began with a lecture which established one of the themes of the course: that scientific research is a rigorous, methodical, frequently tedious procedure requiring a commitment to both patience and strict objectivity. It was this idea that Dickel and Johnson had found difficult to convey in a conventional classroom setting. They wanted students to experience the reality of painstaking research without becoming bored or discouraged. By carefully planning the site so that every student would experience the thrill of uncovering several features, and by varying the daily routine to include field, lab and lecture time, the instructors were confident that they had designed a “thrill-a-minute archaeology course.”

After some brief instruction in Florida prehistory and excavation procedures, it was time for the digging to begin. First, many cubic yards of “overburden”—the soil layer covering the site—had to be removed, one shovelful at a time. Dickel verified that the working conditions were authentic; heat and humidity did not make the hard manual labor any easier. Dirt got in hair and nostrils, under fingernails and contact lenses. Still, of the 53 students who registered for the course in the last two years, only one was discouraged enough to drop out.

As the features began to emerge, they had to be measured, mapped, photographed and described in detail on “field forms.” Loose dirt removed



Figure 4. A ceremonial arrangement of bones and shells indicates a religious observance.

from around the features was pressed through a fine screen so that tiny objects such as beads and debitage flakes would not be discarded. As each artifact was pulled out of the ground, it was sealed in a separate, labeled plastic bag. Back in the lab, processing of artifacts included cleaning, sorting, weighing, counting and measuring, with data recorded on “lab forms.” Each significant piece was inscribed with a tiny catalog number and specific information about it was entered into a computer data base file. As the field work proceeded, supplementary lectures included instruction in data base analysis and technical report writing to prepare students for the paper they would write at the end of the course.

A description of the daily lives of the inhabitants of the site, based on an

analysis of the excavated material, was the subject for the final paper. The textbook *Archaeology*, by D.H. Thomas, provided students with a resource to help them define terms and establish dates for artifacts such as glazed ceramics and metal tools, but the deductions were their own. The instructors wanted students to be free to draw independent conclusions about what they were finding in the field. Guesswork was considered an important part of the experience.

In their final papers, many students expressed admiration for the ingenuity and tenacity of people who lived in a world where collection of food and preparation of a single meal might have taken an entire day. Gradually, it became impossible to think of those prehistoric Florida natives as “primitive” in any sense of the word.