PROTOHISTORIC CALIFORNIA: PARADISE OR PANDEMIC?

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ABSTRACT

In this paper, we question the common perception that the Protohistoric period in Native California was a time of relative tranquility before the devastation wrought by Spanish, Mexican, and American colonization. We do so by: (1) summarizing the extent of European contacts with California's coastal peoples during the era of maritime exploration; (2) examining the possibility that potentially devastating Old World diseases were transmitted to Native Californians during those encounters; and (3) by outlining some problems that inhibit the archaeological study of the potential effects of protohistoric contacts. We believe the potential for protohistoric Old World disease epidemics was quite high in California, and that tangible evidence for such impacts should be searched for area by area and tribe by tribe. Because evidence for acute epidemic disease is rarely found on human skeletons, archaeological studies of settlement patterns, cemetery data, craft specialization, and other cultural markers may hold the key to understanding if, how, and when Old World diseases impacted various Native California tribes.

> *The destruction of the Indians of California occurred in a series of steps, separated geographically as well as temporally. The first of these stages accompanied the settlement of the coastal strip from San Diego to San Francisco, and was associated distinctly with the development of the Catholic missions. This phase may be considered as beginning with the expedition of Gaspar de Portola and Junipero Serra in 1769...* (Cook 1978:91).

As time distances us from the past, there is a tendency to romanticize and idealize certain aspects of history. Such historical romanticism was exemplified by the "Ramona Myth" (Jackson 1925), which portrayed California's Mission period as an idyllic paradise. Through historical, ethnographic, and archaeological research, scholars have effectively dismantled this myth piece by piece. Today, the motives of European colonizers may be debated, but the virtual genocide imposed on Native Californians during the historical period cannot be denied. Until recently, historical romanticism may have significantly affected our interpretations of California's Protohistoric period (A.D. 1542 to 1769), as well.

New World Peoples and Old World Diseases

Anthropologists have debated the timing and magnitude of European impacts on Native American peoples for decades. Much of this debate has focused on the impacts of Old World epidemic diseases. One school of thought views such diseases as having little or no effect on Native Americans prior to sustained European settlement, while the other proposes that Old World diseases devastated many Native American societies years or even decades before detailed historical and ethnographic accounts were collected. The more ardent proponents of the latter view believe many Native American tribes lost 90% or more of their people before the first historical censuses, that the magnitude of death and culture change during the Protohistoric period has been greatly underestimated, and that such losses constitute an "American Holocaust" (Stannard 1992; Thornton 1987). This debate also has major implications for archaeologists, who rely heavily on the direct historical approach and ethnographic models to reconstruct precontact Native societies. In recent years, this debate has been revitalized by the 500th anniversary of Columbus' "discovery" of America, by the desire of many anthropologists to more effectively integrate Native American perspectives into our historical reconstructions, and by provocative books such as Ramenofsky's (1987) *Vectors of Death*, Thornton's (1987) *American Holocaust*, Stannard's (1989) *Before the Horror*, and Thomas' (1989, 1990, 1991) *Columbian Consequences* series.

So far, archaeological data from California have been marginal to this debate, although the potential for protohistoric disease epidemics is sometimes briefly mentioned. The lack of attention to the possibility that such epidemics occurred in California is surprising given that the Pacific Coast was the scene of some of the earliest and most sustained contacts in western North America. Due to their lack of immunological

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resistance to Old World diseases, their generally high population densities, large village sizes, and extensive socioeconomic interaction, California Indians would have been highly susceptible to the spread of Old World epidemic diseases.

We recently published a paper that examines the possibility that early Spanish maritime expeditions transmitted Old World diseases to the Chumash and their neighbors during the 16th and 17th centuries A.D. (Erlandson and Bartoy 1995). Among the early European expeditions that contacted the Chumash, Cabrillo's voyage of A.D. 1542-3 and Vizcaino's voyage of A.D. 1602-3 had the most sustained contact with southern California's coastal tribes. Cabrillo and his men wintered among the Chumash on the northern Channel Islands and Vizcaino's crew also had extensive contacts with the Chumash and their neighbors.

In northern California, Sir Francis Drake and his crew spent five weeks among what appear to have been coastal Miwok peoples in Drakes Bay in A.D. 1579 (see Heizer 1947). In A.D. 1595, Cermeno and his men also spent about five weeks among the coastal Miwok (Wagner 1929). Both expeditions had extensive contacts with Indian people, exchanging clothes, food, and other goods.

Some scholars believe there were additional contacts between Pacific Coast tribes and undocumented Manila galleon ships, Portuguese ships, or other maritime expeditions (e.g., Walker and Hudson 1993; Woodward 1986). Muche (1978, 1981), for instance, believes the Spanish galleon *San Pedro* wrecked off the coast of Santa Catalina Island, followed by two salvage expeditions that may have used native divers to help salvage the ship's cargo (Johnson 1988:3). Woodward (1986:253) also argued that a Portuguese vessel wrecked on the Oregon coast between A.D. 1630 and 1638, part of a trans-Pacific trade route linking Macao, China, Japan, and Peru. For the Oregon coast, Minor (1995) stated that the "introduction of epidemic diseases in protohistoric times led to rapid decline in the native population, with the result that the complexity of Southern Northwest Coast societies is almost certainly underestimated in the limited ethnographic record."

Overland disease epidemics spreading northward from central Mexico may also have affected Native Californians during the 16th and 17th centuries A.D. (Walker and Hudson 1993:20-21). By A.D. 1520, Old World diseases already were devastating the Aztecs and their neighbors (Cook and Lovell 1991). In 1535-36, a small group led by Cabeza de Vaca traveled from Texas, through northern Mexico, to the Pacific Coast (Bancroft 1884:7). In 1539, a Spanish expedition led by Marcos de Niza contacted Pueblo peoples, and Coronado explored the American Southwest with 300 Spaniards and 800 Mesoamerican Indians in 1540-42 (Gutierrez 1991:45). In 1598, soldiers, civilians, and priests led by Don Juan de Onate established Franciscan missions among the Pueblo peoples of New Mexico. These missions became centers of disease spread, with at least 15 Old World disease epidemics (smallpox, measles, etc.) devastating Indian peoples of New Mexico between 1636 and 1770 (Stodder and Martin 1992:66). Nineteen missions founded by the Jesuits in Baja California from 1697 to 1768 also hastened the northward spread of Old World diseases (Jackson 1994).

Did Old World diseases devastate California Indians during the Protohistoric period? The answer to that question is not clear, but the question merits serious consideration. The Spanish and other early European maritime expeditions sailed out of Pacific Coast ports in Mexico and Southeast Asia that were rife with disease. During several extended stays on the California coast, they exchanged a variety of goods with native peoples, brought them aboard their ships, ate with them, worked with them, and occasionally fought with them. Meanwhile, land-based Spanish exploration and colonization in northern Mexico, Baja California, and the Southwest brought Old World diseases to California's borders.

Infectious diseases such as smallpox, influenza, and tuberculosis could have been transmitted to California Indians either through direct contacts with Europeans or indirect contact with intermediate tribes. It seems even more likely, however, that venereal diseases like syphilis and gonorrhea were transmitted directly to coastal peoples by the members of early European maritime voyages like Cabrillo's and Drake's. The all-male crews of these ships—isolated on long sea voyages, armed with archaic attitudes about women, non-Christians, and non-European cultures, and possessing European trade goods coveted by the Indians—must surely have had sexual encounters with Native Californians. If venereal diseases were introduced to California's populous coastal tribes at this time, they may have spread like wildfire from town to town, and possibly from tribe to tribe.

Today syphilis and gonorrhea are easily cured diseases. Even if left untreated, they progress relatively slowly. Yet, they had rapid and deadly effects in Hawaii in the late 1700s, sweeping through the islands in a few short years, killing, disfiguring, and sterilizing tens of thousands of Native Hawaiians (see Stannard 1989). While there is some evidence that a form of syphilis may have been present in the Americas prior to European contact, new and virulent strains developed in the Old World could have devastated Native Americans, just as they did during the historic period.

Testing Models of Protohistoric California Demography

The sketchy written records for the Protohistoric period only hint at the possible effects of early European contacts on California's coastal tribes. Given the nature of such contacts, Native Californian demography at the time, and previous models of epidemic disease transmission, we proposed three models for the Chumash region that are equally applicable elsewhere in California (Erlandson and Bartoy 1995): (1) no transmission, the prevailing opinion of most California historians and anthropologists; (2) limited transmission, where epidemics occurred but were limited in geographic extent and scale (San Miguel Island, for instance, or the Northern Channel Islands); (3) regional devastation, where epidemics spread over wide areas such as the malaria outbreak in Oregon and Northern California in the 1830s.

Testing these models archaeologically is not as easy as it might seem. As Ortner (1992) has pointed out, acute epidemic diseases are rarely expressed on the human skeleton. "This means that most of the great epidemics that have punctuated human history . . . leave . . . non-specific and indirect evidence in skeletal samples." A second problem is that many coastal California cemeteries were excavated long ago by antiquarians who kept poor records. Many of these collections remain undated or poorly dated. Even collections that have been radiocarbon dated need to be calibrated to calendar years to identify protohistoric components (Erlandson and Bartoy 1995)—a step taken only recently by most California archaeologists. Finally, European trade goods are often uncommon in sites occupied in protohistoric times.

Instead we must look carefully at age-sex ratios for cemetery populations, changes in burial patterns, and other attributes that are increasingly difficult to conduct in today's political climate. Even with the best available cemetery data, however, the patterns of devastation wrought by Old World epidemic diseases may often be difficult to identify. Accounts of the 1830-33 malaria epidemic in California and Oregon describe the random dispersal of the dead through the countryside (Cook 1955). Years after the epidemic had subsided, travelers continued to encounter the scattered bones of its victims.

Fortunately, there are other avenues of study that can inform us about the possible effects of protohistoric disease epidemics. On the Northwest Coast, as epidemics devastated historic tribes, many villages or even entire large bays were abandoned when survivors resettled in large aggregation villages (Inglis and Haggarty 1987; Erlandson et al. 1992). Studies of occupational continuity and settlement size across the Late Prehistoric, Protohistoric, and Historic periods might reveal a great deal about demographic changes among California's coastal tribes. Due to the loss of labor, knowledge, and leadership, economic disruptions associated with population loss should also be evident in the archaeological record. For instance, we might expect to see local or regional reductions in the intensity of craft specialization and intervillage trade, the accumulation of wealth and status markers related to social ranking, and other signs of cultural complexity. Unlike the unrelenting and widespread impacts of sustained historical contacts, however, the demographic and socioeconomic effects of periodic protohistoric epidemics may have been more localized and reversible, with native populations and economies rebounding during long periods between European contacts.

Considering the Validity of the Ethnographic Record

In considering the magnitude of protohistoric population loss and culture change in North America, Dunnell (1991:572) suggested that:

> The dramatic loss of population in the New World in consequence of contact with Europeans is not just another fact to be discussed, modified, and integrated in the existing anthropological lore of the Americas. That huge losses did occur seems now firmly established, although the precise magnitude, regional variability, and exact timing has yet to be worked out in detail. As a consequence, the general assumption of continuity between ethnographic/historical accounts of native Americans and the people responsible for the archaeological record is no longer valid. A collapse must be assumed to have taken place unless it can be explained how and why particular areas escaped the devastation of epidemic disease.

In California, there presently is little direct evidence for devastating population losses and socioeconomic changes during the Protohistoric period. Whether this lack of evidence is due to some of the analytical problems outlined above, the fact that few archaeologists appear to have searched systematically for such evidence, or to the absence of devastating protohistoric disease epidemics remains to be seen. Aside from a simple quest for historical "truth," there are compelling reasons to study the possibility that protohistoric disease epidemics significantly affected California Indians. Ethnographically-derived models of Native Californian settlement, subsistence, and social organization permeate our research, providing the baselines for many of our interpretations. The direct historical approach has been used effectively to study aspects of the later periods of California prehistory—Richard Gould's (1966) work among the Tolowa and Chester King's (e.g., 1971, 1975, 1990) work among the Chumash are just two examples that come to mind. However, very few anthropologists or historians seem to have fully appreciated the magnitude of early European impacts on California's Native peoples and just how early these impacts may have occurred.

Working in Southeast Alaska in the mid-1980s, Moss (1989) used a settlement model based on the classic ethnographic seasonal round to generate expectations about the different contents of village, fort, and fish camp sites. Analysis of the recovered faunal remains found little evidence for intersite variability, however, suggesting that the seasonal round resulted from postcontact population losses, the abandonment of numerous villages, and the increased travel time required to reach traditional resource territories after resettlement in now distant aggregation villages (Moss 1989). In British Columbia, Inglis and Haggarty (1987) and others also found that ethnographic models of settlement and land use did not fit well with precontact archaeological data (Moss and Erlandson 1995).

This leads us to conclude that archaeologists should be extremely careful in using ethnographic records to structure interpretations of the precontact era. It may be more fitting, in fact, to do just the opposite—to use archaeological data as baselines with which to understand the timing and magnitude of the devastating impacts of European colonization on Native Californians—and to test the validity of ethnographically derived models. We should be careful, however, not to throw the proverbial baby out with the bath water. Historical and ethnographic accounts have contributed tremendous amounts of data about Native California societies. These "snapshots in time," whether or not they are representative of the prehistoric or protohistoric past, provide invaluable information about the con-

tinuous process of cultural development evident among California Indians over 11,000 years or more.

Summary and Conclusions

Was the Protohistoric period a final respite in paradise prior to the onslaught of cultural devastation wrought by European colonization (see Castillo 1978:100; Kelsey 1985)? Or were California Indians devastated by Old World diseases during the Protohistoric period? Only further research can answer these questions. However, many California Indian groups had dense populations that lived in closely-spaced and relatively large and permanent communities, with intensive social and economic interactions with their neighbors. These demographic characteristics, along with the lack of prior exposure to a host of Old World diseases, would have left them highly susceptible to devastating epidemics (Ramenofsky 1987).

Documented protohistoric contacts between European maritime expeditions and a number of coastal tribes—particularly the Miwok, Chumash, Tongva (Gabrieleno), Luiseno, Ipai, and Tipai—were extensive enough to conclude that the possibility of disease transmission was high. A frontier of Spanish colonialism also was encroaching on California from the south and east at this time, and it is possible that Old World disease epidemics spread through Indian communities well in advance of actual Spanish settlement. For the Protohistoric period, direct transmission seems most likely for venereal diseases like syphilis and gonorrhea, but non-venereal diseases (smallpox, tuberculosis, influenza, etc.) may also have been communicated.

At present, there is no "smoking gun" that unequivocally demonstrates that Old World disease epidemics took place in protohistoric California. Even if such direct evidence eventually is found, it will take considerable research to determine the nature and scale of the impacts of such epidemics on Native Californians. For now, we believe there is enough circumstantial evidence to warrant a systematic search for more data. Certainly, California archaeologists need to consider: (1) the possibility that Old World diseases decimated many California tribes significantly before detailed historical accounts, population censuses, or ethnographic studies were made; (2) that such epidemics may have affected some California tribes as early as A.D. 1540 to 1605; (3) that these could have had devastating impacts on some of California's populous and sedentary tribes; (4) that the evidence for such disease epidemics is not likely to be found on human skeletons; and (5) that other archaeological expressions of epidemics and related cultural changes may be almost as elusive. Finally, we believe California archaeologists should reexamine existing archaeological data—area by area and tribe by tribe—to assess the possibility that the Protohistoric period was one of pandemic rather than paradise. We owe it to the survivors to search for the truth, and to rewrite the history books if they turn out to have been wrong.

Notes

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REFERENCES CITED

Bancroft, Hubert H.
1884 *History of California*, 1542-1800. A.L. Bancroft and Company, San Francisco.

Castillo, Edward D.
1978 The Impact of Euro-American Exploration and Settlement. In *Handbook of North American Indians Vol. 8: California* edited by Robert F. Heizer, pp. 99-127. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Cook, Noble David and W. George Lovell
1991 *Secret Judgments of God: Old World Disease in Colonial Spanish America.* University of Oklahoma Press, Norman.

Cook, Sherburne F.
1955 The Epidemic of 1830-1833 in California and Oregon. *University of California Publications in American Archaeology and Ethnology* 43(3):303-326.
1978 Historical Demography. In *Handbook of North American Indians Vol. 8: California*, edited by Robert F. Heizer, pp. 91-98. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Dunnell, Robert C.
1991 Methodological Impacts of Catastrophic Depopulation on American Archaeology and Ethnology. In *Columbian Consequences, Vol 3: The Spanish Borderlands in Pan-American Perspective*, D. H. Thomas, editor, pp. 561-580. Smithsonian Institution, Washington D.C.

Erlandson, Jon M. and Kevin Bartoy
1995 Cabrillo, the Chumash, and Old World Diseases. *Journal of California and Great Basin Anthropology* 17.

Erlandson, Jon, Aron Crowell, Christopher Wooley, and James Haggarty
1992 Spatial and Temporal Patterns in Alutiiq Paleodemography. *Arctic Anthropology* 29(2):42-62.

Gould, Richard A.
1966 Archaeology of the Point St. George Site and Tolowa Prehistory. *University of California Publications in Anthropology* 4. Berkeley.

Gutierrez, Ramon A.
1991 *When Jesus Came, the Corn Mothers Went Away: Marriage, Sexuality, and Power in New Mexico, 1500-1846.* Stanford University Press.

Heizer, Robert F.
1947 Francis Drake and the California Indians, 1579. *University of California Publications in American Archaeology and Ethnology* 42(3):251-302. Berkeley.

Inglis, Richard I. and James C. Haggarty
1987 Cook to Jewitt: Three Decades of Change in Nootka Sound. In: *Le Castor Fait Tout: Selected Papers of the Fifth North American Fur Trade Conference*, edited by B. Trigger, T. Morantz, and L. Dechene, pp. 193-222. Montreal.

Jackson, Helen Hunt
1925 *Ramona, A Story.* Little, Brown, and Co., Montreal.

Jackson, Robert H.
1994 *Indian Population Decline: The Missions of Northwestern New Spain, 1687-1840.* University of New Mexico Press, Albuquerque.

Johnson, John R.
1988 The People of Quinquina: San Clemente Island's Original Inhabitants as Described in Ethnohistoric Documents. Ms. on file, Santa Barbara Museum of Natural History.

Kelsey, Harry
1985 European Impact on the California Indians, 1530-1830. *The Americas* 41(4):494-511.

King, Chester D.
1971 Chumash Inter-Village Economic Exchange. *Indian Historian* 4:31-43.
1975 The Names and Locations of Historic Chumash Villages. *Journal of California Anthropology* 2:171-179.
1990 *Evolution of Chumash Society.* Garland Publishing, New York.

Minor, Rick
1995 Southern Northwest Coast Culture Sequence. In *Encyclopedia of North American Archaeology.* Garland Publishing, New York (in press).

Moss, Madonna L.
1989 *Archaeology and Cultural Ecology of the Prehistoric Angoon Tlingit.* Ph.D. dissertation, University of California, Santa Barbara. University Microfilms International, Ann Arbor.

Moss, Madonna L. and Jon M. Erlandson
1995 Reflections on North American Pacific Coast Prehistory. *Journal of World Prehistory* 9(1) (in press).

Muche, James F.
1978 Manila Galleon San Pedro: Second Survey. *Search: The Journal of Undersea Archaeology, Maritime History, and Related Fields of Study* 3(2):5-14.
1981 Manila Galleon San Pedro: Subsequent Surveys. In *In the Realms of Gold: The Proceedings of the Tenth Conference on Underwater Archaeology*, edited by W. A. Cockrell, pp. 45-56. Fathom Eight, San Marino.

Ortner, Donald J.
1992 Skeletal Paleopathology: Probabilities, Possibilities, and Impossibilities. In *Disease and Demography in the Americas*, edited by J. W. Verano and D. H. Ubelaker, pp. 5-14. Smithsonian Institution, Washington D.C.

Ramenofsky, Ann F.
1987 *Vectors of Death: The Archaeology of European Contact.* University of New Mexico Press, Albuquerque.

Stannard, David E.
1989 *Before the Horror: The Population of Hawaii on the Eve of Western Contact.* Social Sciences Research Institute and University of Hawaii Press, Honolulu.
1992 *American Holocaust: Columbus and the Conquest of the New World.* Oxford University Press.

Stodder, Ann L. W. and Debra L. Martin
1992 Health and Disease in the Southwest Before and After Spanish Contact. In *Disease and Demography in the Americas*, edited by J. W. Verano and D. H. Ubelaker, pp. 55-73. Smithsonian Institution, Washington D.C.

Thomas, David Hurst (editor)
1989 *Columbian Consequences, Vol. 1: Archaeological and Historical Perspectives on the Spanish Borderlands West.* Smithsonian Institution, Washington D.C.
1990 *Columbian Consequences, Vol. 2: Archaeological and Historical Perspectives on the Spanish Borderlands East.* Smithsonian Institution, Washington D.C.

Thomas, David Hurst (editor) (continued)
1991 *Columbian Consequences, Vol. 3: The Spanish Borderlands in Pan-American Perspective.* Smithsonian Institution, Washington D.C.

Thornton, Russell
1987 *American Indian Holocaust and Survival: A Population History Since 1492.* University of Oklahoma Press.

Wagner, Henry R.
1929 *Spanish Voyages to the Northwest Coast of North America in the Sixteenth Century.* California Historical Society, San Francisco.

Walker, Phillip L. and D. Travis Hudson
1993 *Chumash Healing: Changing Health and Medical Practices in an American Indian Society.* Malki Museum, Banning.

Woodward, John A.
1986 *Prehistoric Shipwrecks on the Oregon Coast?: Archaeological Evidence.* Contributions to the Archaeology of Oregon 1983-1986, edited by Kenneth M. Ames, pp. 219-264. Association of Oregon Archaeologists Occasional Papers No. 3.