24. "CAPAY MAN," AN ANCIENT CENTRAL CALIFORNIA INDIAN BURIAL

By Robert F. Heizer and S.F. Cook

Discovery and Occurrence

In November, 1950, Mr. W.F. Yerington while engaged in geological reconnaissance, discovered human bones protruding from a stream bank in Cobbey Canyon, about 3 miles south of the town of Guinda in Yolo County. More precisely, the location is in the SW 1/4 of the NW 1/4 of section 22 of Township 11 north, Range 3 W, MDB and M. The Rumsey Quadrangle, U.S. G.S. covers the location. The site has been designated by the UCAS as Yol-2.

The site was first visited early in 1951 by M. Baumhoff, then Assistant Archaeologist of the UCAS. After permission to remove the bones was secured from the owner, Mr. Silva of Palo Alto (to whom we acknowledge our appreciation for his kindness), the following persons visited the site, removed the burial and studied the situation: M. Baumhoff, R.F. Heizer and F. Harradine, Division of Soils of the University of California.* Mr. Harradine's report is appended.

The human bones lay at a depth of 70 inches from the present surface of the ground in fairly consolidated calcareous alluvium which contained numerous small cherty pebbles. This soil material was obviously rather old, both as viewed from its internal nature and from the fact that a different soil overlies it. The upper, surficial layer is a dark soil identified as Zamora loam. The human bones lay in articulation and therefore may be taken as evidencing an intentional burial which was placed in a dug grave. Such a grave certainly was not dug through the soft dark upper loam into the lighter-colored compacted alluvium below, for the grave pit would certainly be apparent if this were the case. Instead, the burial lay solidly imbedded in the light brown compacted material, and no signs of a grave pit were to be seen. When discovered only the top of the skull was apparent; the remainder of the skeleton was imbedded in the bank. This is important since our excavation would have certainly yielded evidence of an intrusive pit if this had been present. The only conclusion to be drawn from these facts is that the burial was placed in a grave dug from a point not higher than the surface of the light brown calcareous deposit. The top of this layer is now 40 inches below the present surface, so that the maximum depth of the grave may be calculated at about 30 inches. The outlines of this hypothetical grave pit have been obliterated with the passage of time during which consolidation and lime accumulation occurred. Our excavations were very laborious due to the dense and indurated nature of the soil enclosing the bones, and it is quite certain that this compaction has occurred since the time the skeleton was buried.

---

* A full photographic record of the vertical exposure and the exposed skeletal remains was made, but these illustrations are not reproduced here because of the cost of making half-tones.

What appears to have been the probable local sequence of physiographic and depositional events is shown in the accompanying diagram (Fig. 1) labeled Stages 1, 2, and 3.

Stage 1. Rolling surface of old terrain (probably Pleistocene surface). Occupation of region by Indians and burial of an individual in a grave dug to a depth of not over 2.5 feet in a knoll ("A" in sketch). "B" marks nearby stream channel at lower level than top of knoll.

Stage 2. Deposition of "B" soil stratum upon older alluvium into which grave was dug. Alteration of drainage courses with stream channel "B" now buried and streams "C" and "D" beginning to incise their beds. Soil in which burial ("A") occurs begins process of compaction and lime-enrichment.

Stage 3. Cutting of streams "C" and "D" with some lateral migration of stream course so that stream "C" has cut through "B" alluvium and into the side of the original knoll exposing burial "A". About 40 yards east is recent Indian occupation deposit ("E") laying on top of "B" alluvium. Matrix of burial is now highly indurated and strongly calcareous.

Description of Burial

The skeleton is that of an adult male which lay loosely flexed on the right side. The head lay on the right side and towards the west. The skeleton lay in an area measuring 38 by 16 inches, this being the minimum possible size of the gravepit.

There appears to be nothing distinctive about the remains beyond the fact that they are dark and rather heavily mineralized. The skull was protruding from the bank when discovered, and some parts were missing, so that beyond the observation that it appears to be dolichocephalic, nothing can be said about it.

No artifacts were found associated with the skeletal remains, so we are completely in the dark as to the culture period from which it dates. However, it can hardly date from the Late Horizon period, and is probably from either the Middle or Early culture stages of this region of California.

Antiquity of the Burial

Five fragments of the Capay skeleton have been subjected to chemical analysis in an attempt to gain some idea of its age. This method of archaeological dating is still under development, and precise answers as to age of bones are unobtainable, but nevertheless some idea of the relative antiquity of bones can often be gained by chemical analysis.

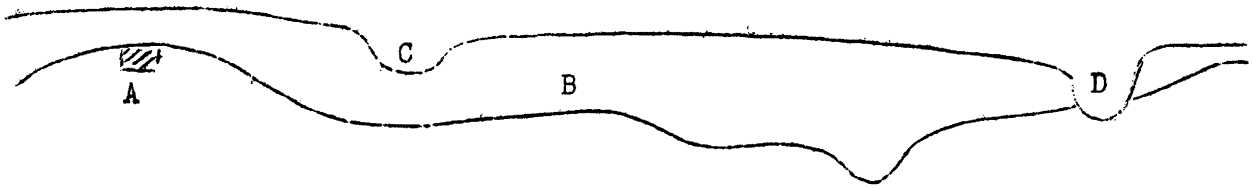
The primary inorganic constituents, calcium, phosphorous (phosphate) and carbonate (acid extractable carbon dioxide) are all present in quantities above that found in normal bone (in terms of percent by weight of the bone: calcium, 33.4, phosphorous, 15.7, carbon dioxide, 7.62). The carbonate content is particularly high. Mineralization has obviously proceeded by means of loss of organic matter together with accumulation of both phosphate and carbonate. This condition is entirely normal for and is to be expected in bones interred in calcareous soils (see report of Dr. Harradine). The extent of carbonate and phosphate accumulation is a function of the concentration of these ions in the soil during the period wherein the bone is exposed and therefore can not be employed directly as a criterion of age. At the same time the high level of these substances in the Capay bones predispose to the opinion that the bones have been buried for a considerable number of centuries.

Through the ash weight, or ignition loss, we can estimate the total content of organic matter, and in addition the combustible carbon (i.e. carbon from organic matter) has been done for many other bone samples. The average organic matter was 6.39 percent by weight and the carbon 2.08 percent. Comparison with analogous values for other Central California sites leads to the conclusion that the Capay remains are older than Middle culture sites Sac-43, CCo-137 and Sac-151 and younger than the Early culture sites LAn-1, Sac-107, SJo-142 and Fre-48. The figures for total organic matter, carbon, and also the water content, are closest to those for sites SJo-68 and SBa-7. The latter is a representative of the Oak Grove culture along the Santa Barbara Channel and the former is one for which we have the carbon ^{14} date (determined by Professor W.F. Libby, University of Chicago) of approximately 4,052 years B.P.

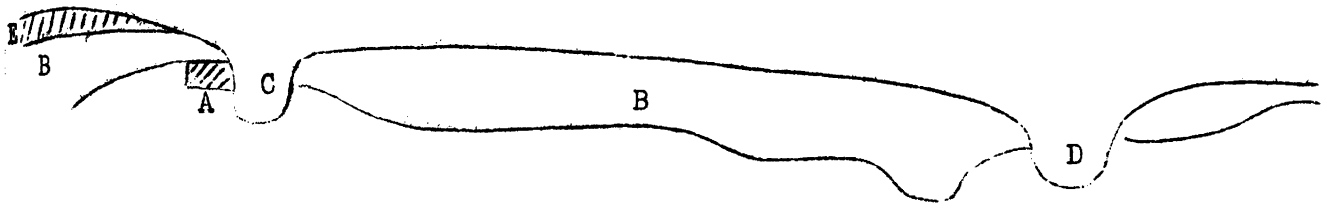
The chemical data, which it must be remembered cannot be regarded either as conclusive or exact, therefore indicate a date lying in the late range of the Early culture period, or the early phase of the Middle period. If a date in years has to be mentioned, perhaps 4,000 years B.P. would be as close as we can come.

Dr. Harradine considers the calcareous sediment, in which the skeleton was buried, to be of Pliocene age, far antedating any known cultural period. The overlying Zamora loam, 40 inches deep, could have attained its present youthful profile in 1,000 years. Allowing for the time required in deposition of this material, and for other factors he places the burial at 2,000 years ago. However this must be regarded as a minimum, rather than a fixed date, for there is no clue indicating how long before deposition of the Zamora horizon the burial took place. Therefore the estimate based upon the chemical method is not in direct conflict with that derived from the study of the soils.

Stage 1

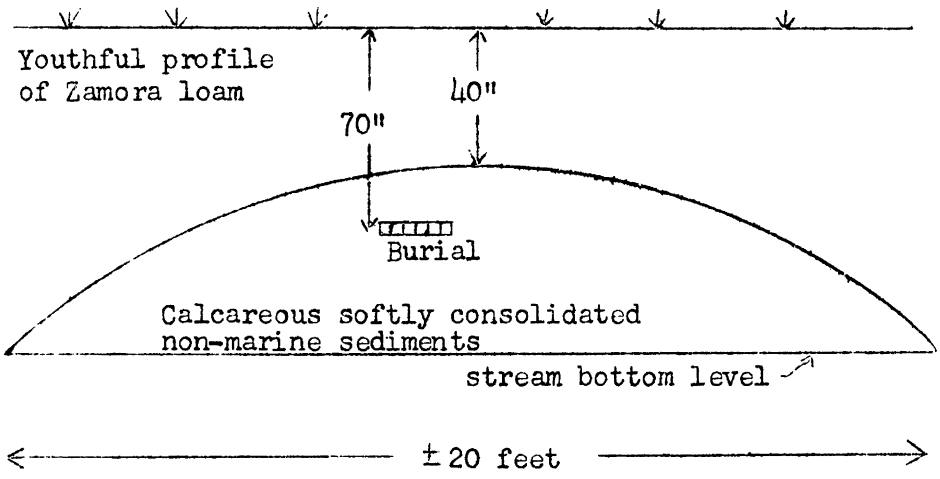


Stage 2

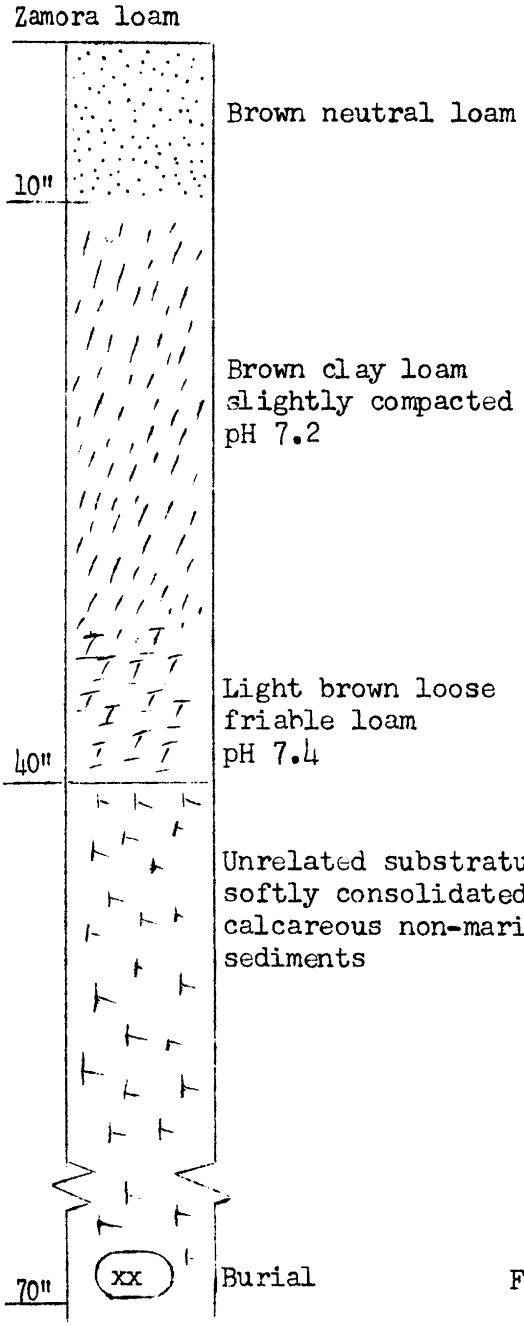


Stage 3

Fig. 1. Topographic and depositional reconstruction of site Yol-2 area.



A.



B.

Fig.2. A. General profile at burial site.
B. Pedologic profile above skeleton.
(Site Yol-2)