

UCR RADIOCARBON DATES II

R E TAYLOR

Department of Anthropology,
Center for Social and Behavioral Science Research,
Institute of Geophysics and Planetary Physics,
University of California, Riverside, California 92502

UCR I (R, 1974, v 16, p 395-401) previously reported measurements carried out jointly by the UCR and UCLA radiocarbon laboratories between November 1972 and September 1973 and interlaboratory check samples used to calibrate the UCR 1.7L counter. This list reports the measurements of the UCR laboratory from September 1973 to August 1974.

Samples were subjected to accepted HCl, NaOH or other special chemical pretreatments depending on specific conditions to exclude contamination. All bone samples were measured using the collagen method of Berger *et al* (1964). Samples are combusted in a stream of oxygen and argon or acidified with 2N HCl and the resultant CO₂ is passed through 2 washing bottles containing .1N AgNO₃ solutions, a CuO furnace maintained at 800°C, 2 solutions of ca 100gm of K₂Cr₂O₇ dissolved in H₂SO₄, 2 additional .1N AgNO₃ solutions, and is collected in liquid N₂ traps. After combustion or evolution of the CO₂ is completed, the sample is isolated in the vacuum system and the remaining excess O₂ and other non-condensable gases are pumped off. The sample is then expanded into a separate 10L system containing a Cu furnace maintained at 400°C. A fan unit in the system circulates the CO₂ continuously through the Cu for at least a 10-hr period. Between each sample, the Cu is reduced by the introduction of H₂. Following circulation through the Cu furnace, the CO₂ is again collected in a liquid N₂ trap and pumped with a mercury-diffusion pump until a vacuum of 10⁻³mm Hg or less is attained. The sample is then stored in stainless steel pressure bottles to allow radon to decay.

Samples are introduced into a 1.7L counter at 760mm pressure normalized to 20°C. Concentration of electro-negative impurities in the sample gases is monitored by noting the ratio between meson events falling into 2 energy channels as a function of change in the high voltage. A 2-channel discriminator unit has been set so that, at given voltage with the anti-coincidence system deactivated, counting rates in the 2 channels are approximately equal when the purity of the sample gas is acceptable for counting purposes. If the voltage is >10 volts above the standard voltage setting, the sample is recycled through the Cu furnace for an additional period.

Background CO₂ is obtained from the acidification of marble of Pennsylvanian age. Calculated radiocarbon ages are based on the 5568 yr half-life; the standard for the contemporary biosphere is .95 NBS oxalic acid and AD 1950 constitutes the zero reference year. The measured ¹³C/¹²C ratio of the oxalic acid standard gas is -19.74 per mil relative to PDB. The interlaboratory check sample results were reported in UCR I.

ACKNOWLEDGMENTS

The author wishes to express his gratitude to W F Libby and Rainer Berger for their continuing assistance. The dedicated laboratory work of Marvis Kelly, Peter Slota, and Stanley Sheldon is also very much appreciated. Support from the UCR Intramural Research Fund is gratefully acknowledged.

SAMPLE DESCRIPTIONS

I. ARCHAEOLOGIC SAMPLES

A. California

Myoma Dunes series

Samples from coprolite beds exposed in sand dunes adjacent to shoreline of former Lake Cahuilla (LeConte), Riverside Co, Calif (33° 45' N, 116° 12' W) by deflation. Coll 1973 and subm by P J Wilke, Dept Anthropol, Univ California, Riverside.

UCR-124. Coprolite Bed D **365 ± 140**
AD 1585

Human coprolite from shallow latrine. Coprolites and decomposing fragments thereof contained seeds of *Cucurbita pepo* id by T Whitaker, US Dept Agric, La Jolla, California. *Comments* (P JW): significance of cucurbit seeds at this date awaits completion of coprolite analysis, which is in progress. (RET): interlab check sample, UCLA-1889: 420 ± 80.

UCR-125. Coprolite Bed B **<100**
Modern

Human coprolite from 15cm below surface of deposit. *Comments* (P JW): date suggests recent deposit. Componential analysis of coprolites is in progress. (RET): interlab check sample, UCLA-1887: <100 yr.

UCR-152. Coprolite Bed A—terrestrial fraction **240 ± 150**
AD 1710

Seed coats of Mesquite (*Prosopis juliflora*) screened from upper 10cm of decomposing bed of coprolites atop shoreline dune. *Comment* (P JW): sample dates terrestrial plant remains consumed by man.

UCR-153. Coprolite Bed A—aquatic fraction **235 ± 150**
AD 1715

Seeds of *Scirpus acutus* and *S validus*, id by Norah van Kleeck, California Dept Agric, Sacramento, screened from residue of decomposing coprolites. Provenience same as UCR-152. *Comment* (P JW): same apparent age as terrestrial fraction from same deposit.

UCR-163. Structure **<150**
Modern

Charcoal, probably Mesquite (*Prosopis juliflora*) from a beam of burned pole and brush structure from the deflating surface of Myoma Dunes, Area A. *Comment* (RET): interlaboratory check sample, UCLA-1918: 100 ± 60, AD 1850.

General Comment (PJW): coprolites from Bed A include abundant remains of aquatic plants and animals. Dates on coprolite constituents suggest a late stand of Lake Cahuilla, which was not anticipated. The number and duration of late stands of Lake Cahuilla has not yet been determined.

115 ± 80

UCR-120/UCLA-1868. Tahquitz Canyon **AD 1835**

Charcoal from hearth (Feature A) in Unit E, Exposure 3, Loc TC-27N, alluvial fan of Tahquitz Canyon (33° 50' N, 116° 32' W) Coachella Valley, California. Coll 1972 by G Jefferson, subm by P J Wilke, Dept Anthropol, Univ California, Riverside. *Comment* (PJW): date indicates occupation of site into late prehistoric or historic time.

3160 ± 150

UCR-212. Simomo site **1210 BC**

Marine shell (*Chicone undatella simillima* [Sowerby], *Argopecten circularis aequisulcatus* [Carpenter], and *Euspira lewisi* [Gould]) from 350 to 365cm at Simomo site (4-Ven-26), Ventura Co, California (35° 10' N, 119° 10' E). Coll 1959 by C Rozaire, L A Co Mus Natl Hist. Subm by R E Taylor.

Santa Cruz Island series

A series of test excavations were conducted by Univ California, Santa Barbara on Santa Cruz, one of the channel islands off the coast of Southern California. Radiocarbon dates of this series are being used for chronology of changes in exploitation of marine resources by prehistoric inhabitants of Santa Cruz I. Theoretically, as population density increased, kelp fish and eventually schooling fish were added to intertidal food resources in the aboriginal diet. Dates correlate with screened column samples from which subsistence remains are being extracted for analysis. Excavations are supported by a Natl Sci Foundation Grant (GA-36573) to A Spaulding and M A Glassow. Samples subm by M A Glassow, Dept Anthropol, Univ California, Santa Barbara.

1685 ± 100

UCR-130. Christi Beach, 185 to 195cm **AD 265**

Wood charcoal from 185 to 195cm in Column 1 at UCSB site SCrI-236 (34° 1' N, 119° 52' W). Coll 1973 by M A Glassow.

4435 ± 100

UCR-131. Christi Beach, 238 to 248cm **2485 BC**

Marine shell (*Haliotis* sp) from 238 to 248cm in Column 1. Coll 1973 by M A Glassow.

1535 ± 150

UCR-132. Christi Beach, 205 to 220cm **AD 415**

Wood charcoal from burnt timber from 205 to 220cm in Column 2. Coll 1973 by M A Glassow.

- UCR-156. Prisoner's Harbor, 185 to 200cm** **960 ± 150**
AD 990
 Charcoal from Level A₂, 185 to 200cm above main datum at UCSB site SCrI-240 (34° 01' N, 119° 40' W). Coll 1973 by S P Horne.
- UCR-157. Prisoner's Harbor, 115 to 125cm** **1650 ± 150**
AD 300
 Charcoal from Level E, 115 to 125cm above main datum. Coll 1973 by S P Horne.
- UCR-158. Prisoner's Harbor, 33 to 36cm** **1735 ± 150**
AD 215
 Charcoal from Level 0, 33 to 36cm below main datum. Coll 1973 by S P Horne.
- UCR-159. Prisoner's Harbor, 133 to 155cm** **1795 ± 150**
AD 155
 Charcoal from Level X, 133 to 135cm below main datum. Coll 1973 by M A Glassow.
- UCR-127. Prisoner's Harbor, 0 to 16cm** **980 ± 100**
AD 970
 Charcoal from Level L, 0 to 16cm above main datum. Coll 1973 by S P Horne. *Comment* (RET): interlab check sample UCLA-1891: 1160 ± 80.
- UCR-128. Prisoner's Harbor, 64 to 78cm** **1015 ± 100**
AD 935
 Marine shell (*Mytilus californianus*) from Level I₁, 64 to 78cm above main datum. Coll 1973 by S P Horne. *Comment* (RET): interlab check sample, UCLA-1892: 1170 ± 80.
- UCR-164. Prisoner's Harbor, 248 to 256cm** **4430 ± 150**
2480 BC
 Charcoal from Level HH, 248 to 256cm below main datum. Coll 1973 by M A Glassow.
- UCR-165. Prisoner's Harbor, 193 to 216cm** **2825 ± 150**
875 BC
 Charcoal from Level DD, 193 to 216cm below main datum. Coll 1973 by M A Glassow.
- UCR-166. Prisoner's Harbor, 171 to 177cm** **2290 ± 125**
340 BC
 Charcoal from Level AA, 171 to 177cm below datum. Coll 1973 by M A Glassow.
- UCR-167. Prisoner's Harbor, 88 to 102cm** **2190 ± 150**
240 BC
 Charcoal from Level S, 88 to 102cm below datum. Coll 1973 by M A Glassow.
- General Comment* (MG): UCR-130 and -132, from a strata-cut made into a cross sec of midden exposed by seacliff erosion, date intermediate levels

of SCrI-236 (UCSB designation), and UCR-131 dates lowermost stratum at same site. UCR-127 and -128, -156-159, and -164-167 are derived from a 50 to 50cm column sample from a stream-cut cross sec of Site SCrI-240 (UCSB designation). All measurements are from a datum plane 231cm below uppermost portion of column. Sequence of samples, from top to bottom, is UCR-156, -157, -128, -127, -158, -167, -159, -166, and -164. The lowermost deposits, which lie below the water table, have not yet been reached. UCR-157 and -159 appear to be anomalous dates in that they are significantly later in time than date directly above, respectively.

Farmington series

Samples were coll as part of excavations conducted by Univ of California, Davis at the Farmington loc, San Joaquin Co, (37° 50' N, 121° 10' W). Samples coll 1973 and subm by B W Hatoff, Dept Anthropol, Univ California, Davis.

<150
Modern

UCR-178. Farmington, 90 to 100cm
Charcoal from Unit 2-C, 90 to 100cm below datum.

250 ± 150
AD 1700

UCR-179. Farmington, 110 to 120cm
Charcoal from Unit 2-C, 100 to 110cm below datum.

<150
Modern

UCR-180. Farmington, 110 to 20cm
Charcoal from Unit 2-C, 110 to 120cm below datum.

General Comment (BWH): modern dates from the Farmington rock shelter do not correlate with dates obtained from nearby Farmington complex locations (Heizer, 1964; Treganza, 1952, 1955). Based on internal agreement and disparate dates for rock shelter and Farmington gravels, 2 separate archaeologic entities are involved; therefore UCR-178, -179, -180 dates should not be considered erroneous.

Northern and Central California archaeologic series

The Cultural Resources Sec, California State Dept Parks & Recreation studied several archaeologic localities in Central and Northern California in the last decade. Significance of these results will be discussed elsewhere. All samples subm by F A Riddell, Dept Parks & Recreation, California.

3630 ± 300
1680 BC

UCR-137. Commanche, Burial 58

Bone collagen from Burial 58, 150cm depth, from Site Ca-Cal-236, Commanche, California (38° 13' N, 120° 53' W) in foothills of Central California Sierra range. Coll 1963 by J J Johnson, subm by F A Riddell. *Comment (ET):* preservative on bone removed by continuous benzene extraction in Sohset extractor. *Comment (FAR):* sample should date early component at site, attributed to central California Early period, Wind-miller pattern.

- 1850 ± 150**
AD 100
- UCR-138. Sutter's Fort, Burial 9**
Human bone collagen (left femur) from Burial 9, 60cm depth, from Site Ca-SAc-34 (38° 34' N, 121° 28' W), Sutter's Fort State Historic Park, Sacramento, California. Coll 1959 by W H Olsen and L A Payen. *Comment* (FAR): sample should date early component at site attributed to Central California Middle period.
- 3300 ± 150**
1350 BC
- UCR-139. Franklin, Burial 19**
Human bone collagen (right tibia) from Burial 19, an intrusive burial 120 to 156cm depth near base of midden deposit at Site Ca-Sac-145 (38° 20' N, 121° 27' W) near Franklin in Lower Sacramento Valley, California. Coll 1971 by W E Pritchard. *Comment* (FAR): sample should date Middle period, Berkeley pattern at site.
- 2860 ± 150**
910 BC
- UCR-140. Stockton, Burial 25**
Human bone collagen (right femur) from Burial 25, 80cm depth, at Site Ca-SJo-112 (38° 01' N, 121° 20' W) near Stockton in San Joaquin Valley, California. Coll 1958 by W H Olsen. *Comment* (FAR): sample should date to terminal portion of Central California Early period, Wind-miller pattern.
- 3200 ± 150**
1250 BC
- UCR-141. Stockton, Burial 34**
Human bone collagen (left tibia) from Burial 34, 94cm depth, at Site Ca-SJo-112 (38° 01' N, 121° 20' W) near Stockton in N San Joaquin Valley, California. Coll 1958 by W H Olsen. *Comment* (FAR): sample should date to terminal portion of Central California Early period, Wind-miller pattern, but should be older than UCR-140.
- 1870 ± 250**
AD 80
- UCR-142. Thornton, Burial 1**
Human bone collagen from Burial 1, 10 to 15cm depth, at Site Ca-SJo-145 (38° 14' N, 121° 27' W) near Thornton in San Joaquin Valley, California. Coll by P Schulz. *Comment* (FAR): should date to Central California Early period, Windmiller pattern. Burial disturbed. Discrepancy with other dates for Windmiller pattern.
- 900 ± 250**
AD 1050
- UCR-143. Thornton, Burial 2**
Human bone collagen from Burial 2, 20 to 30cm depth, at Site CA-SJo-145 (38° 14' N, 121° 27' W) near Thornton in N San Joaquin Valley, California. Coll 1973 by P Schulz. *Comment* (FAR): see comments on UCR-142.
- 2500 ± 200**
550 BC
- UCR-144. Thornton, Burial 3**
Human bone collagen from Burial 3, 30 to 40cm depth, at Site Ca-SJo-145 (38° 14' N, 121° 27' W) near Thornton, in N San Joaquin Valley,

California. Coll 1973 by P Schulz. *Comment* (FAR): sample should date to Central California Early period.

865 ± 150

UCR-145. Verona, Burial 14 **AD 1085**

Wood charcoal assoc with Burial 14, 37cm depth, at Site Ca-Yol-13 (38° 47' N, 121° 37' W) near Verona, Sacramento Valley, California. Coll 1957 by F A Riddell and W H Olsen. *Comment* (FAR): sample should date upper portion of Early Phase I, Late period cemetery at site.

815 ± 150

UCR-146. Verona, Burial 65 **AD 1135**

Wood charcoal assoc with Burial 65, 81cm depth, at Site Ca-Yol-13 (38° 47' N, 121° 37' W) near Verona, Sacramento Valley, California. Coll 1957 by F A Riddell and W H Olsen. *Comment* (FAR): sample should date early phase of Central California Late period.

1850 ± 100

UCR-122/UCLA-1797. Lower Willow Creek site **AD 100**

Bone collagen from human bone from Karlo period, Lower Willow Creek site, Lassen Co, California (40° 23' N, 120° 26' W). *Comment* (FAR): sample provides another date for Elko series of projectile points in Great Basin. Obsidian hydration readings were obtained from artifacts from this burial (Riddell, 1975).

UCR-121. Fort Ross, California **>35,000**

Wood (*Sequoia sempervirens*) within alluviated stream course within basal blue clay near base of original stream bed from Fort Ross State Historic Park, Sonoma Co, California (38° 31' N, 123° 13' W). Coll 1973 by R Hatch. Subm by F A Riddell, California Dept Parks & Recreation. *Comment* (RET): interlab check sample, UCLA-1870: >40,000.

Potter Creek Cave series

Excavations conducted in Potter Creek Cave (40° 47' N Lat, 122° 17' W Long), Shasta Co, California, during 1902 and 1903 disclosed tool-like polished bone splinters, a flaked river pebble, and charcoal in apparent assoc with extinct fauna (Sinclair, 1904; Putnam, 1906). This controversial contention (see Heizer, 1964, p 119-120) was restudied with support by Univ California, Davis. Samples will help establish temporal relationship between cultural materials and Pleistocene fossils from cavern. Samples coll 1965 and subm by L A Payen, Dept Anthropol.

1915 ± 150

UCR-148. Dart shaft **AD 35**

Unid. wooden atlatl dart shaft fragment from cache in Upper Cave. *Comment* (LAP): sample helps establish hiatus believed to exist between human use of cave and deposition of extinct animal remains. Sample dates 1st autochthonous atlatl reported from N California (Payen, 1970).

UCR-150. Midden station**1910 ± 150****AD 40**

Wood charcoal from superficial midden stratum resting on yellow clay containing Pleistocene faunal remains in 2nd chamber of Upper Cave. *Comment* (LAP): sample will help establish temporal hiatus between human use of cave and extinct faunal remains.

UCR-151. Dart shaft**2010 ± 150****60 BC**

Unid. wooden atlatl dart shaft fragment from cache in Upper Cave. *Comment* (LAP): see UCR-148.

UCR-123. Sayles site**990 ± 150****AD 960**

Bone collagen from human bone, from pit excavated into sterile alluvium ca 70cm below surface of Sayles site, Crowder Canyon, San Bernardino Co, California (34° 19' N, 117° 27' W). Sayles complex was provisionally dated by Kowta to between 1000 BC and AD 1000. Coll 1973 and subm by C White, Dept Anthropol, Univ California, Los Angeles.

*B. Nevada***Fremont Point series**

Excavations were made at Fremont Point, Moapa Valley, S E Nevada (36° 39' N, 114° 35' W) to determine temporal and cultural relationships between Moapa Valley and Anasazi area of prehistoric SW United States. Coll 1973 and subm by T Soule, Dept Anthropol, Univ California, Riverside.

UCR-161. Fremont Point, pit house**880 ± 150****AD 1070**

Bone collagen from intrusive child burial in fill of burned pit house 100cm deep, assoc with P III ceramic.

UCR-162. Fremont Point, pit house**1420 ± 150****AD 530**

Charcoal from wooden beam, 90cm in fill of burned pit house.

General Comment (TS): prior to above determinations, no radiocarbon values were available for Moapa Valley at Fremont Point site. Temporal and cultural relationships between Moapa Valley and Anasazi area is indicated from Classic BM III to early P III periods.

UCR-170. Mt Grant, Nevada**1610 ± 150****AD 340**

Limber pine (*Pinus flexilis*) from grove of dead trees at 3048m on Mt Grant, Nevada (38° 20' N, 115° 30' W). Date determines time of favorable conditions for tree growth on W slope of mt range. Coll 1974 by M Lepper, Dept Botany, Univ California, Davis. Subm by M G Barbour, Dept Botany, Univ California, Davis.

C. Mexico

UCR-129. Quintero Ixtlahuacan, Colima **180 ± 100**
AD 1770

Charcoal assoc with Capacha complex from looted burial context from Quintero Ixtlahuacan, Colima, W Mexico (18° 45' N, 103° 40' W). Coll 1973 and subm by I Kelly, Tepepan, Mexico. *Comment* (RET): interlab check sample, UCLA-1888: 190 ± 60. Obviously, samples does not relate to Capacha complex, but derives from period of burial looting.

C. Egypt

UCR-126. Sesostris III funerary boat **3750 ± 110**
1800 BC

Wood from deck board from funerary boat of Sesostris III obtained in 1948 from Chicago Mus Natl Hist at request of W F Libby. *Comment* (RET): interlab check sample, UCLA-900: 3640 ± 80 (Berger *et al*, 1965), C-81: 3621 ± 180 (Libby, 1955).

II. PALEOENVIRONMENTAL SAMPLES

Black Butte series

Creosote (*Larrea divaricate*) wood samples from Black Butte, Los Angeles Co (34° 33' N, 117° 42' W) were measured to determine pattern and rate of vegetative reproduction for this species, in situations in which living creosote bushes cluster in a ring shape around dead creosote remnants. All samples coll 1974 by F Vasek and H Johnson. Subm by F Vasek, Dept Biol, Univ California, Riverside.

UCR-171. Black Butte B-1 **295 ± 150**
AD 1655
Wood, 8cm under surface, 40cm from nearest living creosote material.

UCR-172. Black Butte B-2 **280 ± 150**
AD 1670
Wood from possible root in sand mound, 30 to 40cm from surface, 100 to 130cm from nearest living creosote material.

UCR-173. Black Butte B-4 **390 ± 150**
AD 1560
Wood from possible root in sand mound, ca 30cm from surface, 110cm from nearest living creosote material. UCR-173 and -176 taken 70cm apart on same piece of wood.

UCR-174. Black Butte B-5 **640 ± 150**
AD 1310
Wood from near surface of sand mound, 100cm from nearest living creosote material. UCR-174 and -175 taken 3 to 4cm apart on same piece of wood.

UCR-175. Black Butte B-8 **730 ± 125**
AD 1220
Wood from near surface of sand mound, 100cm from nearest living creosote material. See description of UCR-174. *Comment* (FV): previous

estimate of age of remnant creosote was ca 100 yr. Based on these samples, such material can be as old as ca 700 yr. Rates of formation calculated from these samples, suggest that some other remnant structure may be as old as 6000 to 7000 yr. Such an age, if supported, would greatly aid the study of population dynamics and age structure within populations of this species of creosote.

UCR-154. Sacramento Mts **585 ± 150**
AD 1365

Wood from dead center of bush coll 100m N of Hwy I-15 in Sacramento Mts, California. Coll 1974 and subm by F Vasek, Dept Biol, Univ California, Riverside.

UCR-177. Lloyd's Meadow **520 ± 100**
AD 1430

Manzanita wood (*Arctostaphylos patula*) from Lloyd's Meadow, Tulare Co, California (35° 55' N, 118° 30' W) from granitic bedrock at 1830m alt, ca 4m from nearest living bush.

Lucerne Valley, California Paleoclimatic series

A series of middens of wood rat (*Neotoma*) were excavated to provide paleoclimatic data for late Pleistocene and Holocene periods in W Mohave Desert of interior S California. Samples were subm by T Jackson King, Jr and R E Taylor, Dept Anthropol, Univ California, Riverside.

UCR-133. Lucerne Valley Midden #15 **1610 ± 150**
AD 340

Wood twigs from bottom level of concreted wood rat midden under overhang on S facing granitic outcropping on Negro Butte (34° 29' N, 116° 46' E), Lucerne Valley, California at alt ca 1005m. Coll 1974 by T Jackson King, Jr.

UCR-134. Sunset Cove Midden **5880 ± 250**
3930 BC

Wood twigs and *Opuntia basilaria* cactus pad from bottom level of concreted wood rat midden within cave on N facing slope on Granite Mt, Lucerne Valley, California at alt ca 963m (34° 27' N, 117° 00' E). Coll 1973 by T Jackson King, Jr.

UCR-135. Lucerne Peak Midden **5800 ± 250**
3850 BC

Single twig from bottom level of concreted wood rat midden located within vertical crevice between 2 rockfaces on E facing slope near Lucerne Peak, Lucerne Valley, California (34° 33' N, 116° 59' E) at alt ca 1097m. Coll 1974 by T Jackson King, Jr.

UCR-181. Lucerne Valley Midden #13 **12,100 ± 400**
10,150 BC

Juniper (*Juniperus osteosperma*) seeds and twigs from level A, ca 1m deep into Lucerne Valley GM-5 midden (34° 29' N, 116° 46' W). Coll 1974 by T Jackson King, Jr and R E Taylor.

**11,850 ± 550
9900 BC**

UCR-149. Ord Mountain Midden

Juniper (*Juniperus osteosperma*) seeds from Level 1 of concreted wood rat midden within horizontal crevice framed between 2 boulders on Ord Mt (34° 40' N, 116° 47' E) Lucerne Valley, California at alt ca 1219m. Coll 1974 by T Jackson King, Jr.

REFERENCES

- Berger, Rainer, Horney, A G, and Libby, W F, 1964, Radiocarbon dating of bone and shell from their organic components: *Science*, v 144, p 999-1001.
- Heizer, R F, 1964, The western coast of North America, *in*: Jennings, J D and Norbeck, E, (eds), *Prehistoric man in the new world*, p 117-148, Chicago, Univ Chicago Press.
- Libby, W F, 1955, *Radiocarbon dating*, 2nd ed: Chicago, Univ Chicago Press, ix, 175 p.
- Payen, L A, 1970, A spearthrower (Atlatl) from Potter Creek Cave, Shasta County, California, *in*: *Papers on California and Great Basin prehistory*, Center for Archaeol Research, Univ California, Davis, pub 2, p 155-170.
- Putnam, F W, 1906, Evidence of the work of man on objects from Quaternary caves in California: *Am Anthropologist*, v 8, p 229-235.
- Riddell, F A, 1974, A dated burial from Honey Lake Valley, California: paper read at Great Basin Anthropol Conf, Sept 14, 1974, Carson City, Nevada.
- Sinclair, W J, 1904, The exploration of Potter Creek Cave: Univ California, pubs in *Am Archaeol & Ethnol*, v 2, p 1-27.
- Taylor, R E, 1974, University of California, Riverside radiocarbon dates I: *Radiocarbon*, v 16, p 395-401.
- Treganza, A E, 1952, Archaeological investigations in the Farmington reservoir area, Stanislaus County, California: Univ California Archaeol Survey rept 14, Berkeley.
- Treganza, A E and Heizer, R F, 1955, Additional data on the Farmington complex: Univ California Archaeol Survey rept 22, p 28-38.