

## LITERATURE REVIEW

The purpose of this study is to reveal the spiritual significance of some faunal remains that are associated with ancestral Ohlone burials. This will be accomplished by discussing and employing the Direct Historical Approach (DHA) (Wedel 1938). The history and methods of faunal analysis or zooarchaeology will also be discussed. The theory of archaeology and spirituality will then be reviewed. A detailed consideration of the Ohlone history and culture and their physical and spiritual connection to animals will follow.

### **Direct Historical Approach**

Most archaeologists do not include cosmology and spiritual symbolism in their reconstructions. Yet most archaeologists who work for any length of time with Native Americans will recognize the important roles that cosmology and ideology play in that society. This sort of cognitive archaeology needs a scientific method just as ‘settlement and subsistence archaeology’ does (Marcus and Flannery 1994). In this thesis the methodological approach that will address the issue of ancestral Ohlone faunal symbolism and cosmology is called the Direct Historical Approach (DHA) (Wedel 1938).

Throughout the late nineteenth and early twentieth centuries, New World archaeologists used ethnographic data from elderly living informants, as well as ethnohistoric records, to interpret the archaeological sites they were excavating such as

Nelson 1916; Kidder 1916; Spier 1917; Parker 1916; and Parker 1922. This method entails searching for direct historical connections between ethnographically documented cultures and archaeological cultures. It was also implemented to delineate modern groups of Native Americans who then tried to trace their cultural antecedents to prehistoric groups (Johnson 1999). Classic examples of this method can be found in Arthur C. Parker's 'Archaeological history of New York (1922), William Duncan Strong's 'An introduction to Nebraska archaeology' (1935) and finally, Waldo R. Wedel (1938) gave the method its name in his article, 'The Direct-Historical Approach in Pawnee Archaeology'.

Archaeologists often use burial evidence as a basis for social interpretations, because material possessions buried with the individuals can offer information about differences in wealth and status within the community (Renfrew and Bahn 2000; Parker Pearson 1999; Galloway 1976; Crabtree 1990; King 1974; Wallace and Lathrop 1974). Those material possessions interred with the individual are also influenced by the culture's belief about death and what may come after death. When looking at the faunal remains associated with the individual burials, these elements may also reflect the spiritual and cosmological aspects of their lives and their deaths. An integral aspect of the Direct Historic Approach is the observation and identification of the burials and artifacts. Intertwined in the identification is the research of the ethnography and ethnohistory of that culture. In this thesis, an attempt will be made to identify a pattern or explanation as to why certain

faunal remains might be interred with the individual through the ethnographies and ethnohistories.

“The Direct Historical Approach (DHA) is seen as a way of working back in time from the known to the unknown” (Marcus and Flannery 1994). Wedel, for example used Pawnee ethnographic and ethnohistoric data to enhance his reconstruction of protohistoric and Upper Republican cultures of Nebraska, which preceded the historic Pawnee. Wedel emphasized he was most comfortable when the reconstructions could show continuity from the archaeological record to the ethnographic present (Wedel 1938).

DHA also concerns itself with change as well as continuity, as most archaeologists are concerned with both. For example, Strong (1933) uses DHA to document how the introduction of the horse from Europe changed Plains horticulturists into “mounted nomads”. It seems as if DHA was used quite frequently during Strong and Wedel’s generation, due to well-rounded anthropologists knew ethnology and ethnohistory as well as they knew archeology.

Sacred traditions, when not disrupted by life threatening invading forces, generally maintain a high degree of continuity. The ethnographic and ethnohistory of Mesoamerica emphasizes how conservative and slow to change, religion and ritual are in that region (Marcus and Flannery 1994). The Valley of Oaxaca is one of those areas where there was great continuity from prehistoric to Spanish Colonial times. Flannery and Marcus (1983)

used that continuity to trace the Zapotec and Mixtec civilizations from their common ancestral culture using DHA.

The Direct Historical Approach has been applied to many cultures including the research of rock art studies in southern Africa. By studying the Bushmen ethnography and trying to match patterns observed in both ethnographic and archaeological records, the results have helped end an era that regarded Bushman rock art as merely art for art's sake. The rock art can now also be explained through the Bushman's ethnography, as the visual expression of their religious beliefs (Lewis-Williams 1986, Lewis-Williams and Dowson 1990). The Direct Historical Approach has also been applied to the Zapotec of central Mexico (Marcus and Flannery 1994).

The ancient Zapotec ritual activities provide clues to their pre-Hispanic religious beliefs. Marcus and Flannery (1994) begin with the ideology, religion and ritual practices of the Zapotec, as they were described by the 16th century Spaniards. Other ethnohistories and ethnographies of rituals and spiritual beliefs are gathered. Then the archaeological sites are studied and connections are made between the artifacts, ethnohistories, and ethnographies. Many narratives were recorded which described human sacrifices that were practiced with obsidian leaf-shaped daggers in certain areas of the ritual complex. Obsidian leaf-shaped daggers were found in these same locales. Information regarding ritual blood letting with stingray spines (real and obsidian replicas) and shark teeth were also found in certain parts of the ritual complex. More narratives

referred to certain animals that were deemed appropriate for sacrifices, such as quail, dog, turkey and deer. These faunal remains were also found in the area described. This method has also been applied to other ancient cultures such as the Aztecs and in Incas for insights to their religious beliefs.

The ancestral Ohlone culture, and the historic Ohlone culture are not identical, as cultural change occurs. However, specific historical analogy is intertwined by general comparative analogy, in which similarities between ethnographic sources and archaeological subjects are the result of convergence (Lyman and O'Brien 2001). The ethnographies, ethnohistories and oral histories we have available today will not verify the spiritual beliefs of the Ohlone 2400 years BP. However, they may help establish a cultural continuity of those beliefs through the faunal remains we see associated with the individual burials.

### **Ohlone Ethnographies, Ethnohistories and Narratives**

The following are the ethnographies, ethnohistories and narratives that I will be utilizing for the Direct Historical Approach. These will reveal some of the knowledge regarding the Ohlone's (and California Native American's) actions regarding burial practices, religious beliefs, moiety connections, creation narratives, since the time of European contact.

(HOW CAN I BEST PRESENT THIS MATERIAL? In my 'Material' section I will be presenting the work directly relating to Ohlone beliefs in a table format - I will be noting how many times 'Coyote, Bear, Eagle, etc. (FOI) are mentioned and in what way – ceremonial, spiritual, moiety etc. Some of these references relate to Native Californian's and will be used as analogies to reinforce the significance of the animals to the Ohlone – not trying to say what the ancestral Ohlone we thinking or believing but that these animals have a cultural continuity of spiritual significance.)

Bruchac, Joseph

1992 Native American Animal Stories. Fulcrum Publishing, Golden, Colorado

Bruchac, Joseph

1996 Between Earth and Sky: Legends of Native American Sacred Places. Harcourt Brace & Company

Ericson, Beth.

1999 California Indians. Part of the CCSF Teaching Tolerance website.  
[www.ccsf.edu/resources/Tolerance/lessons/native03.html](http://www.ccsf.edu/resources/Tolerance/lessons/native03.html)

Field, Les W. and Alan Leventhal

2003 "What Must It Have Been Like!" Critical Considerations of Precontact Ohlone Cosmology as Interpreted Through Central California Ethnohistory. Wicazo Sa Review, Vol. 18, No. 2, The Politics of Sovereignty, (Autumn) pp.95-126. University of Minnesota Press.

Field, Les W, Cheryl Seidner, Julian Lang, Rosemary Cambra, Florence Silva, Vivien Hailstone, Darlene Marshall, Bradley Marshall, Callie Laura, Merv George Sr., and the Cultural Committee of the Yurok Tribe

2008 Abalone Tales: Collaborative Explorations of Sovereignty and Identity in Native California. Duke University Press, Durham and London

Gayton, A.H. and Stanley S. Newman.

1947 Yokuts and Western Mono Myths. University of California Publications, Vol. 5

Gieger, Maynard J., O.F.M. (Order of Friars Minor (Franciscan)), and Clement W. Meighan

1976 *As the Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813-1815*. Santa Barbara, CA: Santa Barbara Mission Archive Library.

Gifford, Edward W. and Gwendoline Harris Block.

1930 *Californian Indian Nights Entertainments*. The Arthur H. Clark Company, Glendale, California

Harrington, John P.

1942 *Cultural Element Distributions: XIX Central California Coast*. *Anthropological Records*. Volume 7, Number 1. University of California Press, Berkeley, California.

Kelsey, Harry

1985 *European Impact on the California Indians, 1530-1830*. *The Americas*, Volume 41, Number 4 (April), pp 494-511.

Kroeber, Alfred Louis

1907a *The Religion of the Indians of California*. University of California Publications in American Archaeology and Ethnology 4:#6.

Kroeber, Alfred Louis

1907b *Indian Myths of South Central California*. University of California Publications, Vol. 4, No. 4.

Kroeber, Alfred Louis

1925 *Handbook of the Indians of California*. California Book Company, Ltd. Berkeley, California.

Laylander, Don

2000 *Early Ethnography of the Californias: 1533-1825*. Coyote Press

Leventhal, Alan, Les Field, Henry Alvarez, and Rosemary Cambra

1994 *The Ohlone: Back From Extinction*. In *The Ohlone: Past and Present Native Americans of the San Francisco Bay Region*, edited by Lowell Bean. Ballena Press

Anthropological papers No. 42.

Leventhal, Alan, Les Field, Kathy Perez and John Guzman

1996 *An Ethnohistory of Santa Clara Valley and Adjacent Regions: With Ties to the Muwekma Ohlone Tribe and Their Involvement at CA-SCL-732*. In

Archaeological Investigations at Kaphan Umux (Three Wolves) Site, CA-SCL-732:  
A Middle Period Prehistoric Cemetery on Coyote Creek in Southern San Jose,  
Santa Clara County, California.

Levy, R.

1978 Handbook of North American Indians Vol. 8:California, R.F. Heizer, vol.  
ed., pp. 485-495. Smithsonian Institution, Washington D.C.

Lopez, Valentin

2005 Mutsun History. Tri-County News December.

Merriam, C. Hart.

1910 The Dawn of the World: Myths and Tales of the Miwok Indians of  
California. Cleveland: Arthur H. Clark Co.

Merriam, C. Hart.

1929 Indian Names for Plants and Animals among California and other North  
American Tribes.

Milliken, Randall

1995 A Time of Little Choice. Ballena Press Publication.

Morratto, Michael J.

2004 California Archaeology. Academic Press Inc.

Morrow, Betty

1991 People at the Edge of the World – the Ohlone of Central California. Austin:  
Bookpeople

Newell, Quincy D.

2005 “The Indians Generally Love their Wives and Children”: Native American  
Marriage and Sexual Practices in Missions San Francisco, Santa Clara, and San  
Jose.

The Catholic Historical Review. Vol. 91, No.1, January

Ortiz, Bev

1989 Mount Diablo as Myth and Reality: An Indian History Convolutud.  
American Indian Quarterly, Vol. 13, No. 4, Special Issue: The California Indians.  
(Autumn), pp. 457-470

Shipek, Florence C.

1985 California Indian Reactions to the Franciscans. The Americas, Volume 41,

Number 4. (April), pp.480-492

Skowronek, Russell K.

1986 Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California. *Ethnohistory*, Vol. 45, No.4 (Autumn), 675-708.

Yamane, Linda

1998 *The Snake that Lives in the Santa Cruz Mountains & Other Ohlone Stories*. Oyate Berkeley, California

### **Brief History of Faunal Analysis/Zooarchaeology**

The anthropological contributions of faunal remains and analysis are immense. Faunal material ranges from the fairly simple mollusk to the complex mammal and all manner of life in between. These remains are mainly derived from bone, tooth and shell of the animals. Faunal material itself is generated not only on every continent, but in every body of water as well. Faunal remains have been involved in mind and spiritual awakenings as well as historical crossroads. Man and animal have always been intertwined.

Faunal remains have revealed a great deal about human culture. Those revelations include which animals were utilized for food and tools, at what age the animals were killed, often what season they were killed and that change over time (Bickel 1981; Davis 1987; Jones 1992; Moratto 2004; Nelson 1909; Parker Pearson 1990; Reitz and Wing

2001; Gifford-Gonzalez 2006; Klein and Cruz-Urbe 1984; Shipman 1981; Brain 1983).

However, the first major contribution of faunal remains was providing proof of the antiquity of man (Davis 1987). Even as late as the 1850's, the common belief was that the world was created in 4004 BC. According to this popular scenario, man had not been created until after the latest of our geological changes and after the great extinct animals

died out. Therefore, it is not surprising when John Frere (Frere 1800) discovered flint weapons associated with 'some extraordinary bones, particularly a jaw-bone of enormous size, of some unknown animal' it was ignored by most in 1779. Similar reports came in from Germany, France (Daniel, 1975:25) and Italy throughout the 1800's. Thanks to these finds, as well as those of geologists and other scientists such as Charles Lyell and Charles Darwin, the antiquity of man became more accepted during the second half of the 1800's.

Faunal remains next contributed to rationalizing prehistoric remains into a chronology. In the 1860's Edouard Lartet recognized changes in the species composition of different cave strata in France. From the different strata he distinguished four periods according to their associated animals: (1) cave bear period, (2) woolly mammoth and Rhinoceros period, (3) reindeer period, and (4) aurochs or bison period (Daniel 1975).

The next significant contribution faunal remains made were in revealing the transition from hunting to herding. This work is often associated with two Swiss men, L Ruitmeyer and J. Ulrich Duerst. In 1862, Ruitmeyer was the first to distinguish between

bones of domesticated animals and their wild ancestors (Davis 1987). From 1904-07 Duerst (1908) studied half a ton of animal bones from a site in Turkestan. From those remains he was able to show through a reduction of size and the texture of the bone itself, the transition of wild cattle and sheep to their domestic descendents (Duerst 1908).

After World War II, animal bones at Paleo-Indian sites began to be explored. Joe Ben Wheat began excavating the Olsen-Chubuck in 1958 (Wheat 1972). Wheat produced a

seminal example of a bison kill-butchery site. He reconstructed the season, the actual hunting tactics, butchery practices from the distribution of carcass units at the site.

Wheat also used ethnographic and historical analogies in his reconstruction of this and other sites (Gifford-Gonzalez 2006). George Frison (1970) and many others followed in his tradition of detailed spatial and faunal analysis.

Faunal analysis also contributed to human origins research in Africa. C.K. Brain studied the taphonomy on australopithecines and baboons in a Transvaal cave. Through his analysis of teeth marks on the skulls of the australopithecines and baboons, Brain concluded that it was not the australopithecines that were the hunters as Raymond Dart (Dart 1953) had hypothesized. Brain put forth the theory that the australopithecines were the prey of other animals such as saber-toothed tigers or ancestors of hyenas and/or leopards (Brain 1981). His research drew younger paleoanthropologists into research on nonhuman bones (Gifford-Gonzalez 2006).

In the 1980's Pat Shipman made a tremendous impact on faunal analysis by introducing the Scanning Electron Microscopy (SEM) images to define and identify certain signatures of various bone modifiers ( Shipman 1981). By looking at the marks on the bones, the SEM could distinguish between stone and metal tools, teeth marks and environmental factors. From the 1970's through the 1990's Richard Klein and his students, especially Kathryn Cruz-Uribe, developed methods to age animals and reconstruct mortality profiles (Klein and Cruz-Uribe 1984).

Another seminal contribution to faunal analysis is Diane Gifford-Gonzalez's work on culinary processing. As Gifford-Gonzalez points out "this area of animal use has seen the most extensive technological innovations over the last two million years" (Gifford-Gonzalez 2006). Yet, little work has been done on cooked bones before Gifford-Gonzalez. During Gifford-Gonzalez's work on East Africa in the 1980's she noticed that work on bone breakage and cut marks focused almost exclusively on uncooked bone. Looking back at the historical aspect of faunal analysis one can see its development was influenced by mass butchery practices, such as the work done at the Olsen-Chubbuck site. Gender bias might have also played a role as male dominates western culture values acquisition of 'big game' over kitchen duties. By noting the various marks on the different parts of the cooked bone, one can discern what sort of cooking practices were being utilized (Gifford-Gonzalez 2006).

Anthropological theories about the relationship between humans and their environment are closely linked with zooarchaeology (Reitz and Wing 1999). Exploring environmental relationships between man and the world he lives in is a major theme in anthropology. These theories, influences the study of animal remains in archaeological research.

Zooarchaeology now includes many research orientations, which incorporate methodological research, anthropological research and biological research. Methodological research emphasizes obtaining reliable results while maximizing interpretive potential, by focusing on first-order, or taphonomic changes (Lyman 1994)

and second-order changes associated with excavation decisions and identification procedures. Anthropological research emphasizes the relationship between humans and animals focusing on continuity and change of subsistence strategies, social status, spread of domestic animals as well as in terms of symbolic or structural relationships (e.g. Altuna 1983; Cooke 1993; Lauwerier 1993; Levy 1995). Biological research is a fundamental aspect of revealing domestication of animals and can indicate environmental changes (Reitz and Wing 1999). As is illustrated, Zooarchaeology can be so much more than a 'laundry list' of animals found at a site, but the awareness of that importance must exist.

### **Methods of Faunal Analysis**

A zooarchaeologist must always be aware of the existing and extant fauna that may be found at a site. After that list of that fauna is compiled, identification of the faunal remains is the next task. It's very important for a zooarchaeologist to have a comparative faunal collection available for the best possible identification. There are many comprehensive reference books available, such as Gilbert (1990); Gilbert et al (1996); Schmid (1972); Elbroch (2006) and many more. However "the reference collection constitutes the voucher for all identification" (Reitz and Wing 1999:361). If the faunal material is not identified correctly, then all of the extrapolation of the meaning of the faunal remains will be squandered.

Whatever meaning is derived, the zoarchaeologist has to accept that the archaeofaunal

samples being analyzed are not complete (Gifford-Gonzalez 2006). The samples, at best, are representative samples and the patterns observed are likely to be results of human intervention, of various taphonomic processes, or methods of sampling, identification and analysis (Lyman 1994, Gifford-Gonzalez 2006).

The most common counting units used today are Number of Identified Specimens (NISP), Minimum Number of Individuals (MNI), Minimum Number of Elements (MNE), and Minimum Animal Units (MAU) (Gifford-Gonzalez 2006; Reitz and Wing 1999; Lyman 1994; Davis 1987). NISP is the most basic and straightforward count used in zooarchaeology. MNI is an estimate based on NISP. MNI can be based on using the

most common left or right bilaterally symmetrical bone or tooth of a given taxon.

“However, some researchers first divide all specimens from a taxon into age groups (e.g. newborn, juvenile, adult), as elements in one group logically cannot come from another, and then derive an MNI statistic for each group” (Gifford-Gonzalez 2006: Chapter 9 pp. 32). In some fauna (certain birds, elephant seals, hyenas, sheep, deer, antelope and many fish) sexual differences can also be determined MNE represents the lowest number of individual anatomical elements. One must separate out proximal from distal long bone fragments, so as not to count the same bone twice (Gifford-Gonzalez 2006; Reitz and Wing 1999; Lyman 1994; Davis 1987). MAU is used most often used to describe certain identified butchered segments. This statistic is derived from “summing all specimens (right plus left of bilaterally symmetrical elements, total of all elements for certain axial body segments (e.g. cervical vertebrae after the atlas and axis, etc.)” (Gifford-Gonzalez

2006:Chapter 9 pp. 35). Thus 12 right tibias and 30 left tibias results in a MAU of 21 ( $12+30=42/2=21$ ). Binford argues that this number produces an “undistorted conversions of the actual count of bones into animal units” (Binford 1978: 70).

### **Cognitive Archaeology/Spirituality**

Archaeology is the scientific study of the physical evidence of human cultures recovered through excavations. Cognitive archaeology is the study of past ways of

thought from material remains (Renfrew and Bahn). There is no way of determining the exact thoughts of the ancestral Ohlone, but there is a method of studying the physical and material remains which were/are symbolic to the Ohlone. This thesis seeks to prove that some faunal remains are spiritual symbols to the ancestral Ohlone.

All human cultures have spiritual and cosmological beliefs. It is thought to be one of the aspects of humanity that is unique. Most people believe that spirituality is a defining facet of human culture. Religion and spirituality are universal to human cultures.

According to Max Weber (1964) all religious systems express man’s conception of himself.

### **Symbols, Context and Meaning**

It is impossible to infer the meaning of any symbol without context and knowledge of the culture. There are potentially many meanings that will never be revealed, as the artifacts don’t directly disclose their “meaning”. The “meaning” here is defined as “the

relationship between symbols.” One can hope to establish some, but by no means all, of the original relationship between the symbols observed (Renfrew and Bahn 2000; Parker Pearson 1999; Field et al. 2008). “Symbols are used to represent and try to regulate human relations with the ‘Other World’, the world of the supernatural or the transcendental” (Renfrew and Bahn 2000:391). As the ancestral Ohlone did not have a writing system, there is no direct written evidence of the meaning of any symbols for the

ancestral Ohlone. This does not mean the ancestral Ohlone didn’t have artifacts that were symbolic to them, especially in regards to their spirituality and burial practices.

### **Grave Goods as Symbols**

“Archaeologists today recognize that the grave goods in a burial are chosen to give a representation or “construction” of the identity of the deceased individual” (Renfrew and Bahn 2000:405). Not all artifacts, especially textiles, placed with the deceased survive to be excavated. As a result what is recovered through excavation may certainly not be the complete “construction” of the identity. Material possessions buried with individuals can offer information about differences in wealth and status within a community (Galloway 1976). These items can also illustrate how the community is guided by their beliefs about death and what may follow (Renfrew and Bahn 2000; Parker Pearson 1999; de Waal Malefijt 1968).

### **Connecting Symbols with Narratives**

Most cultures have a story of the creation of the world (and human society), which accounts for many aspects of their cosmological outlook in a single or multiple narratives. The Old Testament story of the creation is one example; the creation story of the Ohlone American Natives is another. Thus we should explore oral traditions and written records

- where they survive – to help understand the stories and the symbols. –RB pp418 The written record can insure some continuity, but the oral narrative should not be discounted as more unreliable than the written word. Both the written word and oral history can be altered (Ehrman 2005).

### **Ladder of Inference**

As early as 1954, Christopher Hawkes, a British archaeologist made an important contribution to archaeological theory and the debate about the nature of archaeological evidence. His concept came out of ecological-functionalism and was termed the ‘ladder of inference’ (Hawkes 1954). According to this model, archaeology is better equipped to study certain aspects of the past than others; techniques of production would be the easiest inference and at the bottom of the ladder, followed by subsistence economies on the next rung, then social/political institutions up next, with religious institutions and spiritual life the most difficult of all at the top of the ladder (Hawkes 1954). From this, Hawkes reasoned, it is precisely those features that make humans different from other animal species that are the most difficult for the archaeologist to interpret.

Hawkes notes the ‘shadow of mental paralysis’ that his ladder of inference throws on interpretation. As the ladder goes higher and the concepts become more difficult to interpret then the archaeologist is enveloped with mental paralysis. The downside of Hawkes’ scheme is that some archaeologists have been convinced that according to “the ladder”, some questions can never be answered and, therefore should have a lower

priority in investigations, e.g. gender and symbolic expression. Ambiguity is ubiquitous in archaeology and anthropology. Archaeologists must learn to deal with it in a systematic fashion and not let it paralyze us into ignoring artifacts.

One way to deal with the ambiguity of archaeology is reach a consensus on at least the “material parameters” of an artifact or feature. These sorts of parameters include; what the artifact is made of, where it was produced, how much is available now, where it is consumed, how often, and where it is found. Scientific archaeology often stops once the material parameters have been reached, because beyond that is more ambiguous. Using the material parameters as a foundation may possibly lead to a more complete picture of a culture and not merely a list of artifacts. Especially if those materials are connected to ethnographies, ethnohistories and related narratives of a particular culture.

### **Ideotechnic**

In 1962, Lewis Binford addressed the concept of ideology in relation to archaeology when he articulated and defined artifact function classifications. Lewis Binford argues that all aspects of sociocultural systems are reflected in the archaeological

record and he coined the term 'ideotechnic' to help identify and acknowledge those ideological features and symbols that represent our humanity (Binford 1962). Binford's definition variously characterizes artifact function as technomic; the function of an object in technological situations, sociotechnic; the function of an object in social situations, and ideotechnic; the function of an object in ideological situations (Binford 1962). One

example that is often given to help clarify this definition includes the many functions of a candle; technomic (gives light), sociotechnic (birthday candles, fancy dinners), and ideotechnic (candles used in religious ceremonies or vigils to convey spiritual or ideological meaning). Certain artifacts are identified with only one function while others may represent many functions.

Lewis Binford's 'New Archaeological' systems approach did include religion, for he believed that 'formal artifact assemblages and their contexts can yield a systematic and understandable picture of total extinct cultures' (Trigger 1989: 298) of which spirituality is always present. Within his paper 'Archaeology as Anthropology', Binford (1962: 218-19) refers to 'ideological sub-systems' and also what he called 'ideotechnic artifacts' - items such as 'figures of deities, clan symbols, symbols of natural agencies, etc.', described as having their primary functional context in the ideological component of the social system (Binford 1962: 219, 220). However, beyond describing some artifacts as ideotechnic, such as bird bone whistles used in dance ceremonies, archaeologists in California don't often address the connection of the ideotechnic artifact and an ideological component of the culture.

## **The Ohlone**

The Ohlone and their territory have been described by many anthropologists - see Bean 1994; Milliken 1995; Moratto 2004; Jones and Klar 2007; Hylkema 2007; Cambra et al. 1996; Edwards and Schenk 1970; Fentress and Griffin 2004; Fitzgerald 2007;

Fredrickson 1974a; Fredrickson 1974b; Galloway 1976; Hamilton 1936; Harrington 1942; Kelsey 1985; King 1974; Kroeber 1925; Laylander 2000; Leventhal et al. 1994; Leventhal et al. 1996; Levy 1978; Hart 1929; Nelson 1909; Skowronek 1986; Wallace, W.J., and D.W. Lathrap 1974. Due to the total disruption caused by Europeans, Mexicans and Americans, the current Ohlone lifestyle and beliefs are not easily reconstructed.

## **The Ohlone Spiritual Outlook**

The ancestral Ohlone were animists, as were all ancestral California Native Americans (Bean 1992). As animists they believed that all animate and inanimate objects in the world have spirits. Like all animists they also believed in the generalized malevolent and benevolent spirits (Bean 1992: 305-308). These malevolent spirits made the world an uncertain and potentially dangerous place to live, so that individuals carried or “wore amulets or charmstones to protect themselves and behaved in order to placate each of the spirits” (Shoup 1995:17-19). Their spiritual beliefs intertwine with their social

customs to the point that they are virtually indistinguishable from one another (Harlan 1996).

Ohlone creation narratives and myths involve animals. These accounts range from explaining how the world was created, why animals look and act the way they do, how fire came to man and why death is inevitable (Kroeber 1907; Ortiz 1994). The Ohlone creation narrative involves the Eagle, Coyote and Hummingbird (Ortiz 1994; Harrington

1942). The Ohlone believed that when the world was first created, it was covered with water. Eagle picked up Coyote and along with Hummingbird flew up to the highest mountain until the water went down. After a period of time, Eagle told Coyote to go down and see if the world was dry. Coyote went down the mountain and returned to report the world was dry. Eagle then gave Coyote an abalone shell and stick for digging and told him to make children with the woman by the river. Coyote had five children who went out and built five different villages with five different languages of the Ohlone. Coyote gave useful items to the people, such as the carrying net and the bow and arrow (Ortiz 1994; Margolin 1978; Kroeber 1907). Coyote was also the character that decided the people could not live forever, but must die and make room for the next generation. Eagle was the leader, the hummingbird was the favorite and Coyote was both an object of ridicule and the originator of the culture for the people (Kroeber 1907).

Solitary prayers as well as village-wide events were performed (Skowronek 1998). “Dances were seen not only as acts of veneration, but also as activities which maintained and undistorted world order. They seem to have moments outside of sequential time,

central acts of meaning *as powerful to the believers as the Mass is to the believing Roman Catholic*” (Milliken 1991:51). In these dances the Ohlone portrayed various animals, by dressing as them and mimicking their movements (Milliken 1991; Field et al. 2007). Dances and ceremony allow energy to be drawn from both individual prayer in addition to the “collective effervescence” of group dance (Durkheim 1961).

The Franciscans noted, “The Indians have some foolish practices when they go hunting and fishing which if they fail to practice they forgo the hunt and the fishing. For instance, they plant a stick with feathers and seeds or they abstain from meat (Albella and Sainz de Lucio [1814] 1976:51).” This is similar to the practice of prayersticks, which de Waal (1968) refers to as visual representatives that a prayer has been offered and a visual reminder and a gift to the gods. This sounded foolish to the Franciscan’s because they were ignorant of the Ohlone religion or they were in denial the Ohlone were practicing another belief system.

The Ohlone also utilized Shamans. The Ohlone, like many other California Indian nations, had several types of medicine persons/shamans. Some were well versed in the use of herbs, others, such as the weather shamans, could make rain begin or end, and still others could transform themselves into grizzly bears and then back into human form. Bears have long been associated with shamans who were seen as mediators between human and spirit worlds (Holliman 2004). Some groups would raise a bear cub as a symbol of power and/or to be used in a ritualistic fashion. Eventually when the bear

became too strong and unruly they would kill it. Often they would use parts of the bear such as the paws, teeth and pelts for ritual and ceremonies (Kroeber 1925; Moratto 2004). But the most prominent shamans were the curing shamans, individuals who, according to the priests at Mission San Juan Bautista, in Mutsun Ohlone territory, "cure by chanting and by gestures and shouts" (Geiger and Meighan 1976).

Curing shamans gained knowledge and mystical power through direct contact with spiritual beings and they used their power for curing, though they also possessed the ability to foretell the future, find lost objects, call in game animals, remove ritual contamination, as well as using their supernaturally acquired powers to bring about disease, misfortune, or even death (Harrington 1942:2, 39). Some of the specifics concerning traditional Ohlone shamanism are no longer known. It is known that both women and men could become shamans, and in some instances a novice shaman obtained supernatural power during visions induced by ingesting decoctions made from the hallucinogenic plant Jimsonweed and all novices were trained by an older shamans [Reply by a missionary at Mission San Antonio as to what knowledge the natives had of medicines (Geiger and Meighan 1976:71)]. But precisely how one entered into the profession, what other means of acquiring supernatural power (other than ingesting Jimsonweed) existed, and what the shaman's relationship to her/his spirit helpers was "are all matters on which the evidence is lost" (Kroeber 1925:472).

It may have been lost on Kroeber but in 1814 there were some missionary writings regarding this very issue. “Trained specialists (shamans) performed rituals to maintain good relations with forces in the environment. Both women and men could be specialists, and they were usually older people (Amoros [1814] 1976:49-50). People believed that specialized powers came to them through association with supernatural beings or forces. Anyone particularly good at anything, such as weaving, hunting, sports, gambling, singing, fighting, or healing was assumed to be blessed by supernatural powers (Bean 1976). Dreams were a door through which invisible forces gave power to humans:

“Their principal superstition is their extremely obstinate belief in everything they dream about to such an extent that it is impossible to convince them of the unreality of their dream content” (Duran and Fortuny [1814] 1976:51).

Shamanism is based on the premise that the visible world is pervaded by invisible forces or spirits that affect the lives of the living. In contrast to animatism, which any and usually all members of a society practice, shamanism requires specialized knowledge or abilities. It could be said that shamans are the experts employed by animistic communities.

Illnesses were thought to be caused by other people or by supernatural beings. Human enemies could use witchcraft to send invisible pains into a person (Merriall 1910: 227). Healing was a process in which poison was turned back against a sorcerer or objects into the body were removed (Catala and Viader [1814] 1967:78). Some specialists used dances and songs to promote healing (Amoros [1814] 1976:49), while others used herbal

remedies (Duran and Fortuny [1814] 1976:79). In addition, the spirits of places and objects could cause sickness or environmental problems if they were not honored by correct ritual means (Catala and Viader [1814] 1976: 50-51). Thus people were careful to make gifts at power spots: “These oldsters make the rest believe that in order to prevent the devil from harming them they should offer him a little flour, which they eat, in a definite tree trunk, in this or that place” (Manriquez and Escude [1814] 1976:50).

### **Ohlone Mortuary Practice**

The ancestral Ohlone mortuary practice can be interpreted by the burials that have been excavated. Mortuary patterns that may reflect social ranking have been observed (Galloway 1976; Moratto 1984). Various positions and orientations of the dead have been noted (Blah, blah , blah). Some individuals have many artifacts associated with them and others have few or none( ). Some individuals have been buried and some have been cremated ( ).

After European contact there have been records of Ohlone mortuary practices written down by missionaries (Geiger and Meighan 1976) and passed down to through generations (Morrow 1991, Margolin 1978). When someone died, the family and close friends would express their grief openly with sobbing and wailing. If there was a widow she might crying and beat her breast. She might singe her hair and put ash on her face so she would be unrecognizable to the ghost. There were ceremonies that had to be strictly followed. The man’s ghost demanded proper treatment and would be very angry if the

ceremonies were neglected. “ At the time of death, figures from the spirit world would mixed closely with the villagers” (Margolin 1978). These were thought to be dangerous times for the people, especially the widow, who felt extremely vulnerable to the ghost.

The dead were usually buried or cremated on the same day they died (Morrow 1991, Margolin 1978). It seemed to be a community affair, as people would go through the village and collect the person’s possessions and thrown in to the pyre or into the grave (Margolin 1978). Sometimes people would throw some of their own valued possessions –beads, baskets, or featherwork garments –onto the pyre or into the grave as gifts to the

deceased. The Franciscans at Mission San Jose describe the Ohlone Funerary practices in a report of 1812: “In their mourning for and burial of their dead they do not have much ceremony beyond a great deal of weeping and groaning and wailing and wrapping the dead man in a of his clothes. Jewels, etc, which they assume will be of service to him, for they are not without some idea (albeit a rather ridiculous one) of the immortality of some part of the man” (Duran and Fortuny 1976:274).

It was believed that the dead person’s soul could now begin its journey westward across the ocean to the Island of the Dead (Morrow 1991, Margolin 1978). Here they would be greeted and received, and here they would eat, dance, and sing with the other spirits. The concept of the afterlife, although present, was not linked with any idea of punishment or reward for one’s life on earth: “They relate that their departed relatives live in other lands or on the other side of the sea (depending on which side they are); that

they play, etc., go about and dance; that they are happy etc.” (Duran and Fortuny [1814] 1976:145-146).

The Island of the Dead was not thought to be a particularly happy or sad place. For a long time after the funeral everyone, especially the relatives, acted with great care; the body had been disposed of but not the ghost. Their particular fear was that the soul of the deceased, instead of going to the land of the dead, would hover around and cause serious damage to the living. They especially feared that the ghost in its loneliness would be drawn to its old family, friends, dwelling, or possessions; and it was for this reason as

well as out of grief, that a person’s house was burned and possessions destroyed (Margolin 1978; Ortiz 1994).

Taboos did exist against speaking directly about the dead (Morrow 1982; Margolin 1978). “These natives consider it very disrespectful to talk about their deceased parents and relatives....In the course of a quarrel for greater vituperation they exclaim: “Your father is dead,” and the flame of their fury grows greater” (Amoros [1814] 1976:59).

### **Ohlone Cemeteries/Shellmounds**

### **Animal Ceremonialism**

### **Symbols in Archaeology**

“Religion entails a framework of beliefs, and these relate to supernatural or superhuman beings or forces that go beyond or transcend the everyday material world” (R&B 2000 pp 406).

The deposition of objects with the dead is sometimes assumed to indicate a belief in an afterlife, but this need not follow. In some societies, the deceased’s possessions are so firmly associated with him or her that for another to own them would bring ill luck, and there is therefore a need to dispose of them with the dead, rather than for the future use of the dead. RB pp412.

“Generally there is a consensus in archaeology about the type of data, types of techniques, and types of analyses, which are needed to substantiate the conclusions,

which most archaeologists accept. This type of archaeology does not concern itself with the ideas of cognition, ideology or meaning” (Renfrew and Zubrow 1994:190). “ Using the application of scientific method to prehistoric data, has important contributions to make regarding such topics as symbols and meaning” (Renfrew and Zubrow 1994:190).

## LITERATURE CITED

Altuna, J.

1983 On the relationship between archeo-faunas and parietal art in the caves of the Cantabrian region. In J. Clutton-Brock & C. Grigson (Eds.), *Animals and archaeology 1: Hunters and their prey*. pp. 227-238. Oxford: British Archaeological Reports Int. Series 163.

Bean, Lowell John

1994 *The Ohlone Past and Present*. Ballena Press Publication

Bennyhoff, James.A.

1953 Bone, Antler, And Claws. In *The Archaeology of the Napa Region*, edited by Robert F. Heizer, pp 265-279. University of California Anthropological Records 9(4): 295-337.

- Bennyhoff, James A. and Richard Hughes  
1987 Shell Bead and Ornament Exchange Networks Between California and the Western Great Basin. *Anthropological papers of the American Museum of Natural History*, Vol. 64(2):1-175.
- Bickel, Polly McW.  
1976 *Toward a Prehistory of the San Francisco Bay Area: the Archaeology of Sites ALA-328, ALA-12, and ALA-13*. PhD. dissertation, Department of Anthropology, Harvard University, Cambridge.
- Bickel, Polly McW.  
1981. Contributions of the University of California. Archaeological Research Facility. No. 43. *San Francisco Bay Archaeology: Sites Ala-328, Ala-13, Ala-12*
- Binford, Lewis R.  
1962 *Archaeology as Anthropology*. *American Antiquity* 28 217.
- Blackburn, Thomas  
1976 *Ceremonial Integration and Social Interaction in Aboriginal California*. In *Native Californians: A Theoretical Retrospective*, Lowell J. Bean and Thomas C. Blackburn, eds. Ballena Press. Socorro, New Mexico.
- Bokonyi, S.  
1970 *A new method for the determination of the number of individuals in animal bone material*. *American Journal of Archaeology* 74:291-2.
- Brain, C.K.  
1981 *The Hunter or the Hunted: African Cave Taphonomy*. University of Chicago Press
- Breschini, Gary S. and Trudy Haversat  
2005. *AMS Radiocarbon date on Type N1bIII *Haliotis* Ornament from CA-SCA-44, Watsonville, Santa Cruz County, California*. [Californiaprehistroy.com](http://Californiaprehistroy.com)
- Brown, Alan K.  
2001. *A Description of Distant Roads: Original Journals of the First Expedition into California, 1769-1770*. San Diego State University Press. San Diego Ca

- Bruchac, Joseph  
1992 *Native American Animal Stories*. Fulcrum Publishing, Golden, Colorado
- Bruchac, Joseph  
1996 *Between Earth and Sky: Legends of Native American Sacred Places*.  
Harcourt Brace & Company
- Cambra, Rosemary, Alan Leventhal, Laura Jones, Julia Hammett, Les Field, Norma Sanchez, and Robert Jurmain  
1996 *Archaeological Investigations at Kaphan Umux (Three Wolves) Site, CA-SCL-732: A Middle Period Prehistoric Cemetery on Coyote Creek in Southern San Jose, Santa Clara County, California*.
- Chaplin, R.E.  
1971 *The study of animal bones from archaeological sites*. New York: Seminar Press.
- Cook, Sherburne F.  
1976 *The Population of the California Indians, 1769-1970*. University of California Press, Berkeley.
- Cooke, R.G.  
1992 *Animal icons and pre-Columbian society: the Felidae, with special reference to Panama*. In M.M. Graham (ed.), *Reinterpreting prehistory of Central America*, pp. 169-208. Niwot: University Press of Colorado
- Crabtree, Pam J.  
1990 *Zooarchaeology and Complex Societies: Some Uses of Faunal Analysis for the Study of Trade, Social Status, and Ethnicity*. *Archaeological Method and Theory*, Volume 2, edited by M.B. Schiffer, pp. 155-205. Tucson: University of Arizona Press, 1990.
- Daniel, G.  
1975 *A hundred and fifty years of archaeology*. London, Duckworth
- Dart, Raymond  
1953 *The Predatory Transition from Ape to Man*. *International Anthropological and Linguistic Review*, 1, pp. 201-217.
- Davis, Simon J.M.  
1987 *The Archaeology of Animals*. Yale University Press.

- de Waal Malefijt, Annemarie  
1968 Religion and Culture: An Introduction to Anthropology of Religion.  
Waveland Press, Inc.
- Duerst, J. Ulrich  
1908 Animal remains from the excavations at Anau. In: Pumpelly, R.  
Explanations in Turkestan. Expedition of 1904 pp.341-99. Washington,  
Carnegie Institute
- Durkheim, Emile  
1961 The Elemental Forms of the Religious Life. Joseph Ward  
Swain (trans.). New York: Colier Books (first published in French, 1912; first  
published in English, 1915).
- Edwards, R and R. Schenk  
1970 Site record for CA-SMa-125. Ms. On file at Department of Anthropology, San  
Francisco State University.
- Ehrman, Bart D.  
2005 Misquoting Jesus: The Story Behind Who Changed the Bible and Why.  
HarperCollins Publisher, New York, New York.
- Elbroch, Mark Sutton  
2006 Animal Skulls: A Guide to North American Species. Stackpole Books.
- Ericson, Beth.  
1999 California Indians. Part of the CCSF Teaching Tolerance website.  
[www.ccsf.edu/resources/Tolerance/lessons/native03.html](http://www.ccsf.edu/resources/Tolerance/lessons/native03.html)
- Fentress, Jeffrey B. and Mark C. Griffin  
2004 NAGPRA Inventory and Cultural Affiliation report on the Canada College  
CA-SMa-125 (Filoli Estates) Collection, San Mateo, County, California. A  
Report Prepared for the San Mateo Community College District (San Mateo  
Community College District Account # 44001-1050-5130-675000)
- Field, Les W. and Alan Leventhal  
2003 "What Must It Have Been Like!" Critical Considerations of Precontact  
Ohlone Cosmology as Interpreted Through Central California Ethnohistory.  
Wicazo Sa Review, Vol 18, No. 2, The Politics of Sovereignty, (Autumn) pp.95-  
126. University of Minnesota Press.
- Field, Les W, Cheryl Seidner, Julian Lang, Rosemary Cambra, Florence Silva, Vivien  
Hailstone, Darlene Marshall, Bradley Marshall, Callie Laura, Merv George Sr., and the  
Cultural Committee of the Yurok Tribe  
2008 Abalone Tales: Collaborative Explorations of Sovereignty and Identity in

Native California. Duke University Press, Durham and London

Fitzgerald, Richard

2007 Forward in Santa Clara Valley Prehistory: Archaeological Investigations at CA-SCL-690 The Tamien Station Site, San Jose, California. Center for Archaeological Research at Davis Publication Number 15.

Flannery, Kent V., Joyce Marcus.

1983 The Cloud People: Divergent Evolution of the Zapotec and Mixtec Civilizations. Academic Press, New York.

Fredrickson, D.A.

1974a Cultural diversity in early California: a view from the North Coast Ranges. *Journal of California Anthropology* 1 (1): 41-53

Fredrickson, D.A.

1974b Social Change in Prehistory: A Central California Example. In *Antap, California Indian Political and Economic Organization*, edited by L.J. Bean and T.F. King. Ballena Press, Anthropological Papers 2. Ramona, California.

Frere, John

1800 Account of flint weapons discovered at Hoxne in Suffolk. *Archaologia* 13, 204-5.

Frison, George C.

1970 The Glenrock Buffalo Jump, 48CO304: Late Prehistorical Period Buffalo Procurement and Butchering on the Northwestern Plains. Plains Anthropologist Corporation, Topeka, Kansas.

Galloway, John Paul

1976 An Analysis and Comparison of Burial Data from CA-SMa-125. Master's thesis, San Francisco State University library.

Gayton, A.H. and Stanley S. Newman.

1947 Yokuts and Western Mono Myths. University of California Publications, Vol. 5

Gifford-Gonzalez, Diane

1991 Bones Are Not Enough: Analogues, Knowledge, and Interpretive Strategies in Zooarchaeology. *Journal of Anthropological Archaeology* (10), 215-254.

Gifford-Gonzalez, Diane

2006 Zooarchaeology: An Introduction. Not Published Yet.

Goldschmidt, W.

1951 Nomlaki Ethnography. University of California Publications in American Archaeology and Ethnology 42(4):303-443.

Gieger, Maynard J., O.F.M. (Order of Friars Minor (Franciscan)), and Clement W. Meighan

1976 As the Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813-1815. Santa Barbara, CA: Santa Barbara Mission Archive Library.

Gifford, Edward W. and Gwendoline Harris Block.

1930 Californian Indian Nights Entertainments. The Arthur H. Clark Company, Glendale, California

Gifford, Edward W.

1940 California Bone Artifacts. In Kroeber A.L. and R.H. Lowie, R.I. Olson (eds.) Anthropological Records. Volume 3, No. 2, pp 153-237.

Gifford, Edward W.

1947. Californian Shell Artifacts. University of California Anthropological Records 9(1):1-114.

Gilbert, B. Miles

1990 Mammalian Osteology. Missouri Archaeological Society

Gilbert, Miles B., Howard G. Savage, and Larry D. Martin

1996 Avian Osteology. Missouri Archaeological Society

Griffin, Mark, Kathryn Entriken, Julie Hodel and Theresia C. Weston

2004 Osteological Analysis of the Human Skeletal Remains from the Filoli Site, San Mateo County, California (CA-SMa-125). A Report Prepared for the San Mateo Community College District (contract account # E0300211)

Haag, W.G., and R.F. Heizer

1952 A Dog Burial from the Sacramento Valley. American Antiquity 18(3):263-266.

Hamilton, G.

1936 Some Historical Facts about Ancient Indian Mounds of San Mateo. Ms on file at the San Mateo County Historical Society.

Harrington, John P.

1942 Cultural Element Distributions: XIX Central California Coast.

Anthropological Records. Volume 7, Number 1. University of California Press, Berkeley, California.

Hawkes, Charles

1954 Archaeological Theory and Method: Some Suggestions from the Old World. *American Anthropology* 56: 153-68.

Harlan, Heather

1996 Comparative Analysis of Bird Bone Whistles: CA-ALA-328 and CA-ALA-329. Master's thesis, San Francisco State University library.

Heizer, R.F., and G.W. Hewes

1940 Animal Ceremonialism in Central California in the Light of Archaeology. *American Anthropologist* 42:587-603.

Hylkema, Mark G.

2007 Santa Clara Valley Prehistory: Archaeological Investigations at CA-SCL-690 The Tamien Station Site, San Jose, California. Center for Archaeological Research at Davis Publication Number 15.

Johnson, J.J.

1970 Archaeological Investigations at the Applegate Site (4-Ama 56). In *Papers on California and Great Basin Prehistory*, edited by E.W. Ritter, P.D. Schultz and R. Kautz, pp. 64-144. Center for Archaeological Research at Davis, Publication 2. University of California, Davis.

Johnson, Matthew

1999 *Archaeological Theory: An Introduction*. Oxford: Blackwell Publishing.

Jones, Terry L.

1992 *Essays on the Prehistory of Maritime California*. Publication Number 10.

Jones, Terry L. and Kathryn Klar (eds)

2007 *California Prehistory: Colonization, Culture, and Complexity*. Altamira Press.

Jurmain, Robert

1996 (Chapter 4 – Summary and Analysis of Human Skeletal Remains) *Archaeological Investigations at Kaphan Umux (Three Wolves) Site, CA-SCL-732: A Middle Period Prehistoric Cemetery on Coyote Creek in Southern San Jose, Santa Clara County, California*

- Jurmain, Robert  
2007 Section in Santa Clara Valley Prehistory: Archaeological Investigations at CA-SCL-690 The Tamien Station Site, San Jose, California. Center for Archaeological Research at Davis Publication Number 15.
- Kelsey, Harry  
1985 European Impact on the California Indians, 1530-1830. *The Americas*, Volume 41, Number 4 (April), pp 494-511.
- Kidder, Alfred Vincent  
1916 The pueblo of Pecos (Archaeological institute of America. Papers of the School of American archaeology) (Unknown Binding)
- King, T.F.  
1974 The Evolution and Status Ascription Around San Francisco Bay. In L.J. Bean and T.F. King (eds.) *Antap California Indian Political and Economic Organization*. Ballena Press. Ramona.
- Klein, Richard G. and Kathryn Cruz-Urbe  
1984 *The Analysis of Animal Bones from Archaeological Sites*. University of Chicago Press
- Kroeber, Alfred Louis  
1907a *The Religion of the Indians of California*. University of California Publications in American Archaeology and Ethnology 4:#6.
- Kroeber, Alfred Louis  
1907b *Indian Myths of South Central California*. University of California Publications, Vol. 4, No. 4.
- Kroeber, Alfred Louis  
1925 *Handbook of the Indians of California*. California Book Company, Ltd. Berkeley, California.
- Kroeber, Alfred Louis  
1932 *Patwin and their Neighbors*. *UCPAAE* 29(4): 253-423.
- Lauwerier, R.C.G.M.  
1993 *Bird remains in Roman Graves*. *Archeofauna* 2:75-82.
- Laylander, Don  
2000 *Early Ethnography of the Californias: 1533-1825*. Coyote Press

- Leventhal, Alan, Les Field, Henry Alvarez, and Rosemary Cambra  
 1994 *The Ohlone: Back From Extinction*. In *The Ohlone: Past and Present Native Americans of the San Francisco Bay Region*, edited by Lowell Bean. Ballena Press Anthropological papers No. 42.
- Leventhal, Alan, Les Field, Kathy Perez and John Guzman  
 1996 *An Ethnohistory of Santa Clara Valley and Adjacent Regions: With Ties to the Muwekma Ohlone Tribe and Their Involvement at CA-SCL-732*. In *Archaeological Investigations at Kaphan Umux (Three Wolves) Site, CA-SCL-732: A Middle Period Prehistoric Cemetery on Coyote Creek in Southern San Jose, Santa Clara County, California*.
- Levy, J.E.  
 1995 *Animals good to think: Bronze Age Scandinavia and Ohio Hopewell*. In K. Ryan and P.J. Crabtree (eds.), *The symbolic role of animals in archaeology*, pp. 9-19. Philadelphia: University of Pennsylvania, Museum of Archaeology and Anthropology Research Papers in Science and Archaeology, MASCA 12.
- Levy, R.  
 1978 *Handbook of North American Indians Vol. 8:California*, R.F. Heizer, vol. ed., pp. 485-495. Smithsonian Institution, Washington D.C.
- Lewis-Williams, J.D.  
 1986 *Cognitive and Optical Illusions on San Rock Art Research*. *Current Anthropology* 27, 171-178.
- Lewis-Williams, J.D.  
 1990 *On Paleolithic Art and Neuropsychological Model*. *Current Anthropology* 31, 407-408.
- Lopez, Valentin  
 2005 *Mutsun History*. *Tri-County News* December.
- Lyman, R. Lee  
 1994 *Vertebrate Taphonomy*. Cambridge University Press.
- Lyman, R. Lee and Michael J. O'Brien  
 2001 *The Direct Historical Approach, Analogical Reasoning, and Theory in Americanist Archaeology*. *Journal of Archaeological Method and Theory*, Vol. 8, No. 4. pp 303-342.
- Marcus, J. and Flannery, K.  
 1994 *Ancient Zapotec Ritual and Religion: An Application to the Direct Historical Method*. In Renfrew, C. and Zubrow, E. (eds.) *The Ancient Mind: Elements in*

Cognitive Archaeology. Cambridge: Cambridge University Press, 55-74.

Merriam, C. Hart.

1910 *The Dawn of the World: Myths and Tales of the Miwok Indians of California*. Cleveland: Arthur H. Clark Co.

Merriam, C. Hart.

1929 *Indian Names for Plants and Animals among California and other North American Tribes*.

Milliken, Randall

1995 *A Time of Little Choice*. Ballena Press Publication.

Morejohn, G.V.

197? Notes on species identification of bone whistles and tubes found by Jeff Fentress with NAGPRA analysis.

Morejohn, G.V. and John P. Galloway

1983 Identification of Avian and Mammalian Species Used in the Manufacture of Bones Whistles Recovered from a San Francisco Bay Area Archaeological Site. *Journal of California and Great Basin Anthropology* 5(1&2):87-97. Malki Museum Press.

Morratto, Michael J.

2004 *California Archaeology*. Academic Press Inc.

Morrow, Betty

1991 *People at the Edge of the World – the Ohlone of Central California*. Austin: Bookpeople

Nelson, Nels C.

1909. *Shellmounds of the San Francisco Bay Region*. University of California Publications American Archaeology and Ethnography, Vol. 7, No. 4.

Nelson, Nels C.

1916 "Chronology of the Tano Ruins, New Mexico," *American Anthropologist*, vol. 18, No. 2, pp. 159-180

Newell, Quincy D.

2005 "The Indians Generally Love their Wives and Children": Native American Marriage and sexual practices in Missions San Francisco, Santa Clara, and San Jose.

*The Catholic Historical Review*. Vol. 91, No.1, January

- Ortiz, Bev  
1989 Mount Diablo as Myth and Reality: An Indian History Convolutud.  
American Indian Quarterly, Vol. 13, No. 4, Special Issue: The California Indians.  
(Autumn), pp. 457-470
- Parker, Arthur C.  
1916 The Constitution of the Five Nations. University of the state of New York
- Parker, Arthur C.  
1922 The Archaeological History of New York, University of the  
state of New York
- Parker Pearson, Mike  
1999 The Archaeology of Death and Burial. Texas A&M University Press  
College Station
- Reitz, Elizabeth J. and Elizabeth S. Wing.  
1999 Zooarchaeology. Cambridge University Press.
- Renfrew, Colin and Paul Bahn  
2000 Archaeology: Theories Methods and Practice. Third Edition. Thames &  
Hudson.
- Renfrew, Colin and Ezra B.W. Zubrow  
1994 The Ancient Mind: Elements of Cognitive Archaeology. Cambridge  
University Press.
- Rosenthal, Jeffrey S., Gregory G. White, and Mark Q. Sutton.  
2007 The Central Valley: A View from the Catbird's Seat. In California Prehistory,  
edited by Terry L. Jones and Kathryn A. Klar, pp147-163 Alta Mira Press, Lanham.
- Schmid, Elisabeth  
1972 Atlas of Animal Bones: For Prehistorians, Archaeologists and Quaternary  
Geologists. Elsevier Publishing Company, Amsterdam-London-New York.
- Shipek, Florence C.  
1985 California Indian Reactions to the Franciscans. The Americas, Volume 41,  
Number 4. (April), pp.480-492
- Shiple, William F.  
1978 Native Languages of California. Pp. 80-90 in Handbook of North American  
Indians, Volume 8. Robert F. Heizer, editor. Washington, D.C.: Smithsonian  
Institution.
- Shipman, Pat

1981 Applications of Scanning Electron Microscopy to Taphonomic Problems. *Annals of the New York Academy of Sciences*. Vol. 376, Issue The Research Potential of Anthropological Museum Collections, Pp 357-385

Shotwell, J.A.

1955 An approach to the paleoecology of mammals. *Ecology* 36(2):327-337.

Shoup, Lawrence H.

1995. Inigo of Ranch Posolmi: The Life and Times of Mission Indian and His Land. Oakland, CA: Archaeological/Historical Consultants, for Tasman Corridor Archaeological Project, Santa Clara County Transportation Agency, San Jose, CA.

Simons, Dwight D.

2007 Chapter in Santa Clara Valley Prehistory: Archaeological Investigations at CA-SCL-690 The Tamien Station Site, San Jose, California. Center for Archaeological Research at Davis Publication Number 15.

Skowronek, Russell K.

1986 Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California. *Ethnohistory*, Vol. 45, No.4 (Autumn), 675-708.

Spier, Leslie

1917 An Outline for a Chronology of Zuni Ruins. *Anthropological Papers of the American Museum of Natural History*, New York. Vol. 18, No. 3. Pp. 207-332.

Strong, William Duncan

1933 The Plains Culture in the Light of Archaeology. *American Anthropologist*. April-June.

Strong, William Duncan

1935 An Introduction to Nebraska Archeology. Contained in *Smithsonian Miscellaneous Collections*, Volume 93, Issue 10 pages 323.

Trigger, B.

1989 *A History of Archaeological Thought*. Cambridge: Cambridge University Press.

Wallace, W.J., and D.W. Lathrap

1974 West Berkeley (CA-ALA-307): A Culturally Stratified Shellmound on the East Shore of San Francisco Bay. *Contributions of the University of California Archaeological research Facility* 29.

Weber, Max

1964 *The Sociology of Religion*. Ephraim Fischhoff (trans.). Boston: Beacon Press.

Wedel, Waldo R.

1938 Direct-historical approach in Pawnee archaeology. Smithsonian Institution.  
Volume 97, Number 7

Wheat, Joe Ben

1972 The Olsen-Chubbuck site: a Paleo-Indian bison kill. American Antiquity,  
vol. 37, no.1.

Wing, Elizabeth S., and Antoinette B. Brown

1979 Paleonutrition: Method and Theory in Prehistoric Foodways. Academic  
Press.

Yamane, Linda

1998 The Snake that Lives in the Santa Cruz Mountains & Other Ohlone Stories.  
Oyate Berkeley, California