

**SEX, GENDER AND HEALTH AMONG THE CHUMASH:  
AN ARCHAEOLOGICAL EXAMINATION OF PREHISTORIC GENDER ROLES**

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**ABSTRACT**

The examination of sex differences in health is discussed as a method for identifying gender in the archaeological record. Patterns of male and female health indicators can be employed to examine the relative status of genders in prehistoric societies. These indicators include activity-induced pathologies, nutritional status, differential mortality, and trauma. This paper presents results of a study of the health of prehistoric people of the Santa Barbara Channel area. Male and female health indicators are examined with reference to documentary information on division of labor among the historic Chumash. The potential of this approach for archaeological studies of gender is discussed.

The examination of gender is a method increasingly employed by archaeologists in order to understand past lifeways. A number of recent studies have used gender as an explicit analytical category for examining the archaeological record (Bacus et al. 1993; Claassen 1992; Gero and Conkey 1991; Walde and Willows 1991). Examinations of gender in the prehistory of the Santa Barbara Channel area have included studies of division of labor and gender roles (Hollimon 1990), health and disease among men and women (Hollimon 1991, 1992; Lambert 1993; Walker and Hollimon 1989; Walker and Lambert 1989), and the activities of two-spirit (third gender) undertakers among the Chumash (Hollimon 1996, n.d.).

Evidence of gender (in contrast to biological sex) in the archaeological record of the Santa Barbara Channel area is ambiguous. Previous studies of gender in this area have yielded mixed results. Ethnographic and ethnohistoric information provide evidence of economic, religious, and political roles occupied by women, men, and two-spirits (Hollimon 1990:256-270). While identification of particular roles or statuses is possible (e.g., antap practitioner, bead maker, or canoe owner), the identification of genders in the archaeological record is extremely difficult.

In an attempt to determine the existence and time depth of a sexual division of labor, I analyzed artifacts associated with male and female burials from Santa Cruz Island (Hollimon 1990). As an heuristic device, I arbitrarily assigned a "gender" to the artifacts used in food procurement and preparation, relying on ethnohistoric information about division of labor among the Chumash (Hollimon 1987). For example, grinding implements, digging stick weights, and basketry impressions were assigned a gender of "female." Similarly, projectile points, fishhooks and nets were assigned a gender of "male."

At no time during prehistory did the gender of the artifacts "match" the sexes of the burials in a dichotomous fashion. During the Early Period (3500 to 1200 B.C.), all burials had a preponderance of "female" artifacts. In contrast, all burials during the Middle (1200 B.C. to A.D. 1150) and Late Periods

(A.D. 1150 to 1804) contained more "male" artifacts (Hollimon 1991:463-464).

Two possible interpretations of this evidence follow. First, the economic and dietary importance of different food-stuffs may be reflected in the inclusion of tools associated with their procurement in the graves of females and males. During the Early Period, females and males were buried with implements used to harvest and process plant foods, while Middle and Late Period burials of both sexes contain greater numbers of tools used to collect marine resources (Hollimon 1990:193). The dietary reliance on these foods is confirmed by analyses of prehistoric skeletal remains (Walker and De Niro 1986; Walker and Erlandson 1986). Perhaps the economic importance of different foods in some part determined the kinds of artifacts placed in burials (Hollimon 1990:194).

Another interpretation is that the activities, role or status of the deceased was not symbolized primarily in the burial accompaniments. Ethnographic and ethnohistoric information concerning the Chumash emphasize that the majority of the deceased's possessions were burned at the time of death or in an annual mourning ceremony (King 1969, 1982). It is therefore possible that burial inclusions were more often items that belonged to a relative, and may reflect more about the person placing items in the grave than about the deceased individual. The relative paucity of artifacts in many Santa Cruz Island graves supports King's (1982:107) finding that burning property was the most important public recognition of a person's death (Hollimon 1990:210). King concluded that the destruction of the deceased's goods during the annual mourning ceremony was a more important means of symbolizing his or her achievements than was the placement of goods in the grave.

Another aspect of my study of division of labor in the Santa Barbara Channel area involved analysis of paleopathological data from over 800 individuals spanning all prehistoric periods. These data provided slightly better resolution with regard to the identification of biological sex, but not culturally meaningful gender. The analysis of particular diseases and nutritional indicators showed that prehistoric females from all pe-

riods suffered slightly more adverse health than did their male counterparts (Hollimon 1990:180-181, 1991:467).

In neither the artifact nor paleopathological analysis was I able to identify any individuals belonging to a third gender (two-spirits). This failure may be due to the fact that the toolkit used by these people to bury the dead was not distinct from other implements used in food procurement (Hollimon 1996). For example, digging sticks and baskets used for undertaking could not be separated from those used in the harvesting of plant foods. Additionally, the presence of digging stick weights and basketry impressions in the graves of many males reduced the probability that a two-spirit undertaker would be the only male skeleton buried with these implements (Hollimon 1996).

In the present study, I attempt to identify the gender of particular skeletons by examining specific patterns of pathological conditions, in conjunction with associated artifacts. This approach has allowed me to identify possible two-spirit burials.

Several pathological conditions were considered for their utility in identifying sex and/or gender among the skeletal remains of the Santa Barbara Channel area. Some, such as dental decay, show sex differences in their distribution, but were not specific enough to make firm identifications with regard to the sex of the skeleton (cf. Walker and Erlandson 1986). Similarly, stable isotope ratios suggest significant sex differences in diet, but male and female "signatures" have yet to be identified (cf. Walker and DeNiro 1986). Of all conditions examined, degenerative joint disease proved to be the most fruitful line of evidence.

The pattern of degenerative joint disease (DJD) in Santa Barbara Channel area skeletal remains has allowed the examination of habitual activities among these prehistoric people (Hollimon 1988, 1990; Walker and Hollimon 1989). The association between degenerative changes in the joints and habitual movements means that the everyday activities of prehistoric humans can to some extent be reconstructed through studying the distribution of osteoarthritis in their skeletons (Merbs 1983; Walker and Hollimon 1989:171).

An examination of 967 skeletons from Early, Middle and Late period sites demonstrated different patterns of DJD in the joints of males and females. Early period females had more severe DJD in their spinal columns and knees, while Early period males had more arthritic shoulders, elbows and hands (Walker and Hollimon 1989:176). During the Late period, the sexes had comparable severities of spinal DJD, and both males

and females suffered from arthritis in the legs (Walker and Hollimon 1989:180). On this basis, I examined individual male burials from Santa Cruz Island that displayed a "female" pattern of degenerative joints. It could be argued that men or two-spirits who engaged in the same habitual activities as women might display similar patterns of DJD. Nine male skeletons with moderate to severe spinal arthritis were identified; these burials spanned all prehistoric periods.

Next, I examined the artifacts associated with these burials. Four skeletons were associated with grave goods that could have been elements in the undertaker's toolkit (i.e., digging stick weights and basketry impressions). One skeleton was from the Early period, two were Middle period burials, and one dated to the Late period (Table 1).

One of these individuals proved most intriguing. A Middle period male (Hearst Museum Catalogue # 4235), aged around 18 years, had spinal DJD. As this condition is associated with advancing age, it is somewhat remarkable that a person of this age would display such degenerative changes. It is possible that during this individual's short life, the spine was placed under severe mechanical stress. One explanation is the use of a digging stick, in which the lower back is repeatedly flexed and substantial compressive forces are transmitted through the forelimbs to the vertebrae (Walker and Hollimon 1989:180). Perhaps significantly, this is one of only two males in the entire sample to be buried with both digging stick weights and basketry impressions (Table 2). The other (4010) was an Early period burial, also about 18 years old, but which did not display any pathological conditions.

While this information is intriguing, it is far from conclusive. It could be argued that the Late period males displaying spinal DJD should not be considered atypical, because spinal degeneration was comparable between Late period males and females (cf. Walker and Hollimon 1989:176). However, the two male burials associated with tools that could be part of an undertaker's kit are from the Early and Middle periods. This information, combined with the presence of spinal DJD in one of the skeletons, may indicate that these people were two-spirits.

The presence of ornaments in many of the Santa Cruz Island burials may prove to be most useful in the identification of gender among these prehistoric people. Differences in style, raw material, and placement, may display ornament classes associated with women, men and two-spirits. Future analysis of the Santa Cruz Island archaeological material will address these issues.

Table 1. Male Santa Cruz Island Burials with Undertaker's Tools.

Catalogue #	Site #	Age
3937	3	AD
3944	3	AD
3948	3	51
3993	3	62
3998	3	24
4001	3	24
4005	3	36
4008	3	36
4010	3	18
4424	83	AD
4462	83	51
4464	83	AD
4502	83	?
4510	83	AD
4221	100	51
4224	100	AD
4235	100	18
4245	100	51
4294	100	51
4355	100	36

Table 2. Male Santa Cruz Island Burials with Basket Impressions and Digging Stick Weights.

Catalogue #	Site #	Age
4010	3	18
4235	100	18

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