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Journal of California and Great Basin Anthropology

Title

Richards, ed.: *Human Skeletal Biology: Contributions to the Understanding of California's Prehistoric Populations*

Permalink

<https://escholarship.org/uc/item/4jg650f9>

Journal

Journal of California and Great Basin Anthropology, 11(2)

ISSN

0191-3557

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Publication Date

1989-07-01

Peer reviewed

this monograph should remove any excuse for not learning this basic knowledge. In addition to careful study of this monograph, I recommend that individuals conducting research in particular regions be familiar with published and unpublished reports concerning beads found in the region and surrounding regions. Reports by the authors and individuals listed in the first paragraph of the acknowledgments section are recommended because of consistency of reporting which has resulted from interactions with Bennyhoff and cooperative efforts to discover sequences of beads, ornaments, and other artifact types through seriation of burial lots and features.

REFERENCES

King, Chester

- 1981 *The Evolution of Chumash Society: A Comparative Study of Artifacts Used in Social System Maintenance in the Santa Barbara Channel Region Before A.D. 1804.* Ph.D. dissertation, University of California, Davis.
- 1983 *Beads and Selected Ornaments.* In: *Archaeological Studies at Oro Grande, Mojave Desert, California*, Carol H. Rector, James D. Swenson, and Philip J. Wilke, eds., Chapter 5. Redlands: San Bernardino County Museum Association.



Human Skeletal Biology: Contributions to the Understanding of California's Prehistoric Populations. Gary D. Richards, ed. Salinas: Coyote Press *Archives of California Prehistory* No. 24, 1988, iv + 178 pp., 10 figs., 79 tables, 3 maps, \$9.95 (paper).

Reviewed by:

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The six articles contained in this volume are concerned with the analysis of a number

of prehistoric California skeletal samples, each author utilizing a different approach. Patricia E. Lieberman's article on biological distance based on nonmetric traits ("The Effect of Inter-observer Error on Biological Distance Measures Derived from Non-Metric Trait Research") is of particular methodological importance. She analyzes the results of three observers scoring the same California skulls for nonmetric traits. Interobserver error is found to be great enough that the resulting biological distance statistics between samples are quite different. In human osteology, little attention has been directed at interobserver error in the observation of these traits, perhaps because few workers examine the same samples. Lieberman's article serves as a good reminder that data gathered by different researchers cannot be used in a comparative regional study. Her analysis of the sources of disagreement for the traits is useful and may help future workers in their trait definitions.

Charlene Dickinson-McDonald's article ("Femoral Circumference as an Indicator of Sex in Prehistoric Central California Indian Populations") reports on a sex determination technique focusing on femoral circumference at the midshaft. She also supplies statistics on maximum femoral length, antero-posterior diameter at midshaft, and medio-lateral diameter at midshaft. A similar, but more extensive study using nine femoral measurements and nine humeral measurements, was reported by Dittrick and Suchey earlier (Dittrick 1979; Dittrick and Suchey 1986). These two studies conducted independently by Dickinson-McDonald and Dittrick and Suchey allow comparison of results using the same Central California samples at the Lowie Museum of Anthropology.

Results for the Combined Horizon and Early Horizon show similar sectioning points and percentages of correctly classified bones

for the four measurements included in both studies. The minor differences that are found can perhaps be explained by the difference in the statistical approach used in the two research efforts. Dittrick and Suchey employed the conventional technique where the sectioning point is constructed to maximize the number of correctly classified cases. Dickinson-McDonald used the midpoint between the male and female means.

It also is possible that the minor differences were due to differences in the makeup of the samples. Whereas Lieberman's interobserver error testing was intentionally based on samples constructed of exactly the same individuals, no such control occurred in the case of the sex determination studies noted above, as the two research efforts were not coordinated. The major problem with the Dickinson-McDonald standards is that the midshaft measurements that she utilizes do not predict sex as efficiently as those measurements at the ends of the bone for the Middle and Late Horizon samples. A further advantage of using the ends (included in the Dittrick-Suchey study) is that the ends are durable and often available even in poorly preserved, fragmented remains. The femoral midshaft measurements require that the whole bone be intact in order that the midshaft can be located.

Gary D. Richards ("Human Osteological Remains from CA-SCL-294, A Late Period and Protohistoric Site, San Jose, Santa Clara County, California") reports on his efforts to salvage information from skeletal remains prior to reburial. Research such as this is particularly notable since the physical anthropologist is responding to a crisis situation in which rapid data collection is needed. Richards utilizes metric analysis, nonmetric analysis and a description of pathologies in cases "which show a marked degree of bony change" (p. 108).

The sex determination techniques (essential for demographic conclusions, nonmetric and metric analysis of crania, and pathological interpretation) are not outlined. We are told only that the determination of sex is based on Bass (1971). The different techniques summarized in Bass vary from about 75% to 95% accuracy. Ironically, there are errors in the Bass 1971 text on pubic sex determination which, if followed precisely, would cause sex determination mistakes (Bass 1971:158-159). Without more specific information on Richards' technique, it is impossible to evaluate the sex diagnoses. Of particular concern are several individuals in which the stated sexes do not conform to the long-bone dimensions presented at the end of the article, using the data of long-bone sexual dimorphism in Central California. Burial No. 73 (with a femur head diameter of 38 mm.) and Burial No. 67 (with a femur head diameter of 41 mm.) fall clearly in the female range by Central California standards for the Middle and Late Horizon (Dittrick and Suchey 1986). Of 288 individuals sexed by the os pubis (using a technique shown by Suchey to be 99% accurate in a blind test of 1300 modern individuals of known age and sex), the male mean in Central California was found to be 46.7 (SD \pm 2.3) and the female mean was found to be 41.9 (SD \pm 1.8). The sectioning point was 44.28 with 90.6 percent being correctly classified. Burials No. 73 and 67 are listed as being *male* by Richards.

A major focus of the article is on description of the pathologies. Richards is fairly thorough but at times the descriptions are not precise enough that the reader can understand how the author reached his conclusions. Concerning Burial No. 4 we are told that "Trauma in the form of depressed cranial fractures appear on the frontal and parietal bones. Both fractures are well-healed and are probably unrelated to one another" (p. 108).

How does Richards come to this conclusion? Concerning Burial No. 72, the reader may want to know the dimensions of the "two large Schmorl's nodes" (p. 118). Inclusion of photographs would be of immense value.

Analysis under the threat of reburial may thwart a leisurely examination of the skeletal remains and we must keep in mind that the context of this study was not ideal. Any osteologist who attempts to obtain data from collections that are to be reburied should be credited for such efforts.

Susan C. Anton's article ("Bony Criteria for the Differentiation of Metastatic Carcinoma, Multiple Myeloma, Major Infectious Diseases and Hyperparathyroidism: A Case Study Approach") focuses on an adult female skeleton from the Hotchkiss site (CA-CCO-138) showing a variety of pathological conditions. Anton thoroughly pursues a number of avenues in her approach to differential diagnosis of paleopathology. She points to metastatic carcinoma, complicated by age-related osteoporosis and degenerative joint diseases as the most likely diagnosis. Her discussion is thorough and logical and she supplies several figures in her effort to make the argument understandable.

She is to be commended for noting her sex-determination method (specifying the use of Phenice's traits) but she utilizes *male* pubic age-determination techniques (Todd 1920; McKern and Stewart 1957) for this *female* individual. The Todd 1920 source has been left out of the bibliography but I presume she is referring to the commonly cited source on the white male pubis. At the time of her study the appropriate female standards to have been used would be Todd (1921) or Gilbert and McKern (1973).

Mark Q. Sutton's paper ("Dental Modification in a Burial from the Southern San Joaquin Valley, California"), like Anton's, focuses on a single individual. The probable

female skeleton shows a dental modification on the left mandibular lateral incisor (a single transverse groove). Sutton discusses this trait in light of the distribution of similar grooves in the western Great Basin and Central California. In spite of the brevity of this contribution, we do see an attempt to relate biological and cultural data in a meaningful fashion.

Sandra E. Hollimon's contribution ("Age and Sex Related Incidence of Degenerative Joint Disease in Skeletal Remains from Santa Cruz Island, California") is an excellent contribution in which she examines a sample of skeletal remains with a holistic approach. The ethnographic literature is examined in her efforts to explain gender-related differences in pathology. Relating the osteological findings to human behavior makes the paper not only informative but quite readable. Her presentation is clear and well organized, and, with a larger sample, her conclusions might well be definitive.

In this paper, particularly with its focus on gender analysis, the sex determination techniques should be set forth explicitly. Degenerative joint disease is well defined but the variables of age and sex need attention.

Although human osteology is one of the easiest fields in anthropology in which to operationalize techniques and variables, historically many workers have neglected to do so. In this volume we see that Lieberman's article is an attempt to correct certain deficiencies in defining the nonmetric traits. Several other authors show deficiencies in this regard. All in all, this is a challenging volume that provides us with certain answers and provokes questions for future research. Those materials that have been reburied (CA-SCL-294) cannot be examined in light of the questions posed in the review. Hopefully the materials under curation will remain that way in order that additional studies of paleo-

pathology, biological distance, and paleodemography can be attempted. Central California is one of the most valuable regions for the study of evolving biological lineages and these biological data equal in value the early hominid fossils in Africa in the eyes of this reviewer. All six authors are to be commended for spending their efforts in the study of these human remains.

REFERENCES

- Bass, William M.
1971 *Human Osteology: A Laboratory and Field Manual of the Human Skeleton*. Columbia: Missouri Archaeological Society Special Publication.
- Dittrick, J.
1979 *Sexual Dimorphism of the Femur and Humerus in Prehistoric Central California Skeletal Samples*. Masters thesis, California State University, Fullerton.
- Dittrick, J., and J. M. Suchey
1986 *Sex Determination of Prehistoric Central California Skeletal Remains Using Discriminant Analysis of the Femur and Humerus*. *American Journal of Physical Anthropology* 70:3-9.
- Gilbert, B. M., and T. W. McKern
1973 *A Method for Aging the Female *Os pubis**. *American Journal of Physical Anthropology* 38:31-38.
- McKern, T. W., and T. D. Stewart
1957 *Skeletal Age Changes in Young American Males*. Natick, MA: Quartermaster Research and Development Command Technical Report EP-45.
- Todd, T. W.
1920 *Age Changes in the Pubic Bone. I: Male White Pubis*. *American Journal of Physical Anthropology* 3:285-334.
1921 *Age changes in the Pubic Bone. II: The Pubis of the Male Negro-White Hybrid. III: The Pubis of the White Female. IV: The Pubis of the Female Negro-White Hybrid*. *American Journal of Physical Anthropology* 4:1-70.

Santa Ines Mission Excavations: 1986-1988.

Julia G. Costello. Salinas: Coyote Press series in *California Historical Archaeology* No. 1, 1989, xii + 196 pp., 63 figs., 46 tables, \$24.95 (paper).

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Coyote Press has earned a well-deserved reputation as the publisher of valuable old classics and innovative new studies in California archaeology. It continues this tradition, with the publication of Costello's *Santa Ines Mission Excavations* as the first number in its historical archaeology series. The editors could not have chosen a more auspicious example to inaugurate their new series. Costello brings a wealth of experience to this volume from her previous work at the Presidio of Santa Barbara and the San Antonio Mission.

This report consists of the results of mitigation for a new parish hall at Santa Ines Mission. Construction of the hall will occur over the original *convento*, so the outward appearance of the building will resemble the original, while preserving some of the original structure beneath it. Santa Ines was founded in 1804, nineteenth of the twenty-one Franciscan missions of Hispanic California. Its neophyte population consisted of Inland Chumash. The mission was secularized in 1835, and the remaining Indians moved to the location of the present Santa Ynez Reservation in 1855.

The archaeological research focused on the 1804-1870 period and concentrated on six major research topics. Of special interest was a study of pollen and seeds that demonstrated substantial transformation of the environment prior to 1804. Excavations indicated that the outer, more public rooms were more architec-

