

ARCHEOLOGICAL CONSIDERATIONS REGARDING  
THE SOUTHERN CALIFORNIA ISLANDS

Charles E. Rozaire

*Los Angeles County Museum*

The archeologist has no less an interest in the Southern California Islands than do scientists in other disciplines since these eight parcels of land give evidence of having been among the most heavily populated areas in aboriginal North America. Evidence of villages and camp sites abounds on most of the islands. The total artifact yield has been great and, as more investigations are made, will continue to be so. Though artifacts provide vital information about the culture and history of these people, the archeologist is turning more and more to the natural environment and unmodified midden refuse to gain further insight into the natives' way of life and how it changed.

The cultural chronology for the islands has been tied in with the sequence for the mainland which is based primarily on three broad subsistence patterns: gathering, hunting, and fishing, appearing in that order. Each of these economic pursuits represents a period of time and each has its own particular classes of implements that are characteristic: for the earliest there are metates and manos; next are projectile points with mortars and pestles; and lastly there are shell fishhooks. Except possibly for the latter, the mere presence of these tools does not automatically assign a site to a particular culture horizon or tradition. Rather, it is the total complex of materials and features and their relative proportions which has to be the criterion, at least with the present state of knowledge.

What confusion now exists results from the nature of the general archeological situations on the southern California coast: (1) There is a long time span for many artifacts and these show little or no differences in time and space, (2) Individual sites tend to yield comparatively small numbers of artifacts making it difficult to get much in the way of highly reliable statistical data, (3) The artifact range within a site is frequently so great that many sites cannot be fitted into a well defined culture area or restricted to a limited time span on typological grounds. To clarify the situation, specific traits need to be determined which can be used as definitive, significant chronological and cultural

rkrs. In addition, there is a need to know more details regarding ecological adjustments and how, when, and where the significant changes in subsistence patterns came about. With particular regard to the islands, there are two problems: delimiting those natural characteristics which distinguish one island from another one part of an island from its other part(s) and distinguishing islands from the mainland both individually and as a group.

Archeological field work on the islands goes back to the late 1900's, but by far the longest sustained program has been carried out by Phil C. Orr of the Santa Barbara Museum of Natural History in the last 20 years. The recent work by other institutions has been intermittent, beginning in the 1930's at the San Diego Museum of Man and the Los Angeles County Museum. More concentrated efforts have been made during the last 12 years by the University of California at Los Angeles, the Southwest Museum, and the Los Angeles County Museum on all of the islands except Santa Rosa which is being covered by Orr.

One of the greatest boosts to archeological investigations has been in the post-World War II development of radiocarbon dating which allows one to assign a particular point in time to excavated materials. Such dates can provide specific points of reference for resolving complex problems of chronology and interrelationships. However, while several dozen dates are known for Santa Rosa and Santa Cruz islands, only 13 have been obtained for the other islands and of these about one-half have little significance because (1) they fall within the last few hundred years, shortly before or after first European contact when we know the islands were occupied, or (2) they are from sites which have no artifactual associations established as yet. Nonetheless, the remaining dates are vital information and while more are anticipated in the future, comments can be made on what is known at present.

Interestingly, so far the earliest date with human associations is from Santa Rosa Island, and these may extend back as far as 30,000 years (Orr, 1956, p. 7); the first extensive cultural complex is the Dune Dweller more than 7,000 years ago. Not until about 4,000 years ago do we have dates beginning for the other islands: 3,980 (UCLA 147 in Fergusson and Libby, 1963, p. 5) for San Nicolas and 3,880 (M 534 in Crane and Griffin, 1958, p. 1) for Santa Catalina. The earliest date for San Miguel is 3,000 B.P. (before present) (LJ 218 in Hubbs, Bien, and Suess, 1962, p. 215), but there are no associated artifacts for this or for the other two dates which have been established for this island.

Clemente's earliest known date is 450 years B.P. (LJ 259 in Hubbs, Bien, and Suess, 1962, p. 225), just a few decades before European contact; and two others (LJ 258 and LJ 260 in Hubbs, Bien, and Suess, 1962, pp. 224-225) for this island are less than 1,000 B.P. and so could not be applied to aboriginal habitation.

The significance of the dates for Santa Catalina and San Nico-

las has been discussed in terms of ecology and economic adaptation by Meighan (1959) and Reinman (1964), who dwell largely on the problem of a shift from an emphasis on exploitation of land resources to sea resources. How this situation applies to the other islands has yet to be worked out or demonstrated either because of a lack of good dates and associations or because work is still in progress. In view of the many early dates from Santa Rosa, and of their long time span, there could be an inclination to think of this island as the focal point of dispersal for traits throughout the Northern Channel Islands. Conceivably as more dates are forthcoming from the other islands, a comparable antiquity of settlement will be demonstrated.

At present, comment can be made on one particularly significant artifact type, the circular shell fishhook. It can be considered diagnostic of a fishing economy or a specialized form of this subsistence pattern; bipointed bone gorges, netting and much fishbone in a site would be additional evidence or an indication of a variant situation. The earliest dates for the shell fishhook are 5,370 (Orr, 1960, p. 7) and 4,790 (Orr, 1962, p. 4) years B.P. from Santa Rosa; and at present it cannot be dated any earlier than 3,000 years B.P. for the other islands. On San Nicolas I found fishhooks at site SNI-51 down to a depth of 4½ feet; at 7½ feet, the deepest level excavated, the date is 3,170 years B.P. (UCLA 196 in Fergusson and Libby, 1963, p. 6) and at 6 feet it is 2,550 years B.P. (UCLA 195 in Fergusson and Libby, 1963, p. 5) so that fishhooks on San Nicolas are about half the age of those found on Santa Rosa. Fishhooks at other San Nicolas sites and on the other islands occur in late contexts also. It is hard to conceive that such an easily made and easily copied tool would not have spread quickly, unless we are dealing with a long period of isolation, cultural conservatism, or have yet to find an earlier site elsewhere.

Additional importance accrues to the fishhook when considering the kind of shell used and the shape of the shank. On the basis of distribution, Wissler (1958, p. 79) notes that abalone was used earliest and then supplemented by mussel and Norris' Top Shell. Interestingly, the straight, plain, pointed shanks are found in a northerly distribution from near Monterey south to San Nicolas Island, while knobbed varieties overlap on the Northern Channel Islands and the Santa Barbara coast and then continue exclusively down the southern California coast and on Santa Catalina Island. Anacapa and Santa Barbara islands were not included in the Wissler study, but my recent work there has turned up only the straight shank type for each of them. Hopefully, future dating may indicate a sequence for the different types.

Another trait of diagnostic significance involves the weaving traditions of the islanders as revealed mainly in the interlacings of sea grass (*Phyllospadix*) and to a lesser extent in asphalt im-

pressions. The latter are the remains of water bottles which were apparently made in much the same way every time, that is, by plain twined weaving of twigs which were then coated with tar. Many times only a few small fragments of tarred impressions are found making it difficult to determine the shape. From those few whole examples that survive, it is assumed that the bottles had a small narrow-necked opening, more or less straight sides, and a flat or slightly indented bottom. The manufacture of basketry is a basic early skill known practically everywhere and no doubt the knowledge was brought by the first occupants of the islands. It is at least 4,000 years old on San Nicolas Island (UCLA 147 in Fergusson and Libby, 1963, p. 5) at SNI-40 where basket impressions were found associated with burials of that date.

Woven sea grass represents a very interesting adaptation in that with the presumed exhaustion of plant resources on land, at least on San Nicolas, the people had to turn to the ocean for material. Evidence of sea grass weaving comes from San Clemente (Rozaire, 1959a), San Nicolas (Rozaire, 1959b), Santa Rosa (Rogers, 1929, pl. 52), San Miguel (Heye, 1921, pls. 123-124), and probably Santa Cruz (Rogers, 1929, p. 315). Woven sea grass exhibits a variety of techniques and, in particular, considerable variation in the selvages, that is, the way the edges of the fabric are finished. On the basis of a detailed analysis of a large collection from San Nicolas and comparisons with weaving from other islands and the mainland, I find that there are certain significant differences in both time and space. However, only a very general picture can be presented now. The twining technique in which the lean of the stitch is up to the right (S-twining) is characteristic of San Nicolas and San Clemente, while on the northern islands the stitch lean is in the opposite direction (Z-twining). These distinctions of weave continue their distribution to the adjacent mainland for each of these island groups and coincide roughly with the historic linguistic division of Hokan on the north and Shoshonean to the south. If the culture history of the coast holds as postulated from linguistic evidence, wherein the entire southern California coastline at one time was populated by Hokan-speaking peoples and then subsequently separated in what is now the Los Angeles-Orange County area by a wedge of Shoshonean-speaking people (Kroeber, 1925, p. 578), it will make an interesting check to see whether Z-twining underlies S-twining or if S-twining is earlier. Kroeber estimates a date of about 1000 A.D. for this transition. However, at present the earliest known date for woven sea grass is 2,550 years B.P. (UCLA 195 in Fergusson and Libby, 1963, p. 5) on San Nicolas Island at site SNI-51 and the specimen is S-twined as are all the sea grass weavings from the island. Thus the hypothesis needs further investigation to reconcile the wide gap between dates.

Lastly, burial practices provide many important clues to the

archeologist in his attempts to understand the temporal, spatial, and cultural relationships of people in the past. The method of disposal and the position of the body, as well as any associated artifacts and features, are quite variable; and each difference has some significance. Orr (1952) has noted for coastal and island Santa Barbara County individual cemeteries each of which is represented by a specific temporal phase with a distinct artifact inventory and particular habit of burial; also, some cemeteries show a gradual blending of the cultural inventory.

Inhumation was the earliest method of disposing of the dead for the islands as well as the adjacent mainland and predominated throughout the whole sequence up into historic times. However, in the southern coastal and interior region of southern California, cremation became increasingly important until by the time of European contact it had completely replaced inhumation there. The idea gradually spread north reaching as far as Tujunga in the San Fernando Valley (Walker, 1951). A discovery of a cremation on San Nicolas Island by the author extends the distribution westward, and a radiocarbon date of 2,440 years B.P. (UCLA 197 in Fergusson and Libby, 1963, p. 6) provides a minimum time span for the custom. Before discussing the implications of this find, a brief description of the discovery is now given.

The cremation was found eroding out of the side of a cut bank 14 inches below the surface and several hundred yards above the road at site SNI-51. (figs. 1-2). The fragmented and charred bones were contained in a saucer-shaped depression dug seven inches into the compacted yellowish-cream sand. The maximum diameter was 35 inches east and west and a minimum of 24 inches north and south; it had been eroded away on the north side. The soil in the bottom of the pit was slightly reddish and was covered by a thin layer (less than one-half inch thick) of chunks of charcoal. Charcoal and dark earth filled the rest of the pit and it was in this matrix above the thin charcoal layer that most of the fragmented human bone occurred. Though the bones were carefully exposed, there was no apparent pattern to give a clue as to original position. It would appear that the remains constitute a secondary burial following cremation; in the course of burning, the bones had been poked around to assure they were almost completely consumed in the fire. Another possible indication of this situation is the occurrence of over 1,300 shell and bone beads scattered throughout the pit. (fig. 3). However, it might have been that rather than being strung, the beads had been thrown loosely into the cremation fire during its burning; interestingly over half were not charred. Also in the cremation pit there were a few small chunks of red and yellow ocher, five pieces of small rock, shell and animal bone fragments. In addition, above the cremation almost 100 tarred pebbles were scattered about in small clusters of three or four. The cremation was associated with the remnant

of a shallow, compacted, dark-colored midden 10 to 14 inches thick.



Fig. 1. Beginning of the excavation of cremation at Site SNI-51, San Nicolas Island.

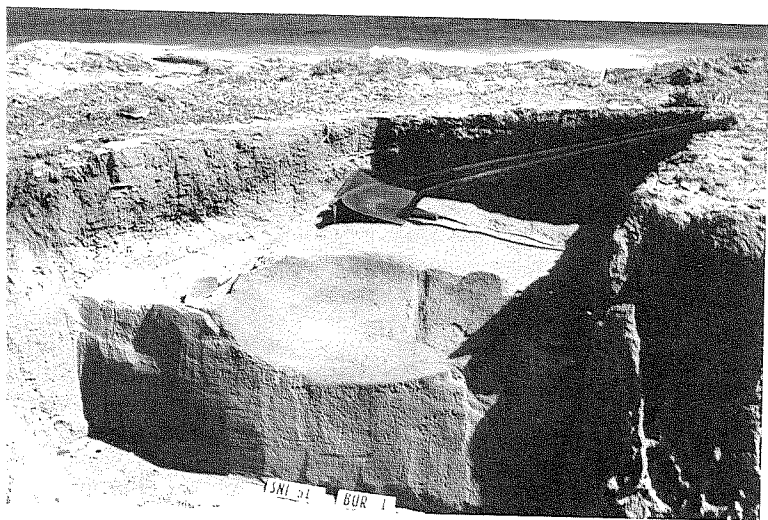


Fig. 2. Cremation pit after excavation at Site SNI-51, San Nicolas Island.

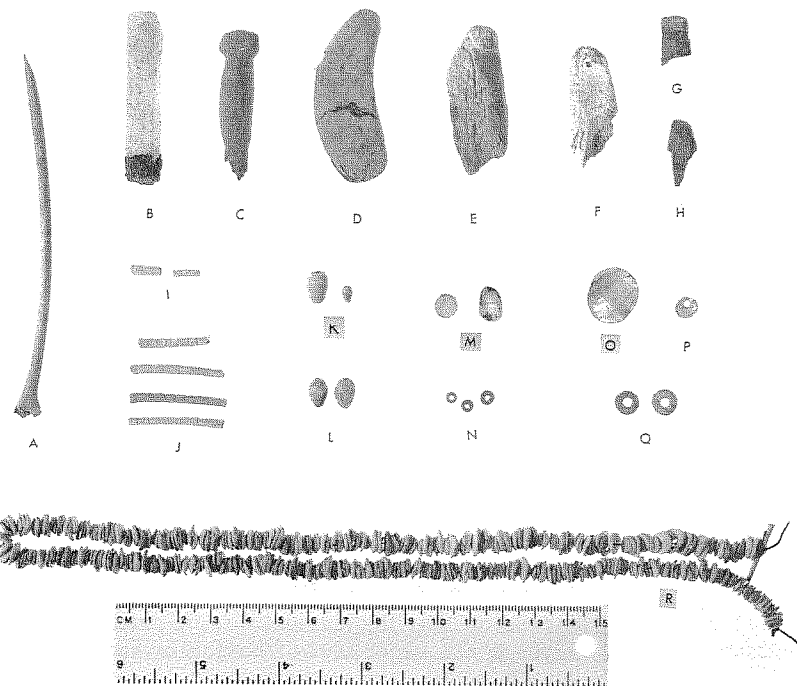


Fig. 3. Artifacts from cremation pit, Site SNI-51, San Nicolas Island. A) Bone awl, B) Calcite crystal, C) Knobbed object of indurated black shale, D) Possible crude "pelican stone" made of indurated black shale, E) Grooved piece of black metamorphic rock, F) Fragment end of spatulate bone object, G) Fragment of possible tubular stone bead, H) Fragment of notched stone object, I) Tubular bird bone beads, ungrooved, J) Tubular bird bone beads, grooved, K) Whole *Olivella biplicata* beads with spire ground off, unburned, L) Whole *Olivella biplicata* beads with spire ground off, burned, M) *Olivella biplicata* disc bead blanks, N) Steatite disc beads, O) Circular piece of *Haliotis* (pendant blank?) P) Disc bead of *Haliotis*, Q) Disc bead of *Mytilus californianus*, R) String of 401 *Olivella biplicata* disc beads.

Because of the limited number of detailed reports and absolute dates, at present there can be only great speculation regarding the time and circumstances of the introduction and spread of cremation into southern California. The occurrence of several customs, including cremation, in southern California has been thought to be a manifestation of the spread of Southwestern influence, particularly of the Hohokam, during late prehistoric times (cf. Meighan, 1954, p. 225). One bit of evidence of at least some form of contact with southern Arizona is seen in the presence of about 40 pieces of a "red-on-brown" pottery jar found at the Big Tujunga Wash site in the San Fernando Valley (Walker, 1951, p. 116). These sherds can be dated on typological grounds as having been made some time between the 7th and 9th centuries A.D.; and significantly the site also yielded burned human bones placed in stone bowls (Walker, 1951). However, in an archeological context, cremations are exceedingly rare north of San Diego county. The author is aware of only three sites (Malaga Cover, Los Altos, and Hughes Aircraft), all of which happen to be in the Los Angeles Basin; and they contained only one or two examples each. Ethnographically, the custom may have been more common for the Gabrielino (cf. Blackburn, 1963).

Cremation apparently did not become widespread on the islands since only one published reference (so far as I know) has been made, this being on the basis of A. Woodward's work at Big Dog Cave, San Clemente Island (McKusick, 1959, p. 136). For San Nicolas, in addition to the description above, Malcolm Rogers mentions about 20 cremations in his field notes of the 1930's, thus giving the impression that the custom was of particular importance there. Through the sheer fact of having by far the earliest date for such a burial practice in the Western United States, San Nicolas Island can hardly be claimed to be the spot where the idea originated. A more continuous distribution in both time and space, plus a sufficient number of examples, would be needed to make such a conjecture reasonable. Nonetheless, some explanation is needed for this occurrence on San Nicolas at such an early time. There is always the very remote possibility that the late is wrong; but there was no question of the charcoal and its associations, unless by some unlikely happenstance wood of very early date was used to make the cremation fire. As other cremations on San Nicolas and elsewhere are found and dated, this situation can be readily evaluated.

If one considers the situation in a broader context, there may be some relationship between cremation and the widespread California custom of a Mourning Ceremony (Kroeber, 1925, pp. 859-61). One custom is the burning of property in order to release the spirits of the objects and permit them to join those of the dead. The quantity of materials destroyed varies from slight to considerable and ranges from honoring only particular distin-

guished individuals to everyone who passed away. Then, conceivably it is just one more step to burn the individual along with the property. Perhaps pre-internment grave-pit burning could be an intermediate step, if not a specialized variant. When only a few examples of cremations are found, one assumes that the practice was reserved for only particular individuals or perhaps just for special, infrequent occasions.

With any burial practice one deals with a whole set of religious ideas, and cremation no doubt had its special set of rituals and beliefs. In order to determine what these may have been, there is a need for thoroughly detailed descriptions of circumstance, associations, and dates. With such data, gradually a pattern should emerge whereby we can gain insight into the significance and role of this custom in the life of the southern California Indians, especially those on the California Islands.

#### LITERATURE CITED

- Blackburn, T. 1963. Ethnohistoric descriptions of Gabrielino material culture. *Ann. Rep., 1962-1963, Archaeol. Surv., Univ. Calif. Los Angeles*, pp. 1-50.
- Crane, H. R., and J. B. Griffin. 1958. University of Michigan Radiocarbon dates. III. *Science*, 128(3332):1117-1123.
- Fergusson, G. J., and W. F. Libby. 1963. UCLA radiocarbon dates. II. *Radiocarbon*, 5:1-22.
- Heye, G. G. 1921. Certain artifacts from San Miguel Island, California. *Mus. Amer. Indian, Heye Found., Indian Notes Monogr.*, 7(4):1-211.
- Hubbs, C. L., G. S. Bien, and H. E. Suess. 1962. La Jolla natural radiocarbon measurements. II. *Radiocarbon*, 4:204-238.
- Kroeber, A. L. 1925. *Handbook of the Indians of California*. *Bur. Amer. Ethnol. Bull.*, 78:1-995.
- McKusick, M. B., and C. N. Warren. 1959. Introduction to San Clemente Island archaeology. *Ann. Rep., 1958-1959, Archaeol. Surv., Univ. Calif. Los Angeles*, pp. 107-184.
- Meighan, C. W. 1954. A late complex in southern California prehistory. *Southwest. J. Anthropol.*, 10:215-227.
- Meighan, C. W. 1959. The Little Harbor Site, Catalina Island: an example of ecological interpretation in archaeology. *Amer. Antiquity*, 24:383-405.
- Orr, P. C. 1952. Review of Santa Barbara Channel archaeology. *Southwest. J. Anthropol.*, 8:211-226.
- Orr, P. C. 1956. Radiocarbon dates from Santa Rosa Island. I. *Santa Barbara Mus. Nat. Hist. Bull.*, (2):1-10.
- Orr, P. C. 1960. Radiocarbon dates from Santa Rosa Island. II. *Santa Barbara Mus. Nat. Hist. Bull.*, (3):1-10.
- Orr, P. C. 1962. On new Radiocarbon dates from the California Channel Islands. *Western Speleological Institute Inc. Observ.*, (8):1-7.

A DISCUSSION OF THE GEOCHRONOLOGY AND  
ARCHEOLOGY OF THE CALIFORNIA ISLANDS

Carl L. Hubbs

*University of California, San Diego*

It is the privilege of old men to forget, and I just can not remember if it was the summer of 1913 or 1914 when I started what little research I have done, off and on through many years, on the California Islands. I visited Avalon and found there a little research station, which was being operated in connection with a public aquarium. The guiding light was Charles Frederick Holder, who founded the Tuna Club at Avalon and was one of the most famous of the big-game-fish anglers of his day. I went through the collection and found a very distinct species of bathypelagic fish of the general sort that Dr. Ebeling spoke about. I described it in one of my first papers, which was published by the University of California in 1916.

I am going to devote most of my remarks to the preceding papers, but will venture into some discussion of other problems in the biology of the California Islands and northwestern Baja California.

First, I will present a few ideas on the general oceanographic and marine-faunal relations of the islands off California, subjects which have not been given quite adequate treatment in this symposium. These subjects need much more data, particularly for the inshore oceanography and for the marine life along the shore, both of which have been neglected in the very extensive Marine Life Research program of Scripps Institution. Such data are particularly important for the present consideration. During the much interrupted work I have done on the islands since the date I mentioned, several oceanographic and faunal features have become evident. The first of these is the California Current, the cold water of which comes down from the north, passing by Point Arguello and Point Conception, then along San Miguel Island, and on to San Nicolas Island and farther south. This water is cold because of the very extensive upwelling of cold water along the central and particularly along the northern coast of California (the coldest temperatures south of British Columbia occur in the Cape Mendocino region). Then there is the Davidson Counter-

- Reinman, F. M. 1964. Maritime adaptation on San Nicolas Island, California. Ann. Rep., 1963-1964, Archaeol. Surv., Univ. Calif. Los Angeles, pp. 47-80.
- Rogers, D. B. 1929. Prehistoric man of the Santa Barbara Coast. Santa Barbara. 452 pp.
- Rozaire, C. E. 1959a. Analysis of woven material from San Clemente Island. Ann. Rep., 1958-1959, Archaeol. Surv., Univ. Calif. Los Angeles, pp. 157-163.
- Rozaire, C. E. 1959b. Archeological investigations at two sites on San Nicolas Island, California. Masterkey, 33:129-152.
- Walker, E. F. 1951. Five prehistoric archeological sites in Los Angeles County, California. F. W. Hodge Anniv. Pub. Fund, Pub., 6:1-66.
- Wissler, M. 1958. A Canaliño site near Deer Canyon, Ventura County, California. Masterkey, 32:73-87.