In 1996, while I was conducting sabbatical studies in northern Baja California, Mike Wilken and myself conceptualized a series of workshops that might take place within various Native American communities in northern Baja California and be of benefit to both the communities and to workshop participants. In early 1997, after contacting the communities and discussing the workshops with them, we organized and then began to implement (with input from community members) several ethnoarchaeology workshops that also included studies in experimental archaeology.

Ethnoarchaeology refers to the study of living peoples to aid in understanding and interpreting the archaeological record. By observing and participating in present-day activities, we hope to identify archaeologically observable patterns, knowing what activities brought them into existence. Using data from the active present, we are better able to evaluate data recovered from the static archaeological record (Fagan 1997:306-319; cf. Longacre 1991:1-10; Sharer and Ashmore 1993:436-442).

Experimental archaeology refers to studies that provide insights into the methods and techniques used, possibly, in the past. In establishing the workshops, we kept in mind three general rules for experimental archaeology (after Fagan 1997:315-319):

(1) All materials used must have been available locally to prehistoric peoples.
(2) The methods used must conform to the society's technological abilities.
(3) The results must be replicable by others.

We do understand, however, that what people are doing in the ethnographic present may not exactly reflect what people were doing in the past. But, these activities do give us insight into processes that we might otherwise not see.

The workshops include the thematic activities listed below:

For 1997
(1) Traditional paddle and anvil pottery manufacturing;
(2) Agave (Agave deserti deserti) roasting and ethnobotany practicum;
(3) Willow basket making; and,
(4) Acorn (Quercus agrifolia) harvesting and processing.

For 1998
(1) Traditional paddle and anvil pottery manufacturing;
(2) Agave fiber extraction;
(3) Adobe manufacture and construction;
(4) Willow basket making; and,
(5) Acorn harvesting and processing.

Future planned workshops include the following:

(1) Piñon nut harvesting and processing;
(2) Ethnobotany (juniper berry, islaya, and mesquite);
(3) Traditional house construction;
(4) Wooden implement manufacture (e.g., bow and arrows, quiver, rabbit throwing stick, and digging stick); and,
(5) Paipai "walkabout" on the Alamo Plain (overnight hike to visit various sites of importance to the Paipai).

The content and theme of each workshop is worked out in advance with elders of the community in which the workshop will take place, including all logistical aspects of the workshop as well as discussions and agreement upon appropriate behavior in the community by workshop participants.

The overall objectives of the workshops include the following:

(1) To provide reciprocal benefits for host communities and visiting participants; and,
(2) Allow participants the opportunity to observe and to take part in the entire process of resource acquisition, preparation, manufacturing, and use of various food or technological items.

In establishing the workshops, we wanted each teacher and participant to have the opportunity to interact with one another as well as to provide hands-on learning experiences for the participants. In each workshop, participants have the opportunity to learn through observation and by individually conducting each activity as a member of the group.

In general, the benefits of the workshops include the following:

(1) Economic benefits to community members;
(2) Encourage the younger generation within the communities to learn and to appreciate traditional skills and knowledge (per the wishes of community elders);
(3) Provide visiting participants opportunities to develop interpersonal relationships with members of the various communities, learning to appreciate and respect both individuals and their culture;
(4) Provide participants the opportunity to observe and to take part in the entire process of manufacturing and use of various food and technological items; and,
(5) Provide the opportunity to ask questions of individuals with much knowledge and skill.

Archaeological and anthropological benefits from the workshops include the following:

(1) Being able to observe and take part in the entire production process from initial procurement through use or consumption of various technological or food items to better understand and interpret the archaeological record;
(2) Having the opportunity to ask questions of individuals with much knowledge and skill (something not afforded to us when we read various accounts in the literature);
(3) Realizing the importance/significance of perishable material culture and how this might affect our interpretations of the archaeological record; and,
(4) Being able to contribute to groups of people from whom many of us benefit through our chosen field(s) of work.

The workshops are designed to provide reciprocal benefits with the native peoples of Baja California, something that would benefit the communities economically, and help the younger generation realize the value of the tremendous knowledge the elders have to teach. The economic value/input to the communities comes from paying community elders as teachers to groups of interested persons (both U.S.A. citizens and Mexican citizens) to learn about specific traditional skills and knowledge.

The workshops have been and will continue to be conducted in the Paipai community of Santa
Catarina and the Kumiai communities of San José de la Zorra and Necua. The workshops have been sponsored by CUNA (1997-1998), the San Diego County Archaeological Society (SDCAS 1997) and the Museum of Man (1998).


### MUSEUM OF MAN RESEARCH

As a result of doing background research for these ethnoarchaeology workshops and for the preparation and planning of a long term bi-national archaeology field school in Santa Catarina, I discovered through the literature and through the assistance of Museum of Man curator Grace Johnson a rather large collection of items being curated at the Museum of Man that were recovered from northern Baja California. These curated items had been either donated or sold to the museum between the years 1957 and 1994.

In November 1997, I began (with the help of Museum of Man curator Grace Johnson) to go through these collections, entered the acquisition information into a database, and tallied the following (includes both prehistoric and ethnographic items):

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>229</td>
<td>Black and white photographs (1950s-1980s)</td>
</tr>
<tr>
<td>3</td>
<td>Sets of slides taken by Ralph Michelsen (1960s)</td>
</tr>
<tr>
<td>4</td>
<td>Reels 2700' of color ethnographic film shot in and around Santa Catarina in 1958 by Norm Gabel with Roger Owen</td>
</tr>
<tr>
<td>2</td>
<td>Wooden pottery paddles</td>
</tr>
<tr>
<td>10</td>
<td>Ceramic anvils</td>
</tr>
<tr>
<td>20</td>
<td>Ceramic bowls</td>
</tr>
<tr>
<td>25</td>
<td>Ceramic ollas (some in fiber carrying nets)</td>
</tr>
<tr>
<td>1</td>
<td>Ceramic olla lid</td>
</tr>
<tr>
<td>11</td>
<td>Ceramic jars</td>
</tr>
<tr>
<td>3</td>
<td>Ceramic pitchers</td>
</tr>
<tr>
<td>2</td>
<td>Ceramic plates</td>
</tr>
<tr>
<td>4</td>
<td>Ceramic pipes</td>
</tr>
<tr>
<td>1</td>
<td>Ceramic doll</td>
</tr>
<tr>
<td>4</td>
<td>Ceramic figurines</td>
</tr>
<tr>
<td>3</td>
<td>Ceramic disks with holes in them</td>
</tr>
<tr>
<td>4</td>
<td>Cups</td>
</tr>
<tr>
<td>2</td>
<td>Baskets (1 willow; 1 palm)</td>
</tr>
<tr>
<td>1</td>
<td>Beeswax cake several Wax candles</td>
</tr>
<tr>
<td>9</td>
<td>Cradleboards</td>
</tr>
<tr>
<td>2</td>
<td>Headpieces (1 fiber; 1 leather)</td>
</tr>
<tr>
<td>4</td>
<td>Rattles (3 from tin cans; 1 from a gourd)</td>
</tr>
<tr>
<td>1</td>
<td>Steatite pipe</td>
</tr>
<tr>
<td>2</td>
<td>Quartz crystals</td>
</tr>
<tr>
<td>3</td>
<td>Leather fetish packages</td>
</tr>
<tr>
<td>1</td>
<td>Shell pendant</td>
</tr>
<tr>
<td>1</td>
<td>Mineral for pigment</td>
</tr>
<tr>
<td>2</td>
<td>Reatas (1 leather; 1 fiber)</td>
</tr>
<tr>
<td>7</td>
<td>Ropes (horsehair and horsemane)</td>
</tr>
<tr>
<td>1</td>
<td>Whirling tool used in making ropes</td>
</tr>
<tr>
<td>1</td>
<td>Rope/fiber cordage twister (Taravilla)</td>
</tr>
<tr>
<td>1</td>
<td>Fiber brush</td>
</tr>
<tr>
<td>1</td>
<td>Fiber broom</td>
</tr>
<tr>
<td>5</td>
<td>Fiber bags</td>
</tr>
<tr>
<td>3</td>
<td>Fiber nets</td>
</tr>
<tr>
<td>1</td>
<td>Fiber cordage (lots of agave fiber cordage)</td>
</tr>
<tr>
<td>1</td>
<td>Strand willow bark used for cordage</td>
</tr>
<tr>
<td>2</td>
<td>Rabbit throwing sticks</td>
</tr>
<tr>
<td>5</td>
<td>Wooden tongs</td>
</tr>
<tr>
<td>2</td>
<td>Tuna pickers</td>
</tr>
<tr>
<td>9</td>
<td>War clubs</td>
</tr>
<tr>
<td>12</td>
<td>Arrows</td>
</tr>
<tr>
<td>1</td>
<td>Arrow main shaft</td>
</tr>
<tr>
<td>1</td>
<td>Arrow shaft straightener</td>
</tr>
<tr>
<td>1</td>
<td>Quiver</td>
</tr>
<tr>
<td>10</td>
<td>Bows</td>
</tr>
<tr>
<td>25</td>
<td>Projectile points (arrow and dart points)</td>
</tr>
<tr>
<td>3</td>
<td>Bifacial points</td>
</tr>
<tr>
<td>5+</td>
<td>Scrapers</td>
</tr>
<tr>
<td>1</td>
<td>Metate</td>
</tr>
<tr>
<td>1</td>
<td>Hammerstone</td>
</tr>
<tr>
<td>1</td>
<td>Fire drill hearth</td>
</tr>
</tbody>
</table>
The ethnoarchaeology workshops, and the Museum of Man films, slides, photographs, accessions and associated notes provide us with an opportunity to make observations on recent cultural change in Santa Catarina and conduct comparative studies of the recent past regarding traditional activities.

In early 1998, I had the four 16 mm film reels listed above converted to VHS format and copies made for the community of Santa Catarina, the Museum of Man, CUNA, and for myself. The format conversion resulted in a single VHS cassette with a little less than 90 minutes of color film and no sound track.

The following topics are presented in the film(s) (as listed by Roger Owen):

1. Country, village, livestock, pets, pottery sequence;
2. Wild honey-bees, rabbit stick, mescal gathering and weaving;
3. Goat ranch, barbecue, Pricilla gathering wild plants and seeds; and,
4. Ranch and riding, gardens, stock, Gil’s family, piñon country.

SOME NOTES ON WHAT WE HAVE LEARNED SO FAR

The workshops have revealed various subsistence activities that were conducted with wooden tools rather than stone tools. There is a high frequency of such activities that will only rarely show up in the archaeological record as the manufactured products and the tools used to make them are perishable. Such activities and associated tools and products might include clay processing by mano and metate for pottery manufacturing, agave roasting pits for food, agave roasting pits for fiber (distinct from roasting pits used for food production), agave fiber nets, wooden-tipped arrows, bows, war clubs, lances, rabbit throwing sticks, tongs formed from yucca leaves used in harvesting cactus fruits, and the presence of ceramic polishing stones with no discernible wear patterns on them. For example, it is unlikely that we would see agave roasting areas unless there was some kind of disturbance or erosion. In one workshop, we were taken to a specific agave roasting pit last used some 40 years ago. Although the pit had been used over a number of years, we saw no evidence of roasting or of any other disturbance until our teacher proceeded to dig up the soil with his boot and charcoal came to the surface. In trying to discern the important criteria for selecting such a roasting site, we were told that in addition to the presence of agave plants, the most important criteria was the presence of adequate firewood. When firewood supplies were exhausted over time, a new location was selected.

The process of agave fiber extraction produces a barely discernible landscape signature, as the roasting pit for leaves is very shallow and relatively little charcoal and ash remains after the overnight roasting of the leaves. There would be little or no evidence of such an activity in the archaeological record.

The evidence of these activities in northern Baja California among contemporary Native American groups is of the kind that we only infrequently see in the archaeological record. Early European writings of Baja California Indians testify to the frequency of these types of activities and to the presence of perishable tools and products that may be invisible or nearly so in the archaeological record. The differential recovery of kinds of artifacts has undoubtedly biased or distorted our interpretations and reconstruction of the past towards those activities for which we do find evidence (cf. Bouscaren 1997).

Ground stone tools are very much in use in the communities although no one appears to be manufacturing them. Some women in Santa Catarina have manos that have been passed down to them by their mothers and grandmothers. However, most manos and metates in use have been recycled; people go out and find them in the countryside and bring them back to their homes for use. A testament to their abundance in the local archaeological record is the fact that virtually every household in the Paipai, Kiliwa and Kumiai communities has several manos and metates. Undoubtedly, people have been recycling these and other kinds of tools for a very long time. Other kinds of recycled tools we have observed in use...
include lithic scraping implements and abalone shell scraping implements.

While ground stone manufacturing apparently does not occur in Santa Catarina, maintenance does. One community elder told us there is a special kind of hammerstone that they use to sharpen both manos and metates when the grinding surfaces become too smooth.

In San José de la Zorra, during the 1997 acorn gathering and processing workshop, we were told that the Kumiai made bedrock mortars in the outcroppings by first building a fire over the desired location. When the desired spot was adequately heated, they proceeded to peck out the mortars using hammerstones.

Within Santa Catarina, there is tremendous variation among contemporary potters, even between sisters and between them and their daughters. These differences are seen in the clays selected to make pottery, in the tempers they choose to use, and in the manufacturing techniques used.

Children are always present at the workshops as they watch their mothers, aunts, or grandmothers do various activities. They are learning by observing. This is also seen in Owen's ethnographic films and in Michelsen's slides. In Santa Catarina, one potter who was born in 1924 told us that she watched her mother make pottery as she grew up. She never made pottery until her mother died when she was about 16 years of age.

FUTURE PLANS

Mike Wilken and myself are working on a series of monographs on each of our workshop themes to be published in the Museum of Man technical series. Ken Hedges at the Museum of Man has suggested that we present these works in both English and Spanish. Currently, we are working on the topics of agave roasting and agave fiber extraction and on ceramic manufacturing. In Fall 1998, we hope to begin a lecture series on Baja California at the Museum of Man in San Diego. In addition, I am currently conducting research on the prehistoric and ethnographic use of wooden arrows by Native Americans in Baja California and in surrounding areas.

Anyone who is interested in participating in any of the workshops can contact myself (Steve Bouscaren) at the following e-mail address: stevebouscaren@mindspring.com

or Julie Gay in the Education Department at the Museum of Man: (619) 239-2001

The San Diego Archaeological Society will sponsor the willow basket making workshop in San José de la Zorra to be held in September 1998. Interested participants can contact the SDCAS at: (619) 538-0935

NOTES

1. At the April, 1998 SCA meetings in San Diego, I showed slides from Michelsen's slide sets on Paipai paddle and anvil pottery production and mescal fiber cordage production (see Michelsen 1997a) in addition to slides Mike Wilken and myself had taken during our ethnoarchaeology workshops. I also showed an approximately four-minute video sequence of Eugenio Albañez making and then throwing a rabbit throwing stick back in 1958.

2. On Sunday, 24 May 1998, while conducting a three-day paddle and anvil pottery manufacturing workshop, we presented to the Santa Catarina community a VHS copy of the 1958 16 mm films. A generator-powered television was set up outside the school and we watched the film with some 60-70 members of the community. The principal individuals throughout many of the sequences on the film were Eugenio Albañez and Petra Higuera. Eugenio, a Tipai singer from Campo, California, died in 1966 at 86 years of age. He was forced to leave Campo around World War I after killing a witch who had placed a curse on his family. Eventually, he resided in Santa Catarina where he also married. His wife Petra was Paipai and died in 1975. Michelsen published several articles regarding both of these individuals. At least 2 of Eugenio's and Petra's children were in the audience that evening. Many community members appeared to be transfixed as many individuals, some of whom had been deceased between 20 and 30 years, suddenly came 40
years out of the past and onto the screen. It was a very emotional and memorable experience for all present. One of the young children recognized his father who was in one scene as a young boy riding a horse bareback. Some individuals in the film were in the audience that evening and watched themselves on screen as they appeared 40 years earlier.

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