

NW 3272
28th

ABSTRACTS OF PAPERS PRESENTED AT THE
TWENTY-EIGHTH ANNUAL MEETING OF THE
NORTHWEST ANTHROPOLOGICAL CONFERENCE,
MARCH 1975 -- SEATTLE, ^{Central} COMMUNITY COLLEGE, SEATTLE

Northwest Anthropological Research Notes

Vol. 10, no. 1, pp. 33-76, Spring 1976

ABSTRACTS OF PAPERS PRESENTED AT THE
 TWENTY-EIGHTH ANNUAL MEETING OF THE
 NORTHWEST ANTHROPOLOGICAL CONFERENCE
 March 1975, Seattle, Washington

Socio-Cultural Anthropology

The uses of ethnohistory: are we in a double bind?

PAMELA T. AMOSS
 University of Washington

Ethnohistorical research by anthropologists into the background of contemporary Native American groups is currently respectable in both academic and tribal circles because such work is thought to be both scientifically sound and relevant to the needs of Native Americans. But we have not solved a basic problem of conflicting goals. In some cases the needs of Native Americans may not be served by ethnohistorical work and a presentation suitable to their needs may not satisfy academic canons. Such is likely to be the case in the reconstruction of religious history. The scientific community requires explanations which follow the historical paradigm; the needs of participants in a religious group (whether Native American or not) require an explanation according to the mythic paradigm. Although both are equally valid kinds of explanation they will coincide only sporadically. The historical paradigm utilizes unequivocal explanations, definite chronologies, and non-supernatural causation. The mythic paradigm requires open explanations which can serve a variety of social and political needs, loose chronologies, and supernatural causation. The incompatibility of the two approaches is emphasized when one attempts to make a simultaneous presentation to both participants and outsiders. The problems encountered in reconstructing the history of the Indian Shaker Church illustrate the dilemma.

*Another look at the "fever and ague" of western Oregon
 in the early 1830s*

ROBERT T. BOYD
 Portland State University

Identification of the mysterious epidemic that wiped out the bulk of the Indian population of the lower Columbia and Willamette valleys has never been certain. An early study of Sherburne Cook (1954) proposes malaria, while a later article by Herbert Taylor (1960) suggests that it was influenza. A detailed survey of all available eyewitness accounts of the disease as well as later commentaries suggests that Cook's earlier evaluation is, for the most part, correct. Symptoms, geographical and seasonal occurrence, and the use of quinine all recall malaria. Complications among the Indians - namely their mode of treatment plus the presence of secondary illnesses, probably accounts for their unusually high death rate. Clarification of the nature of the epidemic facilitates further hypotheses about changes in native population structure at the time.

Malinowski's theory of war

LARCIE BURNETT
Washington State University

While many of Bronislaw Malinowski's students and contemporaries have commented on other aspects of his work, little has been said about his thoughts on war. In his later writings Malinowski was outspoken on the subject of war. His theory of war may be divided into three aspects: (1) war was not biologically determined but existed as acculturally derived phenomena; (2) historically, some wars were culturally productive; and (3) total war must be abolished. Brief discussions of his theory of needs and his explanation of aggression are presented as they pertain to his theory of war. It is interesting to note that his theoretical approach is not strictly functional, but that instead he utilizes an evolutionary framework for his theory. It is concluded that while Malinowski's analysis of war has not been significant to the study of war, his theory is important as a part of his overall contribution to anthropology.

Project Eugene: anthropology in community research

ERVE CHAMBERS
University of Oregon

New emphasis on areas of applied and urban anthropology in contemporary U. S. settings offers unique opportunities for training students in appropriate research strategies. This presentation will outline plans for a research oriented course which will combine the efforts of both graduate and undergraduate students in an attempt to provide the local community with significant research findings. Using traditional ethnographic techniques, the students will work together to design and pretest a community needs survey for the City of Eugene. The project is designed to provide maximum benefit to both students and the community, at the same time utilizing existing facilities and operating on a "no cost" basis.

Remodeling: on Caws

RICHARD CHANEY
University of Oregon

A "theory of models" has been presented by Professor Peter Caws (1974) to serve as inference channels in understanding structural thought. Essentially, Prof. Caws on models tells us what "good models" do in terms of highlighting a form or mode of interconnections between imponderabilia, that is "To make the structural features of the model central reflects the fact that it stands for the relationship between the entities that constitute the system, rather than for the entities themselves." The bones of present contention are that Prof. Caws' modeling masks from our view (1) how differently different models guide our inferences as to what is in need of understanding and (2) that "experience is that something else" which occasionally provides an anomaly for the conceptual aspects of problem-solving. The

spirit of the present encounter with "models" is to provide a more comprehensive intellectual scenario concerning epistemology and a highlighting of contradictory and paradoxical conceptual stances in the present debate on anthropological theory and method.

Villages on trial

NANCY YAW DAVIS
University of Alaska

Any Alaskan Native Village of 25 or more enrollees could apply for eligibility for benefits under the 1971 Alaska Native Land Claims Settlement Act. The Area Director of the Bureau of Indian Affairs had two years to review the applications and make recommendations to the Department of Interior on the eligibility of each village. By 19 December 1973 those initial rulings were made public. Within 30 days, 39 villages were protested by one or more "interested parties." This paper describes the appeal process and analyzes the cases of four villages which went to court hearings during the spring and summer of 1974.

Measles as a legal problem in central Africa

ANN M. DRAKE
Tacoma and Ft. Steilacoom Community Colleges

In eastern Zambia death of a measles victim is viewed as manslaughter, typically due to the violation of the patient's convalescence space by sexually active individuals. For the people involved, this imposes unique problems of death prevention, behavior evaluation, and criminal punishment, despite more naturalistic ways of dealing directly with the measles. Using several case studies, this paper discusses issues related to each problem to show how strictly traditional customs can be followed in modern settings, with special reference to town living and use of the hospital.

*The effects of field methods on findings: two aspects
of illness among the Yao*

H. MAX DRAKE
Pacific Lutheran University

This paper results from anthropological research carried out as part of a public health project aimed at producing changes in health beliefs and behaviors in rural Malawi. Two phases of research, focused ethnography and survey research, each produced entirely different findings though attempting to explore the same subject. The first phase was to establish baseline knowledge of beliefs and behaviors related to illness. It used interviews with native health practitioners, important persons, observation, and some participant observation. It revealed uniformly high concern with a variety of illnesses all of which resulted from "missing the customs," that is, becoming ritually polluted by failing to observe important sexual or

funerary taboos. Close kin who came in contact with persons in this state sickened and often died, though the offender remained well. Next, survey research was undertaken in order to compare sample and control villages on amount of change during the project. In this survey the illnesses caused by "missing the customs" were virtually never mentioned; rather, only more mundane diseases appeared such as colds or chickenpox. An unanticipated finding was that the two modes of research produced different, though not incompatible, views of illness among the Yao. Ethnographic methods elicited a moral order of illness primarily concerned with problems of social control, while survey research revealed a manifest order of illness more responsive to the daily bother of major and minor disease.

Epistemological postulates in the analysis of myth

LEE DRUMMOND

The analysis of myth raises problems of meaning that acquire different resolutions according to whether the analysis is structurally or processually oriented. Structural analysis of myth aspires to a logico-mathematical model in which the epistemological postulate is a notion of reformulation: it is possible to discern logical relations among myths because they all contain many of the same elements, variously combined. In structural analysis the source of meaning is therefore bound up in the concept of a relation. Interpretive, processual, or performative analysis of myth, in contrast, avoids a logico-mathematical model and instead emphasizes the context of the myth in a narrative performance and its qualities as discourse. Rather than identify the source of meaning in myth with the logical proposition, a processual analysis focuses on the intentionality of the narrator in affirming the utterances of his narration. A parallel between Levi-Strauss's structural analysis of myth and "ideal language" philosophy is suggested, and a further parallel between Wittgenstein's "meaning as use" philosophy of ordinary language and the processual analysis of myth is advanced.

American symbolic anthropology: theoretical and methodological implications for paleoethnology

ROGER ALAN DUEWEL
Washington State University

American symbolic anthropology provides a theoretical structure useful to paleoethnologists for understanding the co-articulation of material and non-material socio-cultural systems. The current trajectory in American archaeology toward usage of ethnographic samples as sources of hypothesis generation to explicate extinct cultural systems will be facilitated by the utilization of theoretical and methodological models adopted from symbolic anthropology. Many of the theories and underlying paradigms of American symbolic anthropology are complimentary with the general systems theory approach in favor among many of the "new archaeologists." The models and metaphors of symbolic anthropology applied as problem solving devices can provide the paleoethnologist with new insights into co-articulating cultural

systems and the dynamics of culture change. Examples will be drawn from puebloan peoples of the American Southwest, e.g. Hopi architecture, world view and social organization as co-articulating systems.

Teaching anthropology

MELIHA DURAN
Washington State University

With the present tight money to support anthropology graduate students and a scarcity of teaching jobs in the field, there has been an increased interest in quality teaching. This interest was expressed by graduate students at Washington State University. To meet their needs, a seminar in Teaching Anthropology was held in the Fall of 1974, emphasizing education principles, practical experience, and methods of improved communication. I will discuss the organization of the course for its preliminary run. Using student evaluations of the course, and further background research, I will present an outline and supplementary reading list to implement such a course.

Ethnomusicology and cognitive anthropology

GEOFFREY DOUGLAS HEATHERINGTON
Seattle

Today, the position of American society with regard to its music is one of mass interest with a corresponding increase in the prevalence of music in the lives of Americans. Increasingly, one hears music in a greater number of unseemly places; restaurants, stores, elevators, and even the dentist's office. It has become big business and the musician is creating a new place for himself in society. All of this musical activity provides fertile ground for ethnomusicological and anthropological analysis and may be helpful in understanding the cognitive frameworks of people in our society, and possibly add insights to the state of the "national consciousness." Are there any cause and effect relationships between various musics in this country and the subcultural values that seem to be associated with them? What is the relationship between the major social/cultural changes occurring now and the music of today? These few questions, and many more, as yet unasked, fall within the domain of anthropology, more specifically, ethnomusicology. While some tools do exist for digging out the answers, more methods and/or models need to be developed by cognitive anthropologists to examine the role(s) music plays in our society. With this in mind, and having little or no fear in risking eclecticism, one can develop the above mentioned tools, or create new tools for the study of music.

*Some problems in ethnohistorical research on the Indian Shaker
Church of the Pacific Northwest*

SUSAN W. HORTON
Portland State University

Past work on the Indian Shaker Church, a native American religious sect in the Pacific Northwest, reflects a variety of problems in ethnohistorical interpretation. As a means of approaching material arising from different sources, and written at varying levels of generalization, substantive and methodological issues are dealt with as two broad clusters: (1) the problems of cultural change within any one social system; and (2) the spread of the religion, from group to group, across the southern portion of the Northwest coast culture area to the western reaches of the Plateau. Apparent sources of confusion, and seeming inconsistencies within the anthropological literature are considered, with special emphasis on the argument for the continuity of aboriginal forms in Shaker practices. The diffusion of Shakerism from its point of origin on Puget Sound is viewed from two perspectives: (1) the degree to which its transmission from group to group paralleled proto-historic and early contact affinal and trade relationships; and (2) factors contributing to the containment of the sect. Specific problems in the ethnohistorical study of the Shaker Church which co-vary with those of more general inquiry into post-contact native American cultures are identified, and possible approaches weighed.

Psychoanalytic contributions to behavioral evolution

E. DAVID JURJI
Bellevue Community College

There has been a recent growth of interest in the field which bridges physical and cultural sub-disciplines of anthropology. The area some have called "biosocial anthropology" has as one of its foci the issue of the biological-evolutionary basis of human personality and culture. In terms of intellectual history it is possible to identify an "older generation" of precursors of this general enterprise. Irving Hallowell, Jules Henry, Geza Roheim, Weston La Barre, and Melford Spiro all share one common theoretical influence: psychoanalysis. Psychoanalysis has had a profound impact on anthropology, particularly in the development of the culture-and personality-approach. At present the theoretical influence continues to be most vital in two general areas: (1) behavioral evolution, the subject of this paper; and (2) epistemology and methodology, which is best represented by the work of George Devereux and Robert Levine. The present approach focuses on: (1) increasing neoteny (fetalization) as a critical factor in the evolution of humankind; (2) prolongation of infancy making culture-acquisition possible but also meaning that the foundations of learning occur in an immature organism; (3) thus a dual nature--rational and irrational--as descriptive of human personality and of the cultures humanity creates.

Goodby Aunt Jemima: hello Uncle Stud

LYDIA KOTCHEK
University of Washington

The Frito Bandito, with its stereotyping of Spanish-speaking Americans, has been removed from television. Groups such as the National Organization for Women are now arguing against advertising stereotypes of women. One consumer product, however, both in trademark names and advertising, continues to utilize ethnic, racial, and sexual stereotypes without yet having engendered any protests from the stereotyped groups. This paper discusses this, as yet unstudied, aspect of American merchandising, the prophylactic contraceptive and describes: (1) the semantic components of prophylactic trademarks; (2) the differential advertising approach to male and female consumers; and (3) the difficulties of fieldwork research in this area for a female of forty (most of the data are in men's restrooms).

*Ethnographic and ethnohistorical data in legal records:
problems and prospects*

BARBARA LANE
Victoria

This essay has two aims: (1) to suggest some relatively untapped sources of data for ethnohistorical research; and (2) to raise some questions respecting the relationship between ethnographic reporting and litigation. Legal records of various kinds can provide materials of key interest to ethnographers and to ethnohistorians. Two classes of legal records are examined--treaty negotiations and court litigation. Records of treaty proceedings in Washington in 1854-55 contain discussions and speeches by Indian delegates to the negotiations. Frequently these discussions include statements respecting territories and resources used by the Indians concerned; their relations with their neighbors; and their relations with non-Indians. The records of the treaty proceedings represent some of the earliest efforts to record Indian statements regarding these matters. Another fruitful source of Indian statements is to be found in deposition taken during litigation concerning Indian property rights. Lengthy depositions and extensive court testimony have been given by Indians in Washington court cases extending back before the turn of the century. Indian statements recorded in legal settings such as treaty negotiations and court cases have three clear and consistent characteristics: (1) the statements were made in formal settings with other Indians present as witnesses to what was said; (2) the proceedings were perceived by the Indians concerned to have serious outcomes affecting their lives; (3) the statements were made by interested parties whose interests were explicitly specified. Several questions are considered: (1) to what extent, if any, does Indian testimony given in legal settings differ from similar data elicited by ethnographers; (2) to what extent, if any, has Indian interest in litigation been stimulated by ethnographic research, and (3) in what ways has ethnographic reporting been influenced by the legal interests of Indians.

Sex polarity among the Afikpo Ibo

PHOEBE MILLER
University of Puget Sound

Among the Afiko Ibo of southeastern Nigeria there is a tradition of sex polarity that is strongly enforced by social and supernatural sanctions. It has a historical basis in women's dependence on men in three areas: defense in the days of headhunting, allocation of farmland, and the control and manipulation of supernatural forces. It is reinforced by means for men's gaining prestige that are not open to women and by various taboos imposed on woman's behavior. In daily life sex polarity is reinforced by men's and woman's living in separate houses and have separate economic activities and affiliations with age sets and grades. In ceremonial life it is reinforced by men's control over the supernatural. Marriage in Afikpo is polygynous, with the husband the hub around which many of the concerns and activities of other family members resolve. There is often friction among co-wives, which may extend to their children and other kinsmen as well. Despite the markedly superior position of men in relation to women there are numerous checks and balances that keep the battle of the sexes under control. First, there is reciprocity in duties of the sexes in ceremonies, in which groups of men and women take turns in supporting each other, emphasizing the fact of their mutual dependence. Second, divorce is easily obtained, so a woman who feels hard pressed in a marriage can seek her fortunes elsewhere. Finally, there is a vein of humor that runs through Afikpo life, in the form of annual ceremonies in which men and women insult each other publicly and in the breaking of taboos in women's groups where no men are present. Thus, what to a feminist might appear to be a disastrous situation is for the Afikpo a workable system.

Social change in Maramures, Romania

G. JAMES PATTERSON
Eastern Oregon State College

Maramures Province in northern Transylvania is undergoing social change, but at a much less rapid rate than in some other regions of Romania and the Balkans. Recent papers on social change in the Balkans are analysed and their conclusions are found to be only partly consistent with mine in Maramures. Criteria used to measure peasant resistance to change are applied to villages in the Izei and Mare valleys in the province. Social change and modernization is slower in Maramures primarily because of geographic and physical isolation from the rest of the nation, and the implications of this are discussed. Finally, the value of having a spouse/colleague update one's field work in a subsequent trip to the region will be mentioned.

Fear and anger in Taubuid society

F. DOUGLAS PENNOYER
Washington State University

The Taubuid are a tribe of some 6000 people who inhabit the central highlands of the island of Mindoro, Philippines. Fear is a pervasive force among the Taubuid and a standard emotion which is greatly intensified during confrontations with strangers, spirits, and even members of the same hamlet. It is the accepted reaction to these crisis situations; a person who is seemingly fearless is considered *madaragang* ('brave') and his abnormal behavior is interpreted as a sign of his reliance on supernatural strength. All of the Taubuid's fearful actions are designed to avoid a face to face confrontation with the stranger and when the protective rituals fail, the people escape to their hiding places where they resort to curses (which are normally applied in anger) as a method of driving the intruders away.

The problem of identifying ethnic groups in the Skagit region prior to European contact

NATALIE A. ROBERTS
University of Washington

Can we call the permanent winter villages of pre-contact times in the Skagit region ethnic groups? What were the characteristics of winter villages? How do we define an ethnic group? Given a definition, what alternatives are there? Any larger units? None at all? An ethnic group may be defined as the largest operating socio-political unit that is recognized by the people as something they belong to, by virtue of how they live and what their origin is. This definition focuses on the nature of ethnic boundaries and their historical transformations as variables for empirical research. The Skagit region presents a particularly interesting case because it had no large, powerful, unified tribes or bands in pre-contact times. Its ethnic groups -- the permanent winter village communities -- were small. They had a highly fluid personnel. They were fragile and subject to recurrent dissolution and reconstitution in the guise of new personnels with new names, the smallest groups being the most unstable. They carried on intense contacts with each other and formed a complex, ever-changing network of military, economic, and marital alliances. They differed from each other culturally only in ways the anthropologist would call slight. In addition, they were subjected to powerful forces of change relatively soon after first contact in 1792 and were transformed by treaty time in 1855.

The epistemological basis of non-western thought

DENNIS CONNOR SHAW

Recent experiments into surgical cures for extreme epilepsy have led to some quite extraordinary discoveries about the nature of the human mind. Under the rubric of split-brain research, psychologists have discovered that the human mind is capable of simultaneous thinking in two separate modes of

thought. Although virtually ignored by anthropologists, this research has some direct bearing on problems which have traditionally been within the domain of anthropology. Such a problem is the nature of the distinction between the thought processes of western man and non-western man. Included within the list of the anthropologists who have dealt with this problem are: Tylor, Frazer, Durkheim, Mauss, Boas, Levy-Bruhl, and Piaget. Yet in this long list, no one has come closer to a clearer conception of this problem than has Claude Levi-Strauss. Therefore, the purpose of this paper will be to reappraise Levi-Strauss' writing on the nature of non-western thought in light of the results derived from split-brain research.

XCULT: computer assisted instruction using HRAF data

COURTLAND L. SMITH
Oregon State University

XCULT is a computer program for introductory anthropology students. It is designed to illustrate some of the diversity among 400 cultures and enables students to be matched with a culture having traits similar to their preferences. The program is conversational and no previous experience with computers is needed or assumed. The data for the program are from Textor's *A Cross-Cultural Summary*. Work with the computer program is integrated with library research and gives students experience in use of library resources, data verification procedures, and interpreting ethnographic accounts.

*Time and space relationships of informants
in the campus/Pullman area*

JUDY SOUTHWART
Washington State University

My presentation will deal with time and space relationships of informants in the campus/Pullman area. A survey was conducted with the intent of seeing what cognitive perceptions informants had and how they operated daily within these perceptions. To do this informants were asked to draw on a blank sheet of paper the perceptions of time and space patterns they recognized in the routine of daily movement. From these maps the data was correlated into categories. The subject of my presentation will be to share some of the findings.

Deviance, humor, and symbolic boundaries

RAY STEINER
Washington State University

In this article the topic of humor is examined with particular reference to discovering underlying categories of American culture. A number of preliminary categories are postulated as the basis of class stratification in America, and their underlying structural relation to hierarchy and caste in India is explored. The article concludes with a discussion of the nature of equality and inequality within the two systems of stratification.

Educational opportunities in prison: Oregon and Washington

SHEILA STUMP
Washington State University

As part of the rehabilitation programs of the state penal systems of Oregon and Washington, college courses are being offered to inmates for credit toward their Associate and/or Bachelor's degrees. This paper will compare the prison educational systems of the two states and discuss the opportunities they provide for teaching experience for graduate students, and the problems and benefits one can expect to encounter.

The recent emergence of the Coast Salish - the function of an anthropological myth

WAYNE SUTTLES
Portland State University

One of the results of the Jesup North Pacific Expedition, according to Boas, was the discovery that the Salishan peoples of the coast had recently emerged from the interior with a Plateau type of culture and had acquired on the coast (probably from the Wakashans) some of the features of Northwest Coast culture. This view of Salish prehistory became widely accepted, constitutes one of the cornerstones of the major ethnological interpretation of Northwest Coast culture history, and appears in the most recent general work on Native North America. Yet it can be shown that the hypothesis of recent Salish emergence from the interior had little foundation at the time of the Jesup work (cf. Ellen Robinson's paper presented at this meeting) and has even less today. The supposed evidence of physical anthropology seems to have been an illusion; the archaeological evidence can be read either way; and the linguistic evidence suggests, if anything, a movement in the opposite direction. With these supports gone, the ethnological evidence for Salish emergence seems loaded with circular arguments based on prejudgments of Wakashan creativity and Salishan imitativeness. Why has such a poorly founded hypothesis persisted? Probably because it fits an attractive theory. This theory combines two models: (1) the creative culture center from which culture diffuses outward, permitting age-area interpretations; and (2) the stratification of immigrants, permitting the peeling off of newcomers to discover the purest strain of areal culture. In its application here the Wakashans become the purest strain and the creative culture center from which all good things flow--to the imitative Salish and others. One of the attractions of this theory may be that it provides a closed, culture-determinist system, leading away from consideration of possible extra-cultural determinants of cultural variation. But as we must question the hypothesis of recent Salish emergence, we must also question this theory and consider the possibility that the Salish have been on the coast for a long time, that they have contributed to the Wakashans and others as well as received from them, and that their institutions are not mere imperfect imitations of Wakashan institutions but are alternative adaptations to life on the coast, developed in their own part of it.

*Ethnic relations between Indians and Mestizos
of southwestern Mexico*

GEOFFREY SUTTON
University of Montana

The study deals with the ethnic relations between the Tarascan Indians of Paucuaró, Michoacán and the Mestizoes of nearby Napizaró, Michoacán. Contemporary ethnic relations are examined in the context of the historical processes affecting both Tarascan and Mestizos. In particular, the ethnic implications of the contemporary institution of the ejidal system in Michoacán are developed through comparison of Tarascan and Mestizo systems of land tenure and traditional values centering on land use. Ethnic identity and spheres of social interaction are defined as they exist today among both ethnic groups. The paper is a product of seven months fieldwork in southwestern Mexico.

*Religion in cultural evolution: invention and mediation
of real and transcendental experience*

DANIEL E. VASEY
Metropolitan State College, Denver

Regarding religion, nineteenth century evolutionists concentrated primarily upon stages in the development of deistic belief. Modern evolutionary theory deals far less often with religion and considers religious action primarily for its functional role within the social and ecological system. However, much ethnology has been devoted to relating certain sociologically defined types of religious practitioners, notably shaman, to their roles as mediators of experience. It is maintained here that general evolutionary process correlates with the ways in which religious experience is defined and mediated. Experience can involve intense awareness of the immediate, transcendence, or both. Shaman, ritual specialists, and "primitive philosophers" are common enough anthropological topics among tribal and peasant societies. Historians of religion have dealt largely with the great traditions of world religions and a recently increased interest in folk religion notwithstanding, have been theoretically bound to rather unilinear models of doctrinal evolution. Nevertheless, there is a fair body of raw data on religious experience in all types of societies. Here, material on grass roots experiencing within relatively complex societies, and the dynamics of periodic crisis within world religions, is added to more familiar anthropological subjects to yield some working hypotheses in an overall evolutionary framework.

Tsimshian potlatch and society: testing a structural analysis

JAMES DANIEL VAUGHAN
University of Washington

The problem approached in this work was in developing a means for testing theories of alliance and exchange as they have been applied by A. Rosman and P. Rubel (1971) to explain Tsimshian potlatch and society. On the basis

of an expressed marriage preference of the Tsimshian, Rosman and Rubel propose a model of marriage alliance in the form of generalized exchange. They reason that they have verified the validity of this model by viewing another form of exchange, i.e. the potlatch. By structurally analyzing a particular potlatch in terms of generalized exchange, they found the exchange relationships conformed to the model of marriage alliance. To test the analysis of Rosman and Rubel, five methods are proposed: (1) a review of data on expressed marriage preferences of the Tsimshian in the ethnographic literature; (2) a structural analysis of Tsimshian kinship terminology; (3) review of the ethnographic literature available after the time of Rosman and Rubel's analysis testing for conformity with their analysis and with the prior body of ethnographic literature; (4) testing the proposed model of marriage alliance with statistical data on Tsimshian marriages; (5) a structural review of the Tsimshian potlatches described in the ethnographic literature. Results from each of these tests reveal inadequacies in the analysis of Rosman and Rubel. The conclusion reached is that Tsimshian potlatch and society do not empirically conform to a theoretical model based on an elementary structure of kinship, but rather should be viewed according to its complex features.

An economic study of comales as a cottage industry

DAN WALKER
Idaho State University

This paper will examine the role of cottage industry in the peasant market system and the village economy as exemplified by the market system of the Sierra Zapotecs of Oaxaca, Mexico. Comales as the specialty product of the village of Zochina, Oaxaca can be used in studying the various elements affecting the market and how the market in turn affects the cottage industry. The technology, and the division of labor within the cottage industry demonstrates the relationship of the peasant with the climatic, social, and economic forces.

*The genesis of bilaterality among the Alaskan subarctic
and the Canadian western subarctic and Pacific
drainage Athabascan Indians*

J. C. YERBURY
Simon Fraser University

This paper represents an ethnohistorical attempt to utilize primary documents and their interpretations in order to determine if important features can be found that may denote forms of social organization among the Northern Athabascans during the initial indirect and direct European contact period which may have been of great importance in their prehistory. It will also attempt to trace the trends and currents which swept over the Athabascan peoples during the initial stages of the contact period and which may have resulted in a realignment of social relationships in profound changes in their aboriginal way of life. The primary documents include the accounts of fur traders, explorers, officials, prospectors, missionaries, and early ethnographers who recorded historical events and cultural data. These primary materials have been complemented with information extracted from the

recent ethnographic studies among these peoples so that the causality for change in their social organization can be indicated. The focus of my paper will be mainly on the Northern Athabascans in the Alaskan subarctic and in the Canadian western subarctic and Pacific drainage. The scope of the problem and the adequacy of the material on the cultural groups in these areas suggest that I limit my written work for practical purposes to these groupings. Their social organization has been described (although not explicitly) since Father Morice's early studies as having retained remnants of cognatic descent groups or cognatic clans of an ambilinean kind. To develop historical stages for such groupings, the literature will be examined to indicate whether population decline, the development of ranked clans and social classes, the fur trade economy, and white acculturation may be seen as determinatives for producing an integration towards a bilaterally emphasized kinship structure from a matrilineal, exogamous clan organization projected for precontact times. The residence patterns became ambilocal to retain the ceremonial and economic functions of the original organization but in an intensified form. The initial indirect and direct contact system was conditioned by a situation where there was abundant seasonal fur-bearing resources but scarce labor. The integration towards a bilaterally emphasized kinship structure would have been an attempt to raise the population density to meet the ecological conditions imposed through the fur trade. It is my contention that family groups would have tended to align themselves around such centers as trading settlements, hunting camps, fishing camps, and trading parties.

Resources in western Oregon ethnohistory

HENRY B. ZENK
Portland State University

At first glance, the ethnohistorical record on western Oregon native groups, save that for the historically relatively well documented lower Columbia Chinookans, seems very incomplete. However, there is much source material that has not yet been fully investigated and evaluated. Perhaps some results of my own search for sources on Kalapuya ethnohistory will be helpful to others currently interested in western Oregon ethnohistory. The main sources I have found may be summarized as follows (these sources relate primarily to the Kalapuya peoples, but also bear on other area groups, particularly the Molala, lower Willamette Chinookans, Tillamook, and Coos): (1) early travelers', fur traders', missionaries', settlers', etc. observations and comments; (2) treaty documents; (3) letters received by the Oregon Indian Superintendency -- a very large body of official correspondence and reports; (4) a very large body of mostly unpublished material, representing the field work of professional linguists and anthropologists. This is the single most important source. My personal experience with such material suggests that it is desirable to base interpretations insofar as possible upon original field notes.

Social houses are social bodies: The Chinese rural peasant house of southeast China

JAMES R. WILKERSON
Washington State University

The rural/peasant house in southeast China is an example of the use of the house as a "natural symbol." Moving off Mary Douglas' thesis that the "body is capable of furnishing a natural system of symbols" we argue, at least in our ethnographic example, that any physical container of social bodies - physiological or not - constitutes a "natural system of symbols." One of the more telling relations of the house in China as a natural symbol is its consonance - paradigmatically and syntagmatically - with social ideas. The arrangements of boundaries and contents of houses are organized in such a way as to lend weight to Durkheim and Mauss' contention that "classifications (are) modelled on ...social organization." That is, a change in social organization causes change in the arrangements of house boundaries and house contents.

Linguistics

Comparative phonology of Siraya

PAUL ARNTSON
Washington State University

Siraya is an extinct Austronesian language of southwestern Taiwan, known to us through records left by seventeenth century Dutch missionaries. This paper discusses elucidation of the phonemic structure of Siraya as evidence in the Dutch written records, and compares the merger of several phonemes of Proto-Austronesian in Siraya and other Formosan languages.

The critical position of Formosan languages in Austronesian

RALEIGH FERRELL
Washington State University

Formosan aboriginal languages show general similarities to other Austronesian languages of the Indonesia/Philippines area, but are characterized by both phonological and syntactic complexities lacking in these related languages. Among syntactic characteristics of Formosan languages is their richness in productive derivational clitics of affixes, including formatives for a special class of conjunct verbs into which the verb object must be incorporated. These complexities in Formosan languages make them critically important in comparative research on Austronesian syntax and phonology, and in the reconstruction of Proto-Austronesian.

Case and focus-marking

RALEIGH FERRELL and PATRICIA STANLEY
Washington State University

Syntactic case-marking, typical of Indoeuropean languages, and syntactic focus-marking, typical of Austronesian languages, have both been stated by Fillmore to represent identical underlying case systems. This confusion arises from a lack of understanding of the underlying structure of Austronesian languages. An examination of points of contrast between case-marking and focus-marking systems shows that lumping the two together can only be done at the expense of either confusing semantic deep structure and surface structure, or so stretching the meaning of "case" that it loses all typological usefulness.

Medial epenthesis in Atayalic

MIKELL ALAN MARSH
Washington State University

The Atayalic languages (dialects?), Ciuli, Sediq, and Squliq, upon preliminary examination appear to be exceeding divergent from the other Austronesian languages of Formosa. Under more rigorous examination, the Atayalic languages may appear more 'typically' Formosan: it now appears likely that a series of rather unusual low-level phonological processes are responsible for the pronounced surface dissimilarity between the Atayalic and other Austronesian languages of Formosa. This paper explores one of these processes, that of medial epenthesis.

Problems in Yami phonology

THOMAS MEDINA
Washington State University

The Yami language of Formosa shows some phonological mergers and simplifications which are apparently not paralleled by other Formosan languages. This paper deals with some of these problems and discusses the relationship of Yami, which is frequently considered to be a "Philippine" language, to Formosan and Philippine languages.

Linguistic problems in the Hanunooic sub-family

F. DOUGLAS PENNOYER
Washington State University

Taubuid and Hanunoo are two Philippine languages which are spoken on the island of Mindoro. At first glance, the Hanunoo are strikingly dissimilar from the Taubuid in many ways: they weave, plant rice, and carry on a brisk trade with the coastal peoples; the Taubuid wear bark cloth, plant sweet potatoes, and shun any prolonged contact with outsiders. This paper

examines some of the linguistic differences between these mutually unintelligible languages and evaluates the prospects of a subgrouping including the Hanunoo, Buhid, and Taubuid languages.

Topicalization and deep structure in Paiwan

DENNIS CONNOR SHAW
Washington State University

Paiwan is an aboriginal language of Formosa. The native speakers of Paiwan are located in the mountains in the most southern part of the island. One of the major aspects of the grammar of Paiwan is topicalization. Topicalization has been reported in many Austronesian languages. Traditionally, it has been interpreted as a form of subjectivalization and treated in the grammar as a transformation. Thus, traditional treatment of topicalization has viewed topicalization as a process which adds no semantic value to the sentence. I will raise questions about the semantic value of topicalization, as it appears in Paiwan, and suggest an alternative approach to the problem.

Constituent order in Tsou

PATRICIA STANLEY
Washington State University

The sentence patterns of the Tsou language of Formosa demonstrate a considerable degree of flexibility in constituent order. This paper will discuss the relationship of Tsou sentence patterns to typical Austronesian structure, the mechanics of the processes involved, and the possible bases for the variations.

Prehistory

Obsidian hydration dates for Klamath prehistory

C. MELVIN AIKENS and RICK MINOR
University of Oregon

Kawumkan Springs Midden is the only major published source of archaeological information on Klamath prehistory. Drawing on the archaeological evidence from Kawumkan Springs, Cressman suggested that historic Klamath culture was the product of a very long local evolution in the relative isolation of the Klamath Basin, and that the basic pattern of Klamath life was established by the time of the earliest midden deposits. However, reservations have been expressed about the considerable antiquity claimed for the Kawumkan Springs Midden, and Cressman himself stressed that his proposed chronology was highly tentative, subject to change as more became known of the regional prehistory. The present exercise is a re-examination of the selected projectile points from the Kawumkan Springs Midden.

Chipped stone assemblages from central coast beach sites

BRIAN APLAND
Simon Fraser University

The Department of Archaeology, Simon Fraser University has been conducting archaeological survey and excavation projects on the central British Columbia coast since 1969. One of the results of this work has been the identification of several sites containing exclusively flaked stone material in the inter-tidal zone of various beaches. Two hypotheses have been advanced in an attempt to explain the basic question of what these sites represent: (1) they represent 'habitation' sites occupied at a period of lower sea level, having been subsequently washed away leaving only the heavy stone material; (2) they represent quarry sites. Beach erosion has precluded micro-wear analysis, but general classification based on overall morphology does enable some degree of comparison with more firmly dated and intensely analysed material from other sites in the area. Recent information on sea level changes coupled with chronological and typological information lend a fair amount of support to the first hypothesis.

A waterlogged site on the southern mainland coast of British Columbia

CHARLES E. BORDEN
University of British Columbia

Archaeological salvage operations initiated in 1972 at Musqueam Northeast (DhRt4) led in 1973 to the discovery of water-saturated sediments, containing basketry, cordage, and wooden artifacts stratified beneath cultural deposits of the Locarno Beach Phase of the Fraser Delta sequence. A wood sample from the waterlogged component was radiocarbon dated to the end of the second millennium BC. Because of the importance of the findings, real estate development was postponed making possible continuation of the investigations in 1974. The paper describes the paleogeography of the locality and attempts to explain the conditions which led to the preservation of the perishables. Recovery and conservation techniques are discussed as well as the results of analyses of the perishable artifacts and the vegetal materials utilized in their manufacture.

Rock art of the Pacific Northwest

KEO BORESON
University of Idaho

The paper is an attempt to place rock art into a broader perspective concerning its behavioral significance for anthropological study. Using a geographic approach, three or four distinct rock art areas are identified and observations made regarding their co-occurrence with other archaeologically known factors.

*Recording rock art in British Columbia,
a new approach*

ROSS BRAND
British Columbia Provincial Museum

In the summer of 1974 the British Columbia Provincial Museum started a petroglyph casting program. In conjunction with this program, a new moulding method was developed and perfected. This method will allow a perfect mould to be taken from a vertical surface in freezing weather in less than one hour; a task which is impossible using the conventional latex method. The success of last summer's work, where selected portions of 27 sites were moulded, has promoted a larger program which will enable the recording of all rock art sites in British Columbia, petroglyphs and pictographs. This program will involve the photographing, mapping, moulding, and collection of all pertinent ethnographic information that is available and will seek maximum Indian band involvement. A demonstration followed the presentation of the paper.

*Reconnaissance and survey of Oregon's Hells Canyon on the
Snake River: a contribution to Plateau prehistory*

GORDON BRANSFORD
Eastern Oregon State College

During the summer of 1974 an archaeological reconnaissance and survey was conducted in Hells Canyon on the Snake River. The survey extended from Hells Canyon Dam North, 68 miles to Dug Bar. Research was confined to the first 3000 feet of relief on the Oregon side of the river. These investigations produced 77 sites consisting of housepits and/or rockshelters. Data obtained from the survey area was analyzed by the horizontal distribution of individual and village habitation sites. Attention is focused on the size, style, number, and locations of the sites as indicated by surface survey methods. Additional comments are offered on the prospects for future site survival.

*Report on an obsidian quarry source and associated
artifact types in central Oregon*

GORDON BRANSFORD and GEORGE MEAD
Eastern Oregon State College

During the summer of 1974 a reconnaissance and survey was conducted, at the request of the Malheur National Forest, on federal land near Seneca in central Oregon. Several large and previously unreported deposits of obsidian were located. Surface collected artifacts, found in association with the quarry sites, are also present.

Preliminary reconnaissance of the Alvord region, with notes on a new Plano-like assemblage from southeastern Oregon

WILLIAM CANNON and ROGER WIGGIN
Portland State University

The preliminary archaeological reconnaissance of the Alvord Desert region of southeastern Oregon was conducted by the archaeological field team of Portland State University's Anthropology Department for the Bureau of Land Management in December 1974. The area under study consists of approximately 180,000 acres currently under consideration for leasing by B.L.M. for geothermal energy development. This preliminary field work, though limited in scope by time and weather conditions, indicates that the Alvord region has high archaeological potential. Eighteen new sites were located in this relatively brief field expedition, one of which shows strong typological affinities to the Plano Early Man sites of the western United States. This large surface site produced a nearly homogenous assemblage of basal sections of large lanceolate and broad-stemmed projectile points, with an almost complete lack of notched points, milling stones, or other typical Desert Culture artifacts. Although no definite conclusions can be drawn from this badly eroded open site, its presence strongly suggests that the Alvord region could yield significant data regarding early habitation of the northern Great Basin.

Early assemblages from the Helen Point site

ROY L. CARLSON
Simon Fraser University

The Helen Point site (DfRu8) on the north shore of Mayne Island on Active Pass in the Gulf Islands, was excavated in 1968, and a preliminary report was published in 1970. The preliminary inspection of the archaeological data had indicated that the site covered an estimated 5,000 year span, and that a minimum of three sequent cultural phases were present. We have now received the results of ten radiocarbon analyses which range from 3500 BC to AD 1860, and which support the previous time estimate. This paper is an attempt at further sub-division of the previously defined components with particular reference to the early part of the sequence, and goes into the problems of data analysis when there are some 5500 years of prehistory squeezed into a deposit only 1.5m deep.

Excavations near Port Hardy, British Columbia

MARGO CHAPMAN
Vancouver Community College

The O'Connor site (EeSu5) on the north end of Vancouver Island, was the focus of salvage excavations for a brief period in 1971 and again in 1973 for three months. Excavations indicate that this large shell midden represents a prehistoric occupation of fairly long duration, and two distinct components have now been defined. The earliest, encountered in an essentially non-shell matrix, is represented minimally by a chipped stone industry. Absolute dates

are not available, but comparative data supports a tentative pre-3000 BP date for this component. The later, more intense occupation is evidenced by a predominantly bone tool industry suggesting a marked exploitation of marine, riverine, and littoral resources. There is no terminal date for this occupation, however historic material is absent. Some intra-site relationships are discussed, and comparative data from other central coast midden assemblages are considered briefly.

The early horizon at Kettle Falls

DAVID H. CHANCE
University of Idaho

Three early components have been discovered at separate sites around Kettle Falls on the upper Columbia River. They all have large and abundant quartzite implements and debitage and are thus designated components of the provisional Old Quartzite horizon. Of the approximately 2600 stone tools excavated, the most abundant artifacts are large cores, choppers, and flakes made from the local micaceous quartzite. Diagnostic attributes, apparent mainly on non-quartzite items, suggest contemporaneity with the Cascade and Windust Phases, and with Lind Coulee materials from the southern and central Plateau. Also present are microblades and cores that point to northern affiliations. Because we are dealing with a partially deflated concentrate, and because even some nine millenia ago Kettle Falls may have served as a focus for several ethnic entities, we may be dealing with a composite reflecting more than one people.

Kootenay lithic resources study: some observations

WAYNE CHOQUETTE
University of Idaho

Some distinctive aspects of Kootenay region geology are discussed with reference to three crypto- and micro-crystalline silicate rock types which are predominant in local archaeological assemblages. Observations are made on certain of their properties and patterns of utilization and distribution which may offer keys to the understanding of the prehistoric cultural dynamics of the region.

An early 'wet' site at the mouth of the Hoko River

DALE R. CROES
Washington State University

The changing course of the Hoko River has exposed a water-saturated archaeological site with numerous layers of waterlogged vegetal materials and perishable artifacts. Using hydraulic techniques, i.e. water pumps, fire hoses, and garden hoses with fine adjust nozzles, the Hoko River Site (45CA213) has been test excavated. Numerous perishable artifacts, including wood wedges, bent wood and composite fishhooks, fishing lines, unilaterally and bilaterally

barbed wooden projectile points (some with zoomorphic carvings), several examples of basketry, and some lithic artifacts have been recorded from the site. Different preservation techniques, initially solutions of white glue/water and presently polyethylene glycol (carbowax), have been utilized to further preserve these artifacts. The Hoko River site has a minimum radiocarbon calculation of 2750 ± 90 years BP. The perishable artifacts from this early site demonstrate: (1) a sophisticated fishing technology, and (2) a distinct similarity in basketry technology between this early site and recent basketry in the Nootka/Makah area. This similarity is not noted between Hoko basketry and any other site in the 2500-3500 years BP time period.

Vantage area archaeology, 1975

WILLIAM S. DANCEY
Ohio State University

The results of the 1975 University of Washington-Ohio State University summer field school are summarized for work conducted in the Quilomene and Skookumchuk canyons on the west side of the Columbia River, 20mi north of Vantage, Washington. Particular attention is given to the pattern of prehistoric plant collecting and processing sites that is emerging for this area.

For union porcellanite and fused glass: distinctive lithic material of coal burn origin

DALE E. FREDLUND
Mineral Research Center, Butte

In south central Montana and northern Wyoming the most common lithic materials used by prehistoric inhabitants was the metamorphic porcellanites and natural fused glass. Archaeologists have loosely referred to the porcellanites as Powder River chert, baked shale, grey chert, fired brick, siltstone, etc. Similarly fused glass because of its physical similarity is often called obsidian. Because these porcellanites have a unique origin, definable area of occurrence, and were extensively utilized by prehistoric inhabitants they deserve additional attention from archaeologists.

Distribution and aboriginal use of the sub-order Pinnipedia on the Northwest Coast as seen from Makah territory, Washington

EDWARD I. FRIEDMAN and CARL E. GUSTAFSON
Washington State University

The animals of the sub-order *Pinnipedia*--harbor seal (*Phoca vitulina*), Steller sea lion (*Eumetopias jubata*), and northern fur seal (*Callorhinus ursinus*)-- are common elements of the natural environment of the north Pacific Coast. The distribution of the individual species varies along the coast from north to south, and their respective migration patterns differ within this region. Some ethnographic descriptions exist for most of the groups of the culture area under consideration. A review of these data

suggests the extent of seal and sea lion hunting, and allows for the elucidation of the species exploited and study of the techniques utilized. The archaeology places the exploitation of these particular species in time perspective and, at this point, seems to indicate that Makah Indians of the Olympic Peninsula, Washington, had one of the most highly developed sealing economies, and one which lasted longer than at any other known locality on the Northwest Coast.

*The assessment of archaeological resources: an example from
the Puget Sound area*

JOHN W. FULLER and SARAH K. CAMPBELL
University of Washington

This paper considers the archaeological methods which can be used to assess the importance of archaeological remains in environmental impact statements and how, at the same time, usable prehistoric knowledge can be generated. Such archaeological strategies must necessarily acquire a body of representative archaeological data from a geographical region. An assessment of the value of archaeological resources and recommendations as to their proper and economical management can be made having established the uniqueness or redundancy of the prehistoric materials through systematic intensive regional archaeological survey. An archaeological strategy for obtaining regional information in the Puget Sound area is discussed with tactical examples from work conducted in the lower Snohomish River delta area during the summer of 1974. The results of this project are discussed in terms of their significance to Puget Sound prehistory and their qualification in formulating impact guidelines for the area. Finally, the importance of regional information in salvage or impact work and its value to modern planning and the field of prehistory is weighed against its feasibility and the interests of the contracting agencies. The mutual benefits are emphasized.

*A generalized model of cultural change during the Cascade
Phase in the lower Snake River region*

JERRY R. GALM
Washington State University

A generalized model of cultural change during the Cascade Phase is presented based on the Leonhardy and Rice (1970) cultural chronology for the lower Snake River region. Previous analyses of lithic assemblages from Cascade-age sites have indicated the highly uniform nature of the technological and typological features of these materials over space and time. A model for explaining cultural change, utilizing the relative concepts of focal, and diffuse economic systems (Cleland 1966), is developed. The underlying premise explored in this paper relates to whether or not the processes involved in cultural change can be identified through an understanding of the adaptive role of the extant lithic technology.

Ozette site

PAUL GLEESON
Washington State University

The Ozette site has an extensive waterlogged protohistoric and historic component above high tide level. The material at the site, in addition to being kept wet by a non-seasonal aquifer, has been further protected by the presence of massive mudslides associated with the aquifer. Excavation of these materials has been accomplished by an extensive hydraulic system which pumps water either from the ocean or from the aquifer. The mudslides associated with the aquifer occurred while this part of the village was occupied. As a result the materials recovered represent the whole range of wooden artifacts that would be found in a Northwest Coast house. The majority of the material recovered has been adequately preserved with a 50% solution of Carbowax 1500 and water with Cytox 2013 added as a fungicide.

*Environmental change and cultural stability
in the eastern Great Basin*

JAMES P. GREEN
Washington State University

Utilizing the concept of a regional system of cultural ecology the Archaic prehistory of the eastern Great Basin is reevaluated. Three broad yet primary subsystems are recognized in the regional archaeological record: lacustrine; sagebrush-grassland; and upland. Data from sites in these subsystems indicate that climatic and environmental change was characteristic of the regional system through time. Cultural stability is also reaffirmed and is attributed to a diversified cultural and economic adaptation as recorded in the archaeology of the systemic components.

*Techniques for determining site seasonality
from marine mollusc remains*

LEONARD C. HAM
Simon Fraser University

Archaeologists have shown increased interest in the determination of seasonality, not only of site occupation but also of resource exploitation. The presence of daily growth increments and annual bands in several species of marine molluscs provide an accurate means for determining seasonality. Several common techniques available for determining the seasonality of marine molluscs are examined and a statement made about their relative accuracy. In addition the interpretations made possible by seasonality studies at the Glenrose Cannery site (DgRr6) are discussed, and some limitations of seasonality interpretations pointed out.

*Geological frameworks for the study of human adaptations in the
Snake River canyon, southeastern Washington*

HALLETT H. HAMMATT

From June 1974 to February 1975, research has focused on the Late Pleistocene and recent geology and geochronology of the lower Snake River, specifically the Lower Granite Reservoir below the pool level of February 1975. The meander bars - the location of most of the archaeological sites - are made up of four major geomorphic components, a high, flood gravel bar and three terraces. The recognition of these components and of the depositional and weathering units within them apply directly to the reconstruction of the paleoenvironments of the Snake River as well as to the dating of occupation layers and the construction of models for the explanation of the distribution and general nature of prehistoric and historic occupation over the past 9000 years. Changes in the hydrological behavior of the Snake River are reflected in the meander bar components and the depositional and weathering units within them. These changes are in part a result of regional climatic change.

*An analytical evaluation of the settlement unit
sequence of Hogup Cave, Utah*

RICHARD C. HANES
University of Oregon

Statistical qualities of the artifact data from Hogup Cave, Utah, are derived by employing Q-mode and R-mode classificatory techniques. The results of the analysis are compared with the intuitively-developed settlement unit sequence previously proposed for that site locus. The results display a general conformity between the analytically determined clusters and the original reconstruction.

A stylistic model for site comparison

GERALD C. HEDLUND
Green River Community College

To determine the relationship of lithic materials from sites on the Enumclaw Plateau to other sites in the Pacific Northwest we developed a stylistic test. The test was designed to be used primarily on projectile points by using published photographs, such as those accompanying site reports. Each point was examined for 21 different attributes relating to blade, base, shoulders, notching, serration, and size. Histograms were made for each site displaying 21 separate bars showing the percentage of points having each attribute. The histograms for each site were then compared one to one by observing the differences between percentages for each attribute. The mean difference was then calculated between sites. The mean difference ranged from a high of 21.1 (comparison of Danger Cave, Utah, to The Dalles, Oregon) to a low of 4.6 (comparison of the Pedersen site, 45K14, to Sunset Creek, 45KT28). The Enumclaw Plateau sites

(Jokumsen, 45K15 and Pedersen, 45K14) compared most closely to sites from central Washington (Wenas Creek, 45YK51 and Sunset Creek, 45KT28). The presence or absence of other artifacts, such as edge-ground cobbles, end scrapers, mauls, polished adzes, polished points, and ground stone beads supported the similarity suggested by the point comparisons.

*The site of Axeti, Kwatna Bay, central coast
of British Columbia*

P. M. HOBLER
Simon Fraser University

Waterlogging at Axeti has resulted from a combination of circumstances. The materials are a part of a midden some of which is on a steep, well drained slope and some of which is in the intertidal zone at the foot of that slope. Deposition of waterlogged materials occurred in the context of the daily reversal of the Kwatna River by the incoming tide. The greatest concentration of materials is in the general vicinity of a complex of stakes, once a part of a fish wier. Initial excavations were by conventional trench square and level techniques, the project being temporarily abandoned with each incoming tide. Later seasons brought the use of a variety of hydraulic techniques. Recovered were nearly 2000 artifacts of both perishable and non-perishable materials. Several types of twined bags, hats, matting, and cordage dominated the assemblage, the cordage being the most prevalent. Objects of wood appeared to be related primarily to fishing technology. Absent were much of the domestic wood assemblage and art objects reported from waterlogged house sites such as Ozette. Objects were kept wet and were laboratory treated in water solutions of polyethylene glycol with only moderate success. Two radiocarbon dates indicate a later prehistoric age for the site. A third date falls within the seventh century AD.

Post-Osceola Mudflow lithic patterns

GERALD A. HOLLEY
Seattle

A site (45K15) in the southern Puget Lowlands has yielded lithic cultural material below, and a substantial amount of lithics above an approximately 4900 year old geologic feature known as the Osceola Mudflow. This analysis was restricted to the examination of post-Osceola Mudflow lithic patterns. The patterning of stylistic modes and classes was emphasized to deal with the problems of vertical control and establishing components. The site has been disturbed by plowing, and material removed for approximately 40 years, but undisturbed associations of lithic material were provided by truncated features. The material from these features provided data for tests of the stylistic similarity of lithics between the features and the plowzone, among features, and between the material excavated and that collected over the site by the property owner. Clusters of lithics compared stylistically showed no significant differences horizontally or vertically and the excavated material indicated no significant differences from the private collection, which was not systematically collected. This

similarity of stylistic modes and classes indicate the post-Osceola Mudflow material was deposited by an occupation/occupations representing one component. The establishment of a single component in the post-Osceola Mudflow material may be utilized as a basis for further lithic analysis and will assist in establishing a local chronology.

'Wet' site distribution--the northern case

RICHARD INGLIS
National Museum of Man, Ottawa

A stream bed that transacts one of the major Coast Tsimshian winter villages has created the northernmost water-saturated archaeological site so far excavated on the Northwest Coast. The Prince Rupert Harbour Site (GbTo33) was excavated in an urgent salvage operation prior to complete destruction by harbor construction activities. The site was excavated with hydraulic techniques, utilizing waterpumps, hoses, and adjustable nozzles. Several perishable artifacts were found, including wood wedges, wooden shafts, digging sticks, box parts, basketry, cordage, wooden handles, and wooden labrets; few lithic and no bone artifacts were found in the 'wet' site. For preservation, the perishables were stored in water and fungicide at the site, and later preserved in polyethylene glycol (carbowax) in Ottawa. Several radiocarbon calculations were determined for the perishables which ranged between 1600-2500 years BP. This waterlogged site, situated immediately between two early house platforms, appears to be a refuse area where broken and unfinished artifacts were discarded. The artifacts are indicative of different village activities, such as woodworking equipment and detritus, and basketry construction materials. The Prince Rupert Harbour basketry, in particular, demonstrates a distinct long in situ continuity with ethnographic Tsimshian basketry. This close similarity between this prehistoric basketry and ethnographic Tsimshian basketry is interesting since the latter is entirely different from the ethnographic Haida and Tlingit basketry, the other groups in the northern co-tradition.

*Burial salvage during the 1974 spring draw-down
of Franklin D. Roosevelt Lake*

THOMAS M. IVERSON
University of Idaho

The remains of over 40 individuals from 8 different sites were recovered in the Lake Roosevelt area during the 1974 Spring draw-down. This work was undertaken as part of the regular salvage program in the area conducted by the Laboratory of Anthropology, University of Idaho in cooperation with the National Park Service and the Bureau of Reclamation. Although several of the burials had been disturbed, preliminary analysis suggests a late prehistoric to early historic temporal assignment for most of the burials. This work compliments earlier investigations of burials in the area by Collier, Hudson, and Ford and more recently by others, primarily Chance and Sprague.

Combs in the Pacific Northwest

SUSAN KENT
Washington State University

Although copiously photographed in books on the Northwest Coast, there exists a relative lack of descriptive information about combs. For example little attention has been given to the possible function or functions of the combs. What information there is on the subject is often contradictory. Ozette combs, due to their unique preservation and site context, provide new information about their tentative uses, their design motifs, materials utilized, manufacture techniques, and distribution in a single house. The Ozette site is also unusual in that it enables the archaeologist to talk with contemporary Native Americans in Neah Bay who at one time or another inhabited the Ozette Village site and remember many of the old customs. Interviews with nine such Makah senior citizens revealed some hitherto unknown knowledge about combs which provide added information to the study.

The pictograph sites in Montana west of the continental divide

GEORGE KNIGHT
University of Montana

During the summer of 1974, several members of the University of Montana Statewide Archaeological Survey crew conducted an intensive survey of the western Montana pictograph sites. This is the result of that survey; it is the most comprehensive assembly of data yet produced on this subject for the western Montana area. The paper will explain the objectives and findings of the survey and will offer a general interpretation of the data, with emphasis on cultural affiliations and regional stylistic variations.

The architectural design of an early house at the Maurer site

RON LECLAIR
Simon Fraser University

This paper focuses on the architecture of a third millennium BC pithouse in the Upper Fraser Valley. The total excavation of this feature revealed a rectangular structure consisting of an interior rectangular depression surrounded by an earth bench. The primary evidence for the house form is based on a distribution of charcoal, the result of a burned super structure, over the house floor. In conjunction with the form there are a number of post moulds indicative of the super structure which suggest ethnographic parallels. Consequently, this feature is evidence that the rectangular form used for house construction is at least four thousand years old on the Northwest Coast.

*The lower Snake River culture typology -- 1975
Leonhardy and Rice revisited*

FRANK LEONHARDY
Washington State University

In 1970 Leonhardy and Rice proposed a series of six phases as the basis for a culture-historical sequence for the lower Snake River region, south-eastern Washington. Since then two of the phases, the Windust Phase and the Cascade Phase have been documented and enough data have been acquired to begin documenting the others. Recent data indicate that the Cascade Phase lasted at least 500 years longer than previously thought; that there is a previously unrecognized cultural unit of unknown affinity between the Cascade and Tucannon Phases; that a discrete separation between the Harder and Pinguin Phases is probably not justified; and that archaeological criteria for the putative Numipu Phase can be formulated. The opinion that two sequent culture-historical traditions are represented still seems appropriate.

*Systematic surface collection of a Cascade Phase site
near Home Valley, Washington*

DENNIS E. LEWARCH
University of Washington

Functional analysis of lithic material obtained by systematic surface collection near Home Valley, Washington in the lower Columbia Valley suggests a series of relatively homogeneous tool clusters. Distributional evidence indicates seasonal reuse of the area. Stylistic comparison with other sites in the region assigns the activity areas to the Cascade Phase of the Old Cordilleran Culture, ca 8000 BP to 5000 BP.

*Flake damage and dispersion produced by cattle:
a report of a field experiment*

ROBERT L. LOGSDON
Western Washington State College

Results of a field experiment conducted at Cooper, Texas during summer, 1973 are presented. Briefly, flakes of brown homogeneous chert were equally distributed in 2 separate 2m squares beneath a grove of shade trees within a fenced 40-acre pasture containing a herd of 27 cattle. After the elapse of seven weeks, the study area was revisited. Gross disturbance of both squares was noted. Flakes were then recorded as to exact provenience as they lay strewn about, and then collected for later damage analysis. Subsequent analysis revealed: (1) damage to many flakes; and (2) patterns of flake dispersal from original proveniences. From these findings, some inferences may be made - which in effect, lead to further questions.

Rock art styles of the Northwest Coast

DORIS LUNDY
British Columbia Provincial Museum

For convenience, rock art styles can be considered to be either conventionalized, naturalistic, or abstract in characteristics. Recent research has isolated several distinct styles in the rock art of the Northwest Coast culture area. Three of these styles are conventionalized making great use of curvilinear designs. Another style, also curvilinear is abstract. Two other styles, one naturalistic and another that is abstract and rectilinear appear to resemble the rock art of the Interior Plateau and seem to "intrude" upon the predominately conventionalized art of the coast. Of the three conventionalized styles, one, the Basic Conventionalized Rock Art Style may be considerably older than any of the others. It is the most widely distributed, the most frequently encountered, and remarkably similar wherever it is found along the coast. This style in particular appears to be closely related to the rock art of Siberia.

Obsidian quarries of the Centennial Valley of southwestern Montana

AUDREY L. MURRAY
University of Montana

During a 1974 survey of reservoirs in the Lima region of southwestern Montana, three obsidian quarries were located in the Centennial Valley. The average elevation of the valley is 6500ft; it lies between the Yellowstone obsidian sources and the Birch Creek region of Idaho. Volcanic glasses in the Centennial area are of the type known as welded tuff or ignimbrite. Several projectile points found during the survey are, typologically, of considerable antiquity. Tests are now being done which will determine if the rhyolitic formations in the valley were the quarrying sources of these points. The quarry material is readily identifiable in thin sections by texture and characteristic inclusions. Current research is being directed toward the assessment of the extent and distribution of the use of these quarries.

*Functional and cultural differentiation in the Puget Sound basin:
an archaeological perspective*

CHARLES M. NELSON
University of Massachusetts

Throughout the last 4000 years of prehistory material culture was strikingly patterned in the littorial and cordilleran sectors of the Puget Sound basin. Although the degree and complexity of this patterning is just beginning to emerge, it is already evident that a fuller understanding of it will have profound implications for the identification of prehistoric cultures and culture areas, as well as the ethnological interpretation of Northwest Coast economic organization.

The Snoqualmie River site, 45SN100

DEL NORDQUIST
Seattle

45SN100, the Beiderbost site, was discovered in 1959 following flooding in the lower Snoqualmie River Valley. The Washington Archaeological Society investigated and commenced excavation. The site turned out to be "drowned" in its lower component at least three-fourths of the year. Artifacts retrieved included an assemblage of stone scrapers and projectile points indicating occupation over at least 2000 years. Interrelations of the inhabitants are suggested with coastal and downriver peoples as well as from eastern Washington. The presence of micro-blades relates to a sub-arctic tradition. Equally significant are perishables, such as basketry, wooden fish hooks, bound net weights, and quantities of cordage, knots, wooden rods, and wood chips attesting to a wood-working industry on the site. It is likely that fishing traps and weirs were used. Radiocarbon date of AD 100±80 years has been established for the lower component.

The wet Fishtown site, 45SK99

ASTRIDA R. BLUKIS ONAT
Seattle Central Community College

Site 45SK99 is a former beach site near the mouth of the Skagit River (north fork). The site is now located 1/4 mi from any source of water and is under 1m of alluvial deposits. Hydraulic excavation of the site was conducted as the stratigraphy revealed that the site extended from a "dry" terrace, to the former tide line and into a "wet" backwash or lagoon area. Fragments of basketry, wooden stakes, and other perishable items were recovered from both the dry and wet portions of the site. The perishable artifacts were treated for preservation at the Washington State University Neah Bay lab.

Components at the Crescent Beach site

RICHARD PERCY
Simon Fraser University

In March 1972, a salvage project was conducted at Crescent Beach in Surrey, British Columbia. The site (DgRrl) is situated on the eastern shore of Boundary Bay. Analysis of rescued materials points to a continuous occupation of not less than 5000 years. The cultural units definable from the earliest to the latest are designated as follows: C. B. I, C. B. II and C. B. III. The first of these, C. B. I, bears demonstrable affinities to the Mayne Phase and is characterized by an artifact assemblage in which lithics are predominantly chipped. The unfired, bowl-like clay features found in C. B. I are a trait unique to the component. The mid-point of this component has been radiocarbon dated at 2320 BC ±80 (GAK-4925). Crescent Beach II relates closely to the Locarno Beach Phase. The lithic assemblage of this component contains a proportionately higher percentage of ground

artifacts than C. B. I. Unique in this component is the evidence for the hithertofore unreported trait of artificial grinding of the labial surfaces of the mandibular incisors and canines, possibly to accommodate large complex labrets. The last intact component at the site corresponds to the Marpole Phase and is typified by the almost complete demise of implements based on cobblestones.

Progress report on the lower Columbia cultural sequence

RICHARD M. PETTIGREW
University of Oregon

Field work carried out in the summer of 1973, in which seven prehistoric and historic aboriginal sites in the Sauvie Island-Scappoose area of the lower Columbia Valley were sampled, resulted in the collection of a substantial body of data which are now being analyzed. These data, along with data derived from private collections from the same sites, are being used to provide a chronological framework for the region's prehistory. So far, 15 charcoal samples have been radiocarbon dated to the range 930 BC to historic times. Ten more samples are now being analyzed, the results to be received some time in March. In addition, three sites from the project area, with unstratified surface deposits only, are estimated on the basis of cross-dating to belong to a period between 8000 and 3000 BC. The data can be grouped according to the following set of cultural periods: 8000-3000 BC, 1000 BC-AD 500, AD 500-1250, and AD 1250-1835. The results, while only tentative, suggest that the relatively sedentary, Northwest Coast type of aboriginal culture on the lower Columbia is several millenia more ancient than has generally been assumed.

*Bison jumping west of the continental divide:
development of a predictive model*

MICHAEL R. POLK
Idaho State University

Communal bison hunting by North American Indians in the prehistoric and historic periods is commonly thought to have been confined to the Plains region. In the last ten years, however, several drive sites have been discovered in both southern Idaho and northeastern Utah, suggesting that bison may have been more important to the economic resource base of the Indians in these areas than was previously thought. It is further suggested that, through use of historical accounts, physiographic and environmental information, in addition to comparisons with Plains drive sites, a predictive locational model for bison jump sites west of the continental divide can be developed. Initially, such a model will be useful for locating new sites and plotting distributional patterns, but the greatest potential of the model is that it can help form a clearer insight into bison resource procurement west and east of the continental divide and a better understanding of communally initiated endeavors.

Fish traps of the Bella Bella region

J. A. POMEROY
Simon Fraser University

A project was initiated by J. J. Hester of the University of Colorado in 1968 to investigate the archaeology of the Bella Bella area of coastal British Columbia. During the summer seasons of 1969, 1970, and 1974 the author surveyed the area, finding a total of 438 sites, of which 109 were stone fish traps, constructed by piling small beach boulders in longitudinal piles. Since 1971 this work has been carried out under the auspices of the Department of Archaeology, Simon Fraser University. This form of fish trap falls into two major types: (1) tidal traps on beaches; and (2) traps directly across the mouths of salmon spawning streams. These two types can be broken down into subtypes: (1) small or large; (2) simple or complex; (3) traps at right angles to and in stream mouths; and (4) traps parallel to and in stream mouths. Trap sizes vary considerably, some several hundred meters long, others only a few meters in length. Ethnographic information indicates that these traps were used until quite recently, some are possibly still in use. How far back in time they were used has still to be determined. Traps are often associated with middens, though many are not. They do not appear to be associated with rock art. The exact method of use has not been determined, but one can assume that the native people caught the trapped fish by any method available to them at the time.

*Harlan I. Smith, Boas, and the Salish: unweaving
archaeological hypotheses*

ELLEN W. ROBINSON

Harlan I. Smith, in the publications of the Jesup North Pacific Expedition, has been quoted to support opposing positions on Salish prehistory. For instance, Caldwell cited Smith to support the position that the Salish had an early coastal homeland, with later influence or movement inland. Borden and Drucker have cited Smith to support the position of an interior homeland, with later migration to the coast. The aspects within Smith's works which gave rise to these opposite responses have been interpreted as anomalous (Drucker), or as representing his early and later periods (Borden). In this paper, I propose that Smith's position is based on a criterion held consistently throughout his publication: it is the criterion of simplicity. In every case, Smith explains the presence of materials from the coast found in interior sites, or materials from the interior found in coastal sites in the simplest possible manner. He typically uses ethnographic analogies to assist in selecting which of the alternatives is the simplest. The only evidence which seems logically and actually to support a migration hypothesis as the simplest explanation is the evidence of the skulls at Eburne (Marpole), as interpreted by Franz Boas. Boas described (in Smith 1903), excavated skulls as belonging to two different physical types. These two differences are "emphasized" by two different kinds of head deformation. Smith also reports similar skulls at North Saanich, but reports no major artifact change in either of these assemblages. The differences between the two physical types seems to correspond to differences in living interior and coastal

populations which Smith reports (1900). Thus Smith found it simpler to suppose that whatever interior elements were found in coastal sites were introduced by people of the interior type also found there. When we understand the relationship between Smith's evidence and his theory, we can use additional evidence to amend or review his position. For instance, recent work questions Boas' interpretation of the Eburne skulls. If Boas' interpretation was omitted from the arguments of these papers, I think Smith's alternative interpretations would be sufficient to explain all of the data. In another case (of cairn burials on Vancouver Island), Smith interprets similar but not identical, evidence of skulls showing different types of deformation, as similar to ethnographically known deformation practices: evidence of continuity of custom. Thus, in Smith's own terms, the migration hypothesis would become unnecessary, both logically, and in fact.

The Little Qualicum River site

BJORN O. SIMONSEN
British Columbia Provincial Museum

The discovery of a site located at the mouth of the Little Qualicum River on Vancouver Island which contains a considerable amount of well preserved prehistoric artifacts made of wooden and other vegetal matter, has led to speculation that many similar sites may also eventually be discovered along the east coast of Vancouver Island. The Little Qualicum River site was discovered as a result of exposure of a deposit containing water logged materials which was caused both by tidal and river erosion. Initial attempts to preserve the site by means of stopping the natural erosion have resulted in some success and this paper deals in part with a discussion of preservation of wet sites for future archaeology as an alternative to excavation relying upon presently inadequate techniques and facilities.

*Pacifism, conflict, and defense in the Columbia Basin:
ethnographic models and archaeological reality*

WILLIAM C. SMITH
Central Washington State College

Is archaeology nothing more than the "ethnographic present" with additional time-depth? Or does the archaeological record provide an independent corpus of data against which ethnographic models themselves might be evaluated? Assuming such evaluation to be a major task of contemporary archaeology, this paper proposes an archaeological assessment of Verne F. Ray's ethnographic model (the Sanpoil-Nespelem, or S-N model) of central Plateau culture. Two aspects of the S-N model are selected for examination: the nature of subsistence-settlement patterns in the Columbia Basin; and the significance of pacifism as a focal element in Plateau ideology. Predictions derived from the S-N model are tested against recent archaeological data, with results which seem to point toward disconfirmation. While these results are regarded as highly tentative, it is suggested that further archaeological assessment might indeed require substantial revision of the S-N model, thus enlarging our understanding of the ethnographic present as well as our knowledge of the archaeological past.

Random and non-random sampling of the same site

BRIAN E. SPURLING
Simon Fraser University

DcRu2 is a small shell midden located between Esquimalt Harbour and Esquimalt Lagoon, near Victoria, British Columbia. Two excavational programs have been carried out on the site. During 1972 the midden was sampled in a non-probabilistic format. A series of 1x2in units were excavated along an arbitrary north-south transect. In 1973 a simple random sample was obtained. The two recovered samples are compared in terms of the relative frequencies of classes of technological cultural items. A one-way ANOVA and a Q-mode factor analysis are deployed. The results of this comparison are presented and the ramifications this exercise has for sampling similar sites and archaeological complexes in general are discussed.

The use of archaeological research in delineating Skagit River delta development during the last 2500 years

GAIL THOMPSON

This paper discusses the use of recent archaeological research in delineating Skagit River delta development during the last 2500 years. Information from five Skagit delta prehistoric sites including 45SK41, 45SK81, 45SK59, 45SK37, and 45SK33B is discussed. Shellfish remains and functional artifact types are used to infer delta-associated activities for occupations at the two sites which are not located directly on the Skagit delta, 45SK41 and 45SK33B. Minimal ages established by radiocarbon dates ranging from 2180±70 BP to 425±75 BP for all delta-associated occupations at the above sites show sequential development of the Skagit delta southwestward from the present town of Mt. Vernon. Based on current data, delta growth has averaged 1522ft per century during the past 2000 years.

Pit house chronology of the lower Fraser

HENNING VON KROGH
Simon Fraser University

Although a tentative cultural sequence has been outlined for the southern Fraser Canyon area, only two detailed reports are available for study. Both of these examine pit house occupations; one dating to as early as 480±90 BC, the other extending into protohistoric time. During 1974 excavations were conducted at two pit house villages on the south bank of the Fraser River, just west of Hope, British Columbia. As a result of this work three pit houses were extensively excavated and over 3000 artifacts were recovered. The question as to where these sites can be placed in the temporal sequence for the area is examined with respect to cultural assemblage and pit house construction. From preliminary work, some inferences can be suggested as to changes in artifact frequencies through time. With the present data, the recently excavated pit houses appear to date to a time intermediate to the previously reported sites.

*Neutron activation analysis and the identification
of archaeological bone: a preliminary report*

GARY WESSEN
Washington State University

Preliminary work employing neutron activation analysis -- widely used for the spectroscopic analysis of inorganic archaeological material (i.e., stone, clay, metal) -- has been applied to bone in order to reveal the gross habitat of the individual animals represented by archaeological materials. Data on Alkaline Earth metals, especially Ba/Sr ratios, have been shown to be useful in distinguishing the bones of terrestrial herbivores from those of marine carnivores. This technique shows potential for determining the kinds of animals from which the numerous bone artifacts present in coastal sites originated. Such data would be useful in the analysis of technology, cultural selection in the use of raw materials (i.e., idea systems), and perhaps in coastal-interior trade/exchange systems. In addition, it is hoped that techniques and criteria described here may prove to be the basis for identifications of a more specific nature.

*The FaRm 8 SYMAP project: the application of a computer mapping
technique in the analysis of archaeological data*

ROB WHITLAM
University of Victoria

The field of computer cartography is a rapidly expanding one and its implications and usage has yet to be realized in archaeology. This report deals with the application of one such technique in the analysis of archaeological data. The SYMAP program is described and its application in the analysis of activity areas at a segment of the FaRm 8 site is summarized. The use of SYMAP in site interpretation, establishing stratified random samples and use by survey crews is discussed.

Central place theory in Plateau prehistory

MARTHA YENT
Washington State University

This paper takes a theoretical model from geography and modifies it so that it might be applicable to a study of the late prehistoric settlement system in the Northwest Plateau. Central place theory is based on a model in which a set of objects are transported and exchanged by means of a system of circulating movements. The energy inputs into this system are a result of the biological and social needs of the community. The hypothesis is that central places existed in the Plateau prehistorically in the form of the large fishing sites that served as organizational, distributional, and resource utilization centers for the dependent outlying areas. Basic to this hypothesis are the proposed seasonal round, the movement of people and/or resources between the environmental zones, and the concentration of activities at certain locations. The original central place theory is modified and developed, using

archaeological, ethnographic, and ethnohistoric data from the Plateau. A procedure to test the derived hypothesis through archaeology is then constructed. The advantages and disadvantages of both the theory and testing are pointed out.

Historical Archaeology

Historicity of archaeological data

WILLIAM H. ADAMS
Washington State University

Many archaeological studies of complex societies present a biased picture of those societies because of the historicity of the archaeological data. Sites possessing historicity are generally representative of the power structure, the elite, of the society and cannot be considered as representative of the whole society. The common man, be he peasant or plumber, has been virtually ignored by historical archaeologists. The bias of historicity must be recognized before cultural reconstructions ever approximate reality.

Time lag in the disposal of ceramics in Silcott

WILLIAM H. ADAMS and LINDA P. GAW
Washington State University

Ceramics and glass vessels provide the historical archaeologist with excellent chronological indicators. However, because of the kind of vessel, its use and reuse, ceramic vessels enter the archaeological record under different circumstances. Hence, ceramics and glass vessels must be considered separately when interpreting depositional dates. Manufacture dates for ceramic and glass artifacts found in sites at Silcott, Washington are examined in relation to the depositional sequence. Results indicate a significant time lag for ceramic items. The reasons for this time lag are explored in terms of the community and its external relations.

Kanaka Village/Vancouver Barracks and the objectives of historical archaeology

DAVID H. CHANCE
University of Idaho

The 1974 highway salvage excavations at Kanaka Village and Vancouver Barracks furnish a backdrop for a review of some of the objectives of historical archaeology in the Pacific Northwest. These objectives may be categorized under three headings; the study of artifacts, the examination of structures and features, and the search for historical and cultural implications. The salvage of a doomed site seems to somewhat alter the elementary objectives of recovery and reporting.

*Cartridge use and reuse by Nunamiut Eskimos
of the late contact period*

JAMES E. CORBIN
Washington State University

One winter (ca 1890) a small band of Nunamiut Eskimo made their winter camp on a small creek at the mouth of the Atigun River canyon in the Brooks Range of northern Alaska. Although most of the hunters were still hunting with flint- and antler-tipped arrows, at least one or two of the men had a .44 Henry (possibly an 1866 Winchester) and an 1873 Winchester rifle. Although ammunition was scarce (as evidenced by reloaded rimfire and center-fire cartridges), the cartridges also served as blunt arrowheads and sources of metal.

Haida argillite carvings at Fort Vancouver

DANIEL T. CRANDALL
University of Washington

The Haida Indian practice of carving argillite, a carbonaceous, indurated stone quarried on their native Queen Charlotte Islands, has in the past been of interest primarily to museum ethnologists and devotees of Northwest Coast Indian art. While this allocation of attention may appear appropriate, argillite carving is decidedly an historic, albeit non-Western, industry; its reliance upon European tools and motifs, interrelationship with historic trade patterns, and presence at Pacific Northwest historic sites suggest that argillite carving warrants attention from the region's historical archaeologist. Following a summary background which focuses upon the growth of argillite carving as a trade industry, several specimens from Fort Vancouver will be illustrated and described.

*A model for archaeologically identifying local vs imported
technologies: a case study of the indigenous metal
industries at Fort Vancouver (ca 1829-1860)*

CHARLES H. HIBBS
Fort Vancouver National Historic Site

An imposing problem in the investigation of any archaeological assemblage is the recognition of indigenous vs. imported artifacts. Comparative archaeological and historical evidence from the Hudson's Bay Company, Fort Vancouver (ca 1829-1860) suggests that positive identification of an indigenous metal industry involves the identification of the products of that industry, together with the by-products of the manufacturing process. To this end a general model stressing the procedural relationship between raw materials, partial manufactures, waste by-products, and finished products has been developed to correlate stylistic variability of related artifacts with site-specific manufacturing processes. Analysis of debris from the pre-1836 and post-1836 blacksmithing areas within the fort indicates that axes, trap parts, adzes, wrought nails, building hardware, and musket parts

were both imported and manufactured locally. Further, specific styles of trap parts and axes have been correlated with sequences of partial manufacturers representing the by-products of indigenous manufacturing processes, verifying the utility of the model.

*Preliminary survey of the Gulick Homestead/Indian Shaker Church
(Lone Pine Island) site*

GARY REINOEHI and SUSAN W. HORTON
Portland

An Indian Shaker church is one of seven standing buildings on an abandoned Native American homestead site, the Gulick Homestead/Lone Pine Island site, dating from 1891, located three miles east of The Dalles, Oregon. Ethnohistorical background on the site includes a discussion of the spread of the Indian Shaker Church to the mid-Columbia community and an overview of local economic and cultural activities in the late nineteenth century. The site is described in terms of the distribution of buildings, artifacts, and activity areas, with special consideration to the relocation, destruction, and modification of component structures. A trait analysis of the construction characteristics and materials is offered, and the distinctive features of the church structure demonstrated. Inferences arising from archaeological analysis are offered as the basis for future study by convergent techniques.

*The log structure at White Bluffs ferry landing, Franklin County,
Washington: a case study in historical archaeology*

DAVID G. RICE
University of Idaho

The U. S. Energy Research and Development Administration (ERDA) in meeting its obligations for historic preservation under Executive Order 11593 requested an archaeological assessment of an isolated log structure standing on the east bank of the Columbia River at White Bluffs ferry landing on the Hanford Atomic Works. The basic problem was to define the significance of the structure in terms of the history of the area. The Hudson's Bay Company transshipped goods from this point to Fort Colville via the Colville Road. During the Indian Wars of 1858 a military depot camp was established at the site. Late in the nineteenth century settlers established homes and ranches at the site which were in use at the time the Hanford Works was established in 1943. Historical, ethnographic, and archaeological lines of evidence are used to identify the proper place and significance of the log structure in local history.

*Archaeology and history at the Sacred Heart Mission,
Cataldo, Idaho*

DAVID G. RICE and ROBERT M. WEAVER
University of Idaho

Public interest in the Sacred Heart Mission, a National Historic Landmark in the Idaho panhandle, led the Idaho Bicentennial Commission to fund for architectural restoration of the mission building and historical archaeological investigations at the site. Preliminary archaeological excavations were conducted by the University of Idaho in 1973 and a University of Idaho summer field school in archaeology was held at the mission in 1974. The significance of the Sacred Heart Mission is discussed in terms of its role in Northwest history. The Jesuit mission was established at its present site in 1846. The Mullan Military Road was constructed by the mission in 1859-61. The mission figured prominently in the Indian Wars of 1858. Noted persons in Northwest history spent time at the mission. The wealth of historical material available for the mission site makes it well suited for historical archaeological studies. Excavations both corroborate and clarify the historical record, but also raise questions not discussed in the historical record.

After the ball was over: archaeology with crowbar and hammer

TIMOTHY B. RIORDAN
Washington State University

During the demolition of historic Ferry Hall on the Washington State University campus, archaeologists were called in to examine an abundance of trash discovered beneath the floor boards in the attic. The assemblage dates from the first decade of this century. Recovered artifacts include books, class notes, letters, and some rather unique items. The problems of "excavating" this type of above ground site are explored and some recommendations for further research are made.

Silcott harvest 1931: a study of the individual in archaeology

TIMOTHY B. RIORDAN
Washington State University

Only rarely do archaeologists have the pertinent data available to study an individual during a short time span. Such was the opportunity presented to us during the demolition of two migrant laborer shacks in the summer of 1973. A variety of artifacts, particularly perishables (e.g., letters, magazines), were discovered in the walls. The evidence indicates that the trash was put there in the summer or fall by one person. His trash reveals several insights into the personality of a migrant laborer and his attempts to cope with the Great Depression. The value of studying an individual through archaeology is examined in the light of this evidence.

"Spode" transfer-printed earthenware imported by the Hudson's Bay Company to Fort Vancouver: temporal markers for the northwestern United States (ca 1833-1853)

LESTER A. ROSS
Fort Vancouver National Historic Site

During the mid-nineteenth century, hundreds of tons of transfer-printed earthenware were imported to Fort Vancouver by the Hudson's Bay Company for distribution throughout the entire Pacific Northwest. The majority of these wares were produced at the Spode Pottery by "Spode" (pre-1833), "Copeland and Garrett" (1833-1847) and "W. T. Copeland" (post-1847) with imports to Fort Vancouver initiated ca 1833 and terminated, due to United States tariff laws, ca 1853. From archaeological excavations sponsored by the National Park Service at Fort Vancouver, 46 transfer-printed "Spode" patterns have been identified, illustrated, and correlated with 21 Spode-Copeland & Garrett-Copeland manufacturing marks. The known temporal-spatial distribution for patterns and marks has been prepared for the territory occupied by the Hudson's Bay Company, and the cultural-temporal significance of this distribution for the northwestern United States is hypothesized.

A Catch-22 in the National Register of Historic Places

DENNIS ROUBICEK, TOM RENK, and NANCY RENK

A body of Federal legislation now exists which should give archaeologists a much needed sense of optimism concerning site preservation. A curious dilemma exists, however, concerning the removal of a site from the National Register of Historic Places. This dilemma illustrates a need for archaeologists to understand the power and responsibility inherent in using these Federal laws.

The San Juan project: a five year progress report

RODERICK SPRAGUE
University of Idaho

The Laboratory of Anthropology, University of Idaho in cooperation with the University of Washington has completed five years of a nine year project of historical archaeological excavations in the San Juan Island National Historical Park. This project, financed by the National Park Service, has completed two seasons at English Camp and one season each at San Juan Town, Hudson's Bay Company Bellevue Farm, and American Camp. Through slides the work thus far is reviewed with suggestions for future work and interpretation.

*The Jesuit reduction system concept: its implications
for Northwest archaeology*

ROBERT M. WEAVER
University of Idaho

The Jesuit missionaries who established a mission system in the Northwest beginning in the 1840s modeled the structure of that system on the Reduction System concept which had proved successful earlier in Paraguay. The system of reductions or self sufficient, isolated native communities under church control was proposed for the new wave of missionary activity after the reestablishment of the order in the early 1800s. The full development of this system failed in the Northwest due to many differences in natural and social environment from the original, successful ventures in South America. The attempt, however, to maintain this system in a modified form contributed to an unique situation which had a great influence on the types of material assemblages, social structures, and attitudes of the people who came within the sphere of Jesuit influence. The uniqueness of this system and the backgrounds of the missionaries themselves have definite implications for the archaeological record and for the process of culture change in the Northwest.

Physical Anthropology

*A critique of research conducted on population differences
in physiological response to ethanol*

J. T. BURNHAM
Washington State University

Individual differences in physiological responses to alcohol as a result of inheritance have been well demonstrated. Recent research indicates there may also be population differences in physiological responses to alcohol. It has been found that vasodilation at the earlobe in response to alcohol ingestion appears to be a Mongoloid trait and there may be the possibility that Native American populations eliminate alcohol from the blood at a slower rate than Caucasians. Many researchers assume that these differences can explain different frequencies of alcoholism in different populations. However, a proof of differences in physiological response is not an adequate cause to claim a difference in genetic predisposition to alcoholism. Despite the lack of proof for the existence of genetically controlled population differences in susceptibility to alcoholism a number of hypotheses have been presented to explain these population differences. Although population studies have produced no serious conclusions they are only beginning and may one day make important contributions to our understanding of the etiology of alcoholism.

Hunting: the human response to selectivity

ERIC R. DAVENPORT
Oregon College of Education

Man, of the contemporary scene, *Homo sapien sapien*, is a product of the evolutionary process, operatively directed by the properties of selectivity. For the past three million years varying hominid forms responded to selective pressures by employing a hunting behavior. However, existence is founded on the available provisions of the environment, a predisposed condition persisting for all known organisms in this biosphere. The question then can be asked: did man choose hunting as an adaptive response to the pressures of selectivity, or did these same circumstantial pressures choose man to be a hunter? Then, as now, exists an ecological niche for a hunter of big game. Before fulfilling this environmental role, however, the descendants of contemporary man had to change their dietary behavior from that of vegetarianism, to omnivorism. Related changes in the organisms biochemistry were subsequential, and the ramifying implications relative to the other parameters of the hominid organism, e.g., cranial morphology, anatomy, intellectualized behavior, et. al., followed necessarily. A generalized physiology, evolutionarily developed, produced both a versatile and enduring mode of bipedal locomotion. Nonetheless, the physical properties of early hominids required auxillary means for procuring meat, with the adaptive response being cultural behavior. The evolutionary phylogeny of *H. s. sapiens* is characteristically dynamic, culminating in the production of an environmentally relativistic organism maintaining sustenance through a functioning cultural milieu oriented to occupational hunting.

*The cephalic index: the history of an idea
in physical anthropology*

B. RAYMOND DRUIAN
Washington State University

The cephalic index was conceived in 1842 to classify human skeletal remains in archaeological sites. A revolutionary attempt to quantify cranial morphology, its meteoric rise in popularity as the single most important trait in classifying peoples in Europe can be related to the social and political conditions there, particularly in Germany, which fostered racial determinist theories. Furthermore, the dwindling interest in the cephalic index during the past 35 years can be related to the general declining interest in classical morphology. These trends are exemplified by such anthropologists as Ammon and Vacher de Lapouge who were greatly influenced by their nations' social and political positions, while others, such as Boas and Weidenreich, were alienated from the dominant political and social milieu.

Some aspects of human evolution in Africa

MITZI MAHAFFEY and SHARIE SHORT
Oregon State University

Hominid evolution has been historically viewed as occurring along a single narrow continuum. Evolutionary progression beyond the incipient *Australopith-ecines* has for the most part been associated with the glacial periods of Europe,

thereby assuming that the continent of Africa has had little or no influence upon the mainstream of this process. Recent evidence from Africa forces a reevaluation of traditional models. It is our contention that by collapsing the dimensions of time and space, Africa's role in hominid evolution will become at once distinct and evident. It is postulated that Africa is the birthplace not only of the earliest hominids but of man's own genus and species. It is further maintained that the continuum of human evolution is not as straight and narrow as it is usually supposed. Evidence from the archaeological and osteological records, as well as data from human biology, cultural-behavior studies, and geographical sources are employed in order to substantiate the position that *Homo erectus*, *Homo sapiens neanderthal*, and *Homo sapiens sapiens* were simultaneously present on the African continent.

*Social roles and behaviors of seventeen captive
Hanuman langurs (Presbytis entellus)*

JAMES J. MC KENNA
University of Oregon

After 1604 observation hours, the social behavior of 17 captive Hanuman langur monkeys are analyzed in terms of what Gartlan, Crook, and Rowell have called "social roles." This research demonstrates that nonhuman primates can be effectively studied in a manner which integrates concepts of group structure traditionally found and used in ethnological research. Securing information about what Crook calls "the social process itself" for this society roles are ascribed not only to general age and sex classes, but also the individuals occupying these classes. Focusing upon grooming, play, aggression, appeasement, and infant-transference behaviors; a series of social roles are defined under three broad functionally differentiated categories: bonding roles, aggressive roles, and tension-reducing roles. The analysis reveals that a great deal of behavioral variability both between and within sub-groups of the society exists, and yet, the stability of the society is maintained because within general behavioral limitations, individuals participate in appropriate behavioral rituals determined by their age and sex. The utility of role analysis is shown and the nature of roles in nonhuman primate societies is shown to be similar to that which is true for human groups.

The effect of plate tectonics on human evolution

SANDRA J. PROFETA
Oregon State University

Plate tectonics is significant not only as a revolutionary concept in geology, but in the field of anthropology as well. Evidence indicates that the opening of the Red Sea, as a result of the movement of Saudi Arabia away from the continent of Africa, precedes in time the appearance of *Australopithecine* populations in Africa. This movement, beginning in the Miocene-early Pliocene, was not sufficient to affect *Ramapithecine* migrations across the Arabian peninsula into Asia but was important in creating a subsequently isolated environment in later African hominid populations. The effect of tectonics is a major factor to be considered in research on paleoprimates populations.