

THE ALEUT-ESKIMO COMMUNITY

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Along the coast of northern North America, Greenland and a small area in Siberia, there exists a genetically, linguistically and culturally related population which provides one of the most outstanding examples in human history of the linear distribution of a population. By virtue of its unusual contiguous linear extension this stock offers a number of basic problems concerning the process of racial, linguistic and cultural change. It is first necessary to appreciate the ways in which these peoples are related, to assess their ecological relationships and their relative time depth, before the processes by which they have become differentiated into geographical variants can be profitably studied. It is now apparent that there is sufficient evidence for considering these peoples as one unified stock, physically, linguistically and culturally. Researches of the last five years which have included dialectical studies, dental and morphological researches, blood typing, ethnological and archaeological studies, have brought to light much information which demonstrates the nature of the relationships of the contemporary people and, especially with the finding of core and blade industries, the relatively great time depth of the proto-Aleut-Eskimos. At the same time these researches have indicated the great fertility, the creativity and innovative genius of these pragmatically oriented people.

To the extent that both the variability and the structure of Aleut-Eskimo culture have been ignored, the racial polymorphy unappreciated, the ecological framework disregarded and the time depth minimized, there has been an accompanying lack of attention to process. As a consequence, there has been a frequent resort to migration of unrelated peoples from the most improbable places to explain various traits which were felt to be aberrant.

In the study of Eskimo culture as well as in the racial background the underlying assumption that change or evolution took place "somewhere else" is frequently manifested. Thus, an amazing medley of peoples ranging from the Ainu, Tungus and Kamchadals on the one hand to various American Indians such as Athabascans on the other hand have been cited as the authors or bearers of Aleut-Eskimo traits. Consideration of genetic processes in race, language and culture, plus the fact that there has been ample time for substantial changes to have taken place, when added to the known examples of change and development *in situ*, obviate the excessive dependency upon external sources to explain the elaboration of culture or race among these highly adaptable people. It is the intent of this paper to examine certain aspects in the nature of the Aleut-Eskimo relationship, to call attention to the variability, to cite various examples of internal change and to point out the need for the study of the actual processes of change.

Is There an Aleut-Eskimo Racial Unity?

Much of the answer to this question concerning the unity of the Aleut-Eskimo stock hinges purely upon which of two major approaches to the recognition of a race is used: the typological approach or the population approach. The deficiencies of the older typological approach have been exposed sufficiently elsewhere to exclude that method from serious consideration (Laughlin, 1950, 1951). When we turn to the question of whether or not these people constitute one over-all breeding population we are in a position to deal with the problem scientifically. Present evidence indicates that Eskimos have habitually interbred with Eskimos, Aleuts with Aleuts, within their several breeding isolates, and that Aleuts mated with Eskimos. The frequencies of intermarriage between the different dialectical and language groups have surely varied considerably. In the case of the greatest linguistic barrier, that between Aleuts and Eskimos, there are ample references in the traditional accounts of the people to demonstrate beyond any question that the Aleuts frequently raided the Koniags for wives and slaves and that the Koniags did likewise. The Koniag Eskimos are the only people with whom the Aleuts have been in immediate contact. Keeping in mind that it is the breeding population which is the race, and not a type abstracted from the population, it is immediately apparent that the Aleut-Eskimo peoples constitute one breeding population and therefore constitute a sub-race or race depending on the taxonomic value to be assigned their degree of distinctiveness from other breeding populations.

Once it is recognized that these people do intermarry, at different rates between the many breeding isolates, and that there is gene flow throughout their geographical range, we are in a position to assess the differences between the breeding isolates within this population. This view simply recognizes the polymorphy of these people and the large number of geographical variants in contrast to the inaccurate typological system of assuming a type and considering all differing isolates to be deviations from that type.

The question of Indian intermixture has been dealt with previously. The essential points are: 1) little or no mixture with Indians has taken place, and 2) there are not enough Indians in the contiguous areas to notably affect the larger populations of Eskimos or Aleuts. The possible exception of certain peripheral groups of Eskimos such as those about Hudson Bay can be admitted but, since they constitute a numerically insignificant part of the Eskimo population, random mixing between Indians and them, if demonstrated, would make little difference in the over-all genetic constitution of the Aleut-Eskimo population. (Collins, 1951, pp. 445-454.)

The physical characteristics shared by most isolates of the Aleut-Eskimo sub-race are varying amounts of blood type B, with more A and O, a generally Mongoloid physiognomy, small hands and feet, large relative sitting height, small nose, mandibular torus, shovel shaped incisors, and a number of other dental characters. In some of these characters, such as blood type B, the adjacent Indians appear to be

totally lacking in the necessary gene; in the other characters the frequencies of the traits distinguish the Aleut-Eskimo peoples from the Indians. It is interesting to note that selected similarities between Eskimos and Indians in Canada have been used as evidence of inland origin for the Eskimos whereas selected similarities between Indians and Eskimos in southwestern Alaska have been used as evidence of admixture. That the Indians should be considered contemporary representatives of ancestors in one case and adulterating agents in the other case is an unscientific coercion of the data in an attempt to justify a particular theory of the origin of the Eskimos. The Aleut-Eskimo population is also characterized by variability in head form. However, the majority of Eskimos and Aleuts are brachycephalic or high in mesocephaly. Brachycephaly reaches a climax among the later representatives of the populations in the area of the eastern Aleutians and Kodiak Island, and declines again in the western Aleutians.

The four factors responsible for changes in a population are selection, mutation, genetic drift, and migration or mixture. Past theorists have placed primary reliance upon mixture to explain the variants in the population. This has been accompanied by the attempt to analyze race on the basis of a single skull (Birket-Smith, 1952, p. 14). It can only be reiterated that a race is a population and that one individual is an inadequate sample of any contemporary population. Owing to the variability in all Mongoloid populations, as in other populations, there is much overlap in most of the northern peoples, Neo-Asiatics and Paleo-Asiatics, including the Aleut Eskimos. On the basis of morphological classification it is often possible to place a particular individual in any one of several populations.

An example of internal change appears to exist in southwestern Alaska where an earlier population, designated in the Aleutians as Paleo-Aleut, has been largely superseded by a later population, Neo-Aleut (Pl. 1, a-d). This same succession is known to have occurred in the prehistory of the Kuskokwim Eskimos and the Koniag Eskimos. The fact that the Neo-Aleuts have their heaviest concentration in the eastern Aleutians, and that this population succession took place in adjacent areas to the east, is sufficient in itself to exclude the importation of "Tungids," from Asia. On the basis of their higher blood type N frequency alone, the "Tungids," the Ainu, and other Asiatics may be exempted from a rather ambitious voyage from Asia to southwestern Alaska. Additionally, the relative population size must always be kept in mind when mixture is suggested for the origin of a particular trait or type. Hybridization of the population of southwestern Alaska would have been no mean task for a considerable number of extremely fertile "Tungids." One has only to note the minor genetic effect of the Russian occupation on the Aleuts to roughly estimate the required numbers (Boyd, 1950, pp. 418-419).

Only patient examination of large numbers of stratigraphically derived skeletal collections will provide the details of the origin of the many geographical variants among the Aleut-Eskimo stock. Undoubtedly different processes have been more important at one time than another.

Additional increments of Mongoloid populations may have come across Bering Strait from time to time. The distribution of the people into small breeding isolates and these into small village communities provides an ideal situation for the process of genetic drift (Laughlin, 1950).

Linguistic Unity of the Aleut-Eskimo Stock

Perhaps the most adequately documented example of the common background of the Aleut-Eskimo stock lies in language. As a result of the studies of both European and New World scholars there is at least a little information on most of the divisions and in many cases much information. Though Rasmus Rask had recorded a list of words spoken by two Aleut brothers in St. Petersburg in 1819 and correctly linked Aleut with Eskimo, neither he nor later researchers had sufficient first-hand material nor had fundamental structural comparisons been made until the recent studies of G. H. Marsh and Knut Bergsland which have been conducted in a number of Aleut villages and in all the dialects. The theoretical importance of the Aleut linguistic studies to the problem of the relationship and origins of the Aleut-Eskimo peoples may be indicated by an earlier quotation from Sapir:

Had the historical significance of linguistic differentiation been more generally appreciated, I doubt if the theory, for example, of the distribution of Eskimo tribes from the west coast of Hudson Bay as a centre would have received quite such ready acceptance. I do not wish expressly to oppose this theory, but merely to point out that it does not well agree with the linguistic evidence. The Eskimo linguistic stock is sharply divided into two dialectic groups, Eskimo proper and Aleut. Inasmuch as Aleut is confined to Alaska and as a considerable number of distinct Eskimo dialects are spoken in Alaska besides, it seems very probable to me that the earliest at present ascertainable centre of dispersion of the tribes of Eskimo stock lies in Alaska (Sapir, 1916, p. 82).

Those divisions to which Sapir referred as dialectic groups are now recognized as languages. Thus, in referring to the degree of difference between Yupik and Inupik Swadesh states, "It has long been customary to speak of the Eskimo dialects. We now see that it is correct to recognize two separate languages with dialectical variations" (Swadesh, 1951, p. 70). The third language, and much more divergent, is Aleut, which has three dialects. The nature of the linguistic relationship has been examined by Bergsland (1951), Marsh and Swadesh (1951).

Recognizing the fact that the fundamental structure and some of the basic vocabulary correspond in the two languages, it is possible to estimate the time of divergence from a common proto-Aleut-Eskimo language by a method based on the percentage of basic vocabulary correspondence. Such an estimate suggests a period of 4,000 years of separate development. This is, happily, compatible with the archaeological record of a relatively great time depth in southwestern Alaska, a record based on carbon-14 dating. A shorter period of time, some 1,500 years, is estimated for the time of separation between Yupik and Inupik.

Past attempts to find similarities indicative of relationship with other peoples, such as the Ainu or the Kamchadals, has been

unsuccessful. This is quite understandable when the probability of Alaska as the homeland of the proto-Aleut-Eskimo of some five thousand or more years is recognized. No non-Aleut words have been found in the Aleut dialects, excepting, of course, the recent accretions of Russian and English. There can be extremely little basis for an assertion of any basic similarity or immediate interrelation between Aleut on the one hand and the Chukchi-Koryak-Kamchadal family of languages on the other. The phonologic system in the two groups of languages is more or less dissimilar. The morphologic pattern is likewise rather remote, and the lexicon shows tenuous connections if any at all. Furthermore, as a side point, if one is going to compare the Chukchi-Koryak-Kamchadal (or Lucravedlen) family with Aleut, Kamchadal is the least probable member of that family from which to demonstrate. Of the three, Kamchadal shows the most aberrant form and is also the most clearly permeated with the rather striking Uralic or Altaic (most likely Altaic in the case of Kamchadal) phonologic features which all three of these languages manifest. There is the vague possibility of some remote comparisons between Chukchi-Koryak-Kamchadal and the Aleut-Eskimo stock in general, but the comparisons that might be made will have to be on the proto level, with the assumption that an ancient substratum of proto-Aleut-Eskimo overlain by a dominant Uralic speaking element might have produced languages such as we see in the East Siberian group. In view of the fact that the Aleuts have been separated from contact with Indians by the intervening populations of Eskimos, and from Asia by a minimum distance of 180 miles to the uninhabited Kommandorski Islands, non-Aleut words would have to be accepted before their movement out onto the chain. This would mean a time span of at least 4,000 years and it is unlikely that they would be identifiable at this date.

In addition to providing the analysis of putative Asiatic similarities G. H. Marsh has provided the summary quoted here:

On the linguistic connections of Aleut and Eskimo the identity of phonologic system stands out. Both groups have the same five ranges of consonant phonemes: bilabial, dental, alveolar (also called prepalatal), velar (or postpalatal), and uvular, plus a defective lateral series. Furthermore all the Aleut and Eskimo languages show the greatest instability in the phonematic system in the alveolar series, so that the interrelations between *c* *x/z* *y* are variable and often the series is defective in some respect. There is also no nasal to go with this series (it would have to be *ny*) which in the Eskimo dialects where it does exist (around Point Barrow) is said to be no more than a phonetic variant of *n* due to the palatalizing influence of a preceding *i*. All of these languages have an identical vowel structure with three vowels, *i*, *a*, *u*, which can be doubled or lengthened. These languages all agree in admitting only a limited number of consonants at the end of a word, and it is in every case the same consonants: the nasals, the velar and uvular fricatives or the velar and uvular stops. The morphologic system of all these languages also concords in its essential features: 1) all derivation is by suffixes only (a feature in which this linguistic stock may be unique in the whole world), 2) the basis of the categories of number, person, and "case" is the same, 3) the differential treatment of consonant and vowel stems both in the nouns and verbs is found throughout, 4) the fundamental morphemes designating number, person,

and case are uniformly comparable, 5) the verb structure is everywhere similar: a) in paradigms made up of both verbal and nominal forms, b) in the use of invariable forms which are lacking in any suffixes for either person or number, c) in the types of model distinctions which are contained in the verbal complex, 6) the "adjective" is a noun (not a verb as in many Indian languages), 7) the variety of augmentative and diminutive and other derivational suffixes on nouns are the same and many of these can also be repeated in the verb complex, 8) the pronouns and demonstratives have different paradigms from the nouns, and the special suffixes are identical, 9) there is a lexical correspondence of at least thirty percent (personal communication).

The over-all importance of the linguistic unity of the Aleut-Eskimo people is manifested in at least three ways. First, the linguistic community serves as an isolating mechanism to define the breeding population. Second, the fact that there is an underlying unity means that the differences are due to divergence which demonstrates the nature of change which has taken place and removes the process of borrowing from any important place in understanding the differentiation. Third, the linguistic relationships indicate the major divisions with sharp lines of demarcation having been created within the community. In the absence of contact this can only indicate that there have been periods of separation of various divisions and that there has been considerable time for the operations of linguistic differentiation.

The sharp breaks in language, at Norton Sound between the two Eskimo languages, and on the Alaska Peninsula between Aleut and Eskimo, provide a powerful demonstration of the extent to which change has taken place without the intervention of alien cultures. The existence of intrusive peoples at either of these places, past or present, would alter considerably the picture of cultural elaboration over a linear distribution of contiguous peoples.

The theoretical model provided by the differentiation within the stock is valuable for both the racial and cultural analogies. Since all contemporary forms go back to a proto-Aleut-Eskimo, no one is more Eskimo than another anymore than dissimilar siblings of the same parents where some of the children bear more physical resemblance to the phenotype of the parents are any more or less valid children. It is not possible to have a contemporary ancestor; though it is possible that some of the divisions have changed less than other divisions, it is evident that all have changed to some extent from the original form or forms.

This linguistic model also demonstrates the necessity for distinguishing between origins of the Aleut-Eskimo stock and the areas of characterization. It appears to be a patent certainty that the ultimate source of the Aleut-Eskimo stock is Asiatic and that its progenitors entered the New World across the Bering Strait. However, it appears that the languages, as well as other portions of the culture, assumed their definitive aspects in southwestern Alaska.

Time Depth and Variability in Material Culture

Without considerable time depth it would not be possible to understand the linguistic differentiation and physical differentiation which has taken place inside the Aleut-Eskimo stock. Archaeological studies reveal a time depth well in excess of 3,000 years and a correspondingly great variability in the material culture. It is this degree of variability which has, in fact, made difficult the recognition of "Eskimo" traits in the absence of skeletal remains. In some cases archaeological assemblages have been accepted as Eskimo even though skeletons were not present and there was no indication of the language spoken. This is possible in many cases though there are certainly many subliminal claimants to the designation of Eskimo on the North Pacific Coast and in southern Canada and northeastern United States. When one considers the trait differences in excess of certain basic traits in Dorset, Thule, Koniag, Aleut, Ipiutak and St. Lawrence Island it is necessary to admit a high degree of local variation. Considered solely in time depth the problem of the point at which Eskimo begins and its predecessors end is equally a problem which will require the presence of skeletons or, at least, of traits which are well associated with skeletons at some other point in time linked by an unbroken sequence. Such a problem is raised by the important discoveries of the Denbigh Flint Complex and associated industries using lamelles to a great extent (Giddings, 1952). Asiatic connections are as clearly evidenced in this industry as they are in the Ipiutak culture some 5,000 years later (Larsen, 1951). It is significant that a core and blade industry is found in the Aleutian Islands and that tools made from these blades are found in the lower levels of the oldest known site on Umnak Island. (Laughlin, Marsh and Leach, 1952). The skeletal materials from this portion of the site are those of the Paleo-Aleuts, who are morphologically similar to many other western Alaskan Eskimos. On the basis of visual inspection they appear similar to the Ipiutak population, especially in the presence of the occipital "bun." (Pl. 1, B)

The nature of the archaeological sequence in the Aleutians was obscured by the chance selection of sites dug by W. Jochelson. He excavated sites which belonged wholly or predominantly to the later portions of the known sequence. This has been demonstrated by our excavations in which we went to some of the same sites he used and compared the artifacts with those of the long Chaluka sequence at Nikolski, Umnak Island. Since no great time sequence was suspected the minor amount of change he demonstrated was accepted with little question. The excavations of A. Hrdlicka did not add a great deal to the picture in terms of change, for he kept little or nothing in the way of archaeological records and mixed the artifacts by collecting them in boxes which were convenient but not chronological.

From the floor of the Chaluka site, below the 3,000 year radio-carbon date, to the surface, which is contemporary, there are some very interesting changes. These changes are all the more interesting when it is realized that the economic base remained substantially the same. Both stylistic and more basic changes took place

without apparent environmental provocation. Plate 2 shows some of the changes in harpoon styles and method of assembly. Fluted heads with stone insets were relatively more numerous in the lower strata. (Pl. 2, D) Later a basin is used, the end slot continuing, for the positioning of the chipped stone point. The two piece socket which precedes the single piece socket for harpoon heads bears an interesting relation to the length of the head. When the socket piece is increased in length, as in the late strata and in use to the turn of the century, the length of the harpoon head is decreased (Pl. 2, A, B, C).

The single piece socket still bears a name with a dual ending, indicative of its predecessor. The same sequence of socket-pieces is reported for Cook Inlet (De Laguna, 1934, p. 87).

Plate 2, E through I, shows harpoon heads of various kinds from successive strata. The quadrilateral line hole found in the lower strata, with round line holes, does not appear in the upper strata. Plate 2, I shows a late style which has some resemblances to Iputak arrowheads.

The chipped semi-lunar knife covers most of the span at Chaluka, and only in the most recent strata has the ground slate blade been found (Pl. 3, C, D). Similarly, the shallow polished lamp is found only in the latest strata (Pl. 3, A, B). The continuity and overlap between the different kinds of artifacts and their various styles does not permit the delimitation of "periods" in the sequence. There is, however, no necessary relation between the existence of separate periods and the total amount of variability. Aside from environmental limitations the degree of variability is determined by cultural patterns. It is possible that the Aleut sequence reflects less change than some other Eskimo sequences, St. Lawrence Island for example, but this is not a simple matter to qualify for objective comparison. Certainly, considerably more change is evident than was recognized originally by Jochelson. When the abandonment of the Aleutian core and blade industry is reckoned, another major change for this area must be recorded. Publication of the Chaluka archaeology will illustrate the great number of styles contemporaneous with each other. Ethnological studies reveal a pattern of individualism in the manufacture of weapons and other tools which placed a premium on making things "a little different." When to this individualism is added the village and island variations in tool manufacture it becomes obvious that the identification of extraneous traits is extremely difficult, at least in the absence of a thorough knowledge of the range of variation. There are, for example, two specimens of a slotted socket similar to ones found by Jochelson on Kamchatka. Where previously an interpretation of direct Asiatic influence might have been seized upon, it is a simple matter to demonstrate the "goodness of fit" of these specimens in the total inventory of which they are a part.

A study of Aleut archaeology reveals no traits which do not have a good basis in the elaboration of the original artifact inventory carried into the Aleutians from the Alaska mainland or which have subsequently been introduced from the east. The sequence does reveal considerable innovation of styles and is in harmony with a minimum date of entry of some 4,000 years ago.

Uniformity, Variability and Structure in the Aleut-Eskimo Culture

An ecological preface is necessary to an over-all view of the cultural uniformities of these peoples. The important aspect of their distribution is not that it is Arctic, a common misapprehension, but first, that it is primarily littoral and second, that it is a linear distribution of contiguous groups (usually remaining in contact with each other to the relative exclusion of Indians) running from the sub-Arctic into the Arctic. In accordance with their littoral distribution their main subsistence is derived from the hunting of sea mammals and fish, and the major portion of their culture is dedicated to this end. Other subsistence factors associated with the sea are the presence of driftwood and the presence of ice. Access to land animals is another major factor and especially one which has permitted deviation due to local opportunity. Deviation is here used to mean less frequency and not to imply less validity. Access to land animals must also be considered with reference to the extent to which these could be pursued inland. Thus, on the Alaska Peninsula and the southern coasts land animals were added to a rich inventory of sea mammals: caribou, bear, mountain goats, mountain sheep, weasel, marten, fox, ground squirrels, beaver and wolves. However, the presence of mountains close to the sea, such as the interior mountains of Kodiak Island, or the mountains of the Alaska Range, the Aleutian Range, etc., did not permit these people to go inland and still maintain their familiarity with sea hunting techniques. One conclusion which may be drawn from this is that the early southwestern Alaskan populations had familiarity with the hunting of land animals, in addition to their intimate knowledge of sea hunting, and migrating groups were able to draw upon this cultural background for more specialization where the local area presented the opportunity. Where land hunting is practiced the bow and arrow becomes of greater importance. Thus, those Aleuts living on Unimak Island and the Peninsula, where caribou were present, used the bow far more than the Aleuts to the west of Unimak Island. The Aleuts west of Unimak used the throwing board and retrieving harpoon almost exclusively, since they were much more adaptable to use from skin boats, and reserved the bow for warfare, a form of land animal hunting. Similarly, ice hunting techniques are used where ice is present, and if people must spend long periods of time on the ice the snowhouse is used also. The sled has not been used at either end of the Aleut-Eskimo range, southern Alaska or southern Greenland. At the same places ice hunting cannot be practiced. There has been a consequent elaboration of kayak hunting, at least in southern Greenland; it was probably antecedent in southern Alaska.

Kroeber (1939, pp. 23-4) has listed twenty-five regional variants of Eskimo economic culture and the list could well be extended. In spite of the adaptation to each local region a number of traits are rather uniformly present:

- 1—A great group of similar utensils, tools, and weapons: the ulu, whittling knives, men's meat-cutting knives, side-bladed knives, toggle and other harpoons, comparable spear types, leisters, pronged

- bird spears, flat throwing boards, semilunar pots, sewing implements, fishhooks, grappling hooks, nets, weirs, similar bows and the same type of arrow-head mounting, bolas, bag-nets, lamps, drums, etc. For ornamentation the dot-and-circle, animal figures and human heads all used on tools.
- 2—Two types of boats: the community boat, the bydar, and the individual boat, the bydarky.
 - 3—Communal houses (houses for one family alone seem to be found only in North Greenland and in the present-day Aleut after long contact with whites).
 - 4—A distinction between summer and winter houses, the winter (in a few places the summer) house being a communal dwelling and relatively permanent either in structure or location, the summer being temporary and for only one family per shelter on the whole—the main distinction, again, being between communal and individual, as with boats.
 - 5—The use of stone and whale-bones in house construction even where wood is available (our few oldest Aleut house remains show the stone element, and whalebone is obvious everywhere).
 - 6—The dichotomy between land and sea mammals not only in methods of hunting but also in methods of eating.
 - 7—A similar type of social organization with emphasis on maintaining a co-operating group in spite of personal frictions and antagonisms. The keeping of personal antagonisms in restraint unless continued and cumulative irritation aggravated the relation to the point of explosion leading to murder and consequent blood-feuds. Specific mechanisms for maintaining group cohesiveness, of which the most widespread is the arbitrary name-sake relation (anaaqisax), whereby people who acquire the same name in some arbitrary fashion must form a mutual-relationship pair (in some Eskimo areas this consists in intentionally naming a child after an older person; among the Aleut besides intentional naming accidental naming also occurs).
 - 8—Proper age for starting the instruction of children is 10-12. Before that they learn by watching, imitating, playing, and so forth, but after that the older people definitely undertake to teach the skills and behavior belonging to adult life. Among other things the instruction of children includes training in survival techniques (even in the Aleutians, which are outside the Arctic proper and have a relatively mild climate): inurement to cold, training in observation, bodily health and strength, survival foods.
 - 9—Control on the population through indirect socially sanctioned restraints on promiscuity. Though the general exercise of sexual promiscuity or restraint is an individual matter, there are various organized tabus and injunctions on both men and women: e.g. boys can't walk out at night, and can't attend dances before 20; hunters refrain from intercourse with their wives before hunt and with other women during hunting period; girls are confined at menarche and tabued regularly during menstruation; women mustn't be

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unfaithful to husbands who are out hunting; there are boogy-men to keep the women in at night; widows and widowers are confined after death of the spouse and a "mourning period" before they remarry is recommended, and such like. On the other hand there seems to be population control in the other direction through socially sanctioned promiscuity especially to encourage breeding with outsiders and strangers (there are some hints of this among the Aleuts).

- 10—The use of labrets and tattooing. Tattooing is mainly for women, where in the Aleut and Kanyag area women and transvestites could be distinguished at times only by their tattooing and ear ornaments.
- 11—Tailored garments, involving the elaborate piecing together of materials both for structure and for ornament. This feature sets the whole Aleut-Eskimo stock off from any of their Indian neighbors.
- 12—Tending of the lamp, working with grass and the gathering and handling of vegetable products, are specifically women's jobs.
- 13—No secret societies. (This is not certain for the Aleuts simply through lack of information on the subject, but if they had existed they probably would have been important enough to have made their way into the literature).
- 14—Flexed burial. Not only flexed burial but the attempt to cover up the corpse seems to be a general Aleut-Eskimo custom (exposure is found in only a restricted area). Grave goods are also sufficiently prevalent to be common to the stock.
- 15—Differential burial for important and unimportant people with the attempt to preserve the bodies of the important people to retain their spirits. (There may not be sufficiently large distribution of this trait among the various Eskimos to maintain it as a trait characteristic of the stock as such).
- 16—Mourning customs involving dietary tabus.
- 17—A number of beliefs about the supernatural seem to belong to the whole stock:
 - a) the spirits of the dead participate in the affairs of the living (hence Aleut mummies).
 - b) a method exists for destroying the power of the soul of an annihilated person (the method is not everywhere the same, but the existence of a method is widespread—Aleut, disjoints; Bering Strait, cutting off fingers and toes; farther east, eating part of the heart of the killed person).
 - c) spirits, notably ones that whistle, inhabit places, especially bodies of water.
 - d) the moon is an important being, is everywhere a man, and is probably throughout the stock connected with the fertility of women.
- 18—A Headman who functions as coordinator of activities simply providing ideas and suggestions and then organizing a group to carry them out.

- 19—The cooperative gathering and communal sharing of food with fixed formulas for the division of the highly prized animals, (whether whales, bearded seals, sea otter, or other, depending on the area).

Unfortunately the time, depth of all these traits cannot be uniformly documented. A list of traits common to most Aleut-Eskimos of 2,000 years ago might differ somewhat. Such a trait as the labret, which appears before the 3,000 year level at Chaluka, Umnak Island, must have been shared by the proto-Aleut-Eskimo and has probably been discarded by the Eskimos who went into the Arctic.

Another cause of variation which operates in addition to local ecological adaptation is that of style preference. Where the choice is presented in the method of removing salmon from a trap, as in the Aleutians, the people may prefer to use a gaff hook instead of a net simply because it is "more fun." More important, whales can be successfully hunted using essentially the same equipment as that for seals or for humans and without the addition of heavier tackle. Thus, some eastern Aleuts used a light spear with a stone point set in a whalebone socket and after spearing the whale waited for him to die, at which time they secured a line in his lower lip and towed him to shore. Other techniques were available, one being an invention (Heizer, 1943). The Aleuts possessed togglehead harpoons and could have used techniques similar to those further north. It is of interest to note that as part of their complex whaling techniques the Aleuts used "poison," composed of such things as a kind of isopod and bumble bee legs, which was placed in the slot beneath the stone point.

Consideration of the variability in single material traits alone forces one to place more emphasis on the processes of innovation. The ground slate semi-lunar knife, common among the recent Aleuts and Eskimos, is confined to the later strata in the Aleutians. It was, however, preceded by a chipped semi-lunar knife which was, in turn, only one of several kinds of knives. If the single category of knives were considered for all past and present Aleut-Eskimo cultures, it would be apparent immediately that there has been considerable innovation. The number of such traits is so far in excess of the number uniformly found among all the peoples that neither diffusion from neighboring peoples nor migration of more distant peoples can be very useful in explaining their presence. One is perforce led to consider the processes of innovation. In view of the fact that innovation is known to have been specifically encouraged, this area of the culture must receive more thorough consideration before the "sources" of Aleut-Eskimo culture can be exposed.

Variability not due solely to ecological adaptation has provided the basis for dividing Eskimo groups into the heterogeneous and the homogeneous, or the pure and the impure. Thus, Kroeber has used the term "purer" to apply to the eastern Eskimo as contrasted with the western Eskimo (Kroeber, 1939, p. 25). By this is meant those things in the race, language and culture which are "more characteristically or undilutedly" Eskimo. However, this greater variability of the western

Eskimos and Aleuts should not be taken to mean that they are any less "Eskimo." In this case greater variability is a characterizing trait in itself, just as great variability is a characteristic of the gibbons and does not suggest that they are any less valid anthropoid apes for this characteristic. A fuller quotation from Kroeber (1939, p. 25) may show more clearly the implications of this variability:

On this view, the shores of the vicinity of Alaska would have been both an ancient and a modern meeting ground of various cultural influences, pre-Eskimo, non-Eskimo, and Eskimo; and from the stock of sea-adapted culture there accumulated, the shore peoples eastward selected, not only once but more likely several times or continuously, such elements as they could use, besides of course, modifying them. Alaska then would be the point of origin in the sense of crystallization of Eskimo as contrasted with non-Eskimo culture as a whole, and at the same time the area where this culture remained most "mixed," at least set apart by rigorous restriction to its own specializations.

Obviously, western Alaska has been exposed to influences coming from Asia across Bering Strait. The larger populations of western Alaska with greater food supplies and opportunity for incorporation of new traits, in the absence of the restricting limitations of near survival subsistence of the Arctic, have been able to maintain a greater inventory of traits. Moreover, they have at the same time been able to innovate more traits and to elaborate them into multitudinous variants. Whereas, various eastern Eskimos have one kind of kayak, the Aleuts have three, depending on the number of hatches. The three-hatch skin boat may be excepted in view of the fact that it was an innovation apparently stimulated by the Russians. In hunting techniques the degree of elaboration is comparatively great. In hunting the seal several methods were used, a decoy behind which the hunter lay, nets, clubs, and a variety of retrieving harpoons with or without attached bladder. In disposal of the dead another variety of methods is seen, which depended on the fact that there was not a fear of the dead in the same way characteristic of the Arctic or eastern Eskimos; bodies were kept about the house for varying periods of time, mummified and placed in caves or in special log tombs, buried in the habitation area, buried in special little homes, or, in the case of slain enemies, dissected for study purposes or dismembered and thrown in the ocean.

Almost any trait that is found among the eastern Eskimos and western Eskimos will have many more variant forms or embellishments in the west, within a comparable dialectic group. When the total variants of the different groups are placed together the variability of west as opposed to east is shown in equally clear relief. The situation is then quite comparable to that of the linguistic differentiation or the physical differentiation. At the same time it is more difficult to abstract particular traits and assign their origin to non-Aleut-Eskimo peoples.

The variability of western Eskimo culture, both material and non-material culture, is closely related to the population size. The size of the population in turn is related to ecological background. In the Aleutians and in southern Alaska south of the Kuskokwim River the size and number of archaeological sites substantiate the population estimates which indicate that one third of the Eskimo speakers

(including Aleut) lived on the Pacific Ocean frontage and that roughly three-fifths of all Eskimo, indicated also by sites to the north of the Kuskokwim, lived south of Bering Strait. Relative to the Indians and eastern Eskimos comparatively large populations were made possible in the southwestern area by the presence of annual salmon runs and many kinds of marine fish, in addition to a large inventory of sea mammals, including walrus, whale, sea lion, seal and sea otter. The fur seal were especially important and were conveniently available owing to the necessity of passing through the Aleutian Islands on their annual trip to the Pribilof breeding grounds. Large numbers of octopus, shell fish and edible sea weeds, as well as land plants, enabled many communities to survive the lean spring period when storms prevented hunting at sea and the winter stores had been depleted. The presence of land animals comparatively close to the shore line villages provided an additional source of food for the peoples of the mainland and adjacent Unimak and Kodiak Islands.

The population size contributed to the elaboration of the culture in at least two major ways; first, there were simply more people available for the production of new traits and these people were provided with a wealth of plastic materials: ivory, wood, stone and bone. Second, more indirectly but none the less influential, the comparative ecological wealth of southwestern Alaska explains in part the early occupation of this area insofar as the proto-Aleut-Eskimo peoples are concerned, thereby providing more time, clearly in excess of 4,000 years, for the characterization and elaboration of the Aleut-Eskimo culture to take place.

In summary, two points may be emphasized. First, "marginal cultures" in general are characterized by heterogeneity resulting from local invention. This point has been made by Lowie who, in an article which includes a reference to the invention of the vaulted snowhouse by the Eskimo, concludes, "The ecological adaptations of marginal peoples reveal an astonishing inventiveness. The religious, magical and social aspects of their cultures exhibit imagination and logical power. *A fortiori*, the occurrence of items belonging to these categories need not arouse our amazement" . . . (Lowie, 1952, p. 7). Second, the Aleut-Eskimo culture in particular is characterized by an especially high degree of heterogeneity within a common structured framework. This variability is the result not only of local adaptation but of an explicit pattern for innovation. Finally, this culturally sanctioned emphasis on innovation in both the individual and the village community has been one of the major factors enabling the Aleut-Eskimo stock to enter into inhospitable areas with success and still retain its over-all unity.

Structural Regularities

The simple tabulation of trait inventories of the Aleuts and Eskimos has some limitations in analyzing variants within the over-all culture and in contrasting it with that of the Indians. Cultural traits cannot be easily coerced into comparative tables for such reasons as: 1) some traits have changed greatly and recently while others have changed

little, slowly, or long ago; 2) environmental limitations preclude certain traits; 3) cultural interests select or delete others, deletions due to style preferences not always being distinguishable from deletions due to environmental selections; 4) the same traits may be differently patterned in different areas. Aside from the brute similarities of external form which can be easily appreciated in material traits and their uses, it is necessary to know the meaning and the function of the traits to be compared. Thus, on the level of material ethnography, the Aleuts, like all members of the Aleut-Eskimo stock, possess the throwing board. However, the form not only has certain regular distinguishing features such as the uniform breadth of the handle and blade, but the ivory pin is conceived to be a ziphisternum and is thus named; the upper end is conceived as a forehead and bears the name for forehead, the back is painted black and represents fur, while the belly is painted red and represents blood. While the primary function of the throwing board remains everywhere the same, the meanings connected with it probably do not.

The use of anatomical names for the various parts of the throwing board and for other material traits of the Aleuts assumes more significance when it is realized that anatomical concepts and interests form a major orientation in several aspects of Aleut culture. This anatomical orientation, plus other orientations, is as distinctive of Aleuts as is their language. Neither intelligible comparisons nor studies of the process of change can be managed until the form, the meaning and the functions of the traits are known. And, until these are studied, the structural regularities, the themes and patterns of the culture must be neglected or inaccurately conceived.

It is precisely in the field of these major orientations that some of the most significant uniformities of the Aleut-Eskimo culture are to be found. These major orientations, like the linguistic and genetic similarities, testify to the historical unity of this stock and easily distinguish them from the Indians.

The briefest characterization of the Aleut-Eskimo culture is given by Kroeber where he states, "The Eskimo, again, are very sensory, immediate, concrete and discrete in their ethos." (Kroeber, 1948, p. 606). In contrasting Eskimos with Indians he states, ". . . but their primary and dominant orientation is realistic," and "The cause for this orientation can perhaps be sought in the extraordinary trying circumstances of survival in the Arctic. The Eskimo must be mechanically-minded, able-bodied, manually skillful, and practical" (ibid, p. 603). In contrasting the use of magic between Eskimos and Melanesians he says of the Eskimo, "They are far more practical, competent with tools, and self reliant" (ibid, p. 308). The point here is that these same characterizations apply equally well to all the Aleuts, as evidenced in the following quotation, "In common with other members of the Eskimo stock mechanical innovations have played a major part in the remarkably successful adaptation of the Aleuts to their environment. In their case this has often been the result of deliberate comparative experiments. Their culture is directed toward

the development of self-sufficient individuals within the framework of a highly cooperative group" (Laughlin and Marsh, 1951, p. 84). It is possible to recognize a considerable body of evidence from many different workers which illustrates this uniformity of a pragmatic orientation to the environment, a concentration on technical details of practical importance, and the development of self-sufficiency or self-reliance. Upon these common structural regularities the Aleut division appears to have advanced with reference to the use of deliberate comparative experiments. An appeal is frequently made to superior functional performance as the explanation for a particular practice by the Aleuts. In their traditions they describe such things as a boat race between two villages west of Umnak which was held to decide which method of preparing food, steaming or boiling, was preferable for the development of great wind and endurance. Again, two children were raised in two different fashions to determine what method of child raising would give most satisfactory results. In the development of their extensive anatomical knowledge the resort to empirical investigation is seen in many ways. Persons who died were dissected in an effort to determine the cause of death. Sea otter were dissected as late as 1910-13 for the purposes of true comparative anatomy. The Aleut explanation for the use of the sea otter is that it is most similar to humans and, in fact, it does possess the most morphological similarities of any available sea mammal, as evidenced in the humerus, femur and flat grinding molars. The use of the dead for dissection and the use of their supernatural powers provided by mummification may not be as distinctive as they first appear when more is known about the Eskimos to the east. The Koniags are known to have made use of mummies and may also have built up a body of anatomical knowledge.

Another example of the necessity of knowing the meaning of a trait, and thus being enabled to understand its place in a pattern and of the place of the resulting patterns in a theme or major orientation, is shown in the belief in a supernatural power which resides in the body (Laughlin and Marsh, 1951). In brief, the separate elements may be found among other Eskimo groups, but in the eastern Aleutians they have a particular relationship which may not be duplicated elsewhere. Thus, the discrete practices of joint binding of pubescent girls, the dismemberment of slain enemies, mummification of the honored, joint binding of the widow and the dismemberment of the hawk and owl are all brought together by the belief that the power in the body can be regulated or removed completely. These various practices were employed to either protect the living individuals or enable them to use the power of a person who had suffered corporeal death or for both purposes. It is apparent that the eastern Aleuts do not believe that a person who had power gave it up simply by the act of dying.

In summary there are sufficient uniformities in both the material and the non-material culture to demonstrate the historical unity of Aleut-Eskimo culture. Variations are seen not only in the mechanical innovations but in the structure of the culture as well. The patterning in the culture, the relations of the traits to each other, can not be

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known without a thorough knowledge of the form, meaning, function and use of each trait. Aleut-Eskimo culture has placed a premium upon innovation and this in itself constitutes a major characteristic of the culture as well as a major source of Aleut-Eskimo traits.

Summary

The primary purpose of this paper has not been merely to consider new data concerning the problem of Aleut-Eskimo relationships but to consider this problem by means of a more comprehensive method of evaluation. Specifically, this involves a study of those elements which set these people apart as a distinct population, a study of those elements common to all the divisions of the people and, following this, a consideration of the factors of internal change which are primarily responsible for the variations within the stock. Viewed in time depth these changes are manifested racially in the development of a brachycephalic population from an originally mesocephalic population, linguistically by the differentiation into languages and dialects, and in the material culture by the abandonment of the core and blade industry and the innovation of many mechanical adaptations. At the same time it is necessary to appreciate the geographical variants represented by dialect groups, breeding isolates with distinctive morphology and local variants in the over-all culture. To those documented examples of change must be added those in the structure of the culture. A catalog of traits, no matter how large and complete, does not take into account the patterning of the traits. Just as the terms Aleut and Eskimo are useful abstractions imposed upon the people and their culture, so it is useful to compare the abstractions of pattern and ethos, as given, for example, by Kroeber. To the extent that these are empirically derived they can be valid and useful. Without the inclusion of these patterns the genius of Aleut-Eskimo culture must receive inadequate attention.

The practical effect of this point of view, the recognition of variability and change within a common framework, is to focus more attention on the processes of change within the people of the Aleut-Eskimo stock and, therefore, to place less reliance upon speculative and unproven suppositions of extraneous migrations from distant peoples or upon premature and factually exiguous suggestions of culture contacts with Asiatic peoples across the Pacific Ocean rather than across Bering Strait. The speculative migrations presuppose the existence of traits, physical and cultural, which have not developed within the culture nor been accepted from their immediate neighbors. Historical evidence indicates that traits have been declared atypical or alien when only a portion of the stock has been selected as a type model, or when only a portion of a complex was known, and that this arbitrary selection has given a false appearance of homogeneity. Traits have been wrenched from their context in part because the context has been so poorly known. Only after the time depth has been more thoroughly explored and the limits of variability of the over-all culture better known can there be profitable comparisons with alien cultures on a sound basis.

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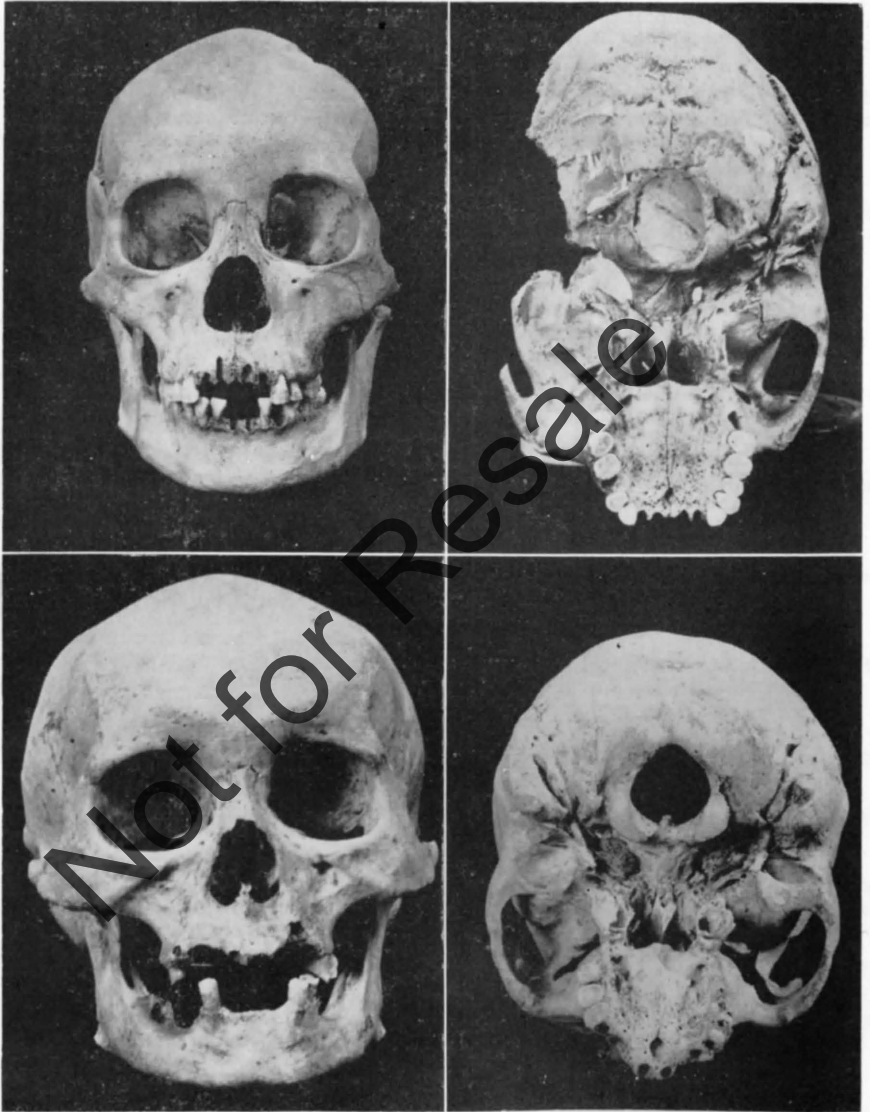


PLATE 1

Top, left—Paleo-Aleut male. Norma frontalis.

Top, right—Paleo-Aleut male. Norma basalis.

Bottom, left—Neo-Aleut male. Norma frontalis

Bottom, right—Neo-Aleut male. Norma basalis.

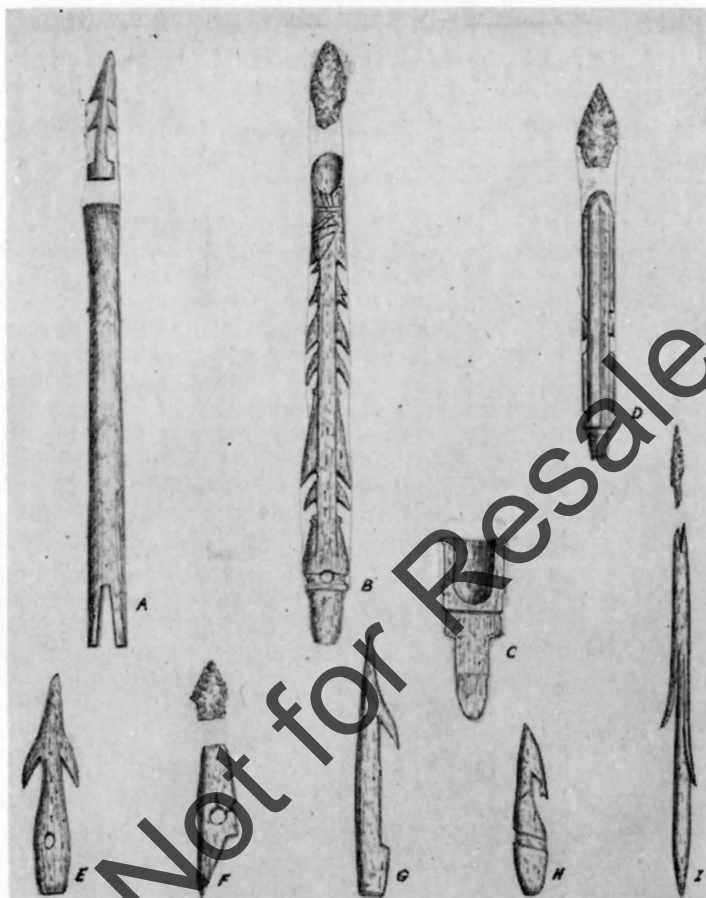


PLATE 2

- A. Socket piece with bifurcated tang.
- B. Symmetrically barbed harpoon head.
- C. Composite socket piece.
- D. Fluted harpoon head with stone inset.
- E. Early class harpoon head with quadrilateral line hole.
- F. Toggle harpoon head.
- G. Early class harpoon head.
- H. Late class harpoon head with castellated barb.
- I. Late class harpoon head with inserted stone point.

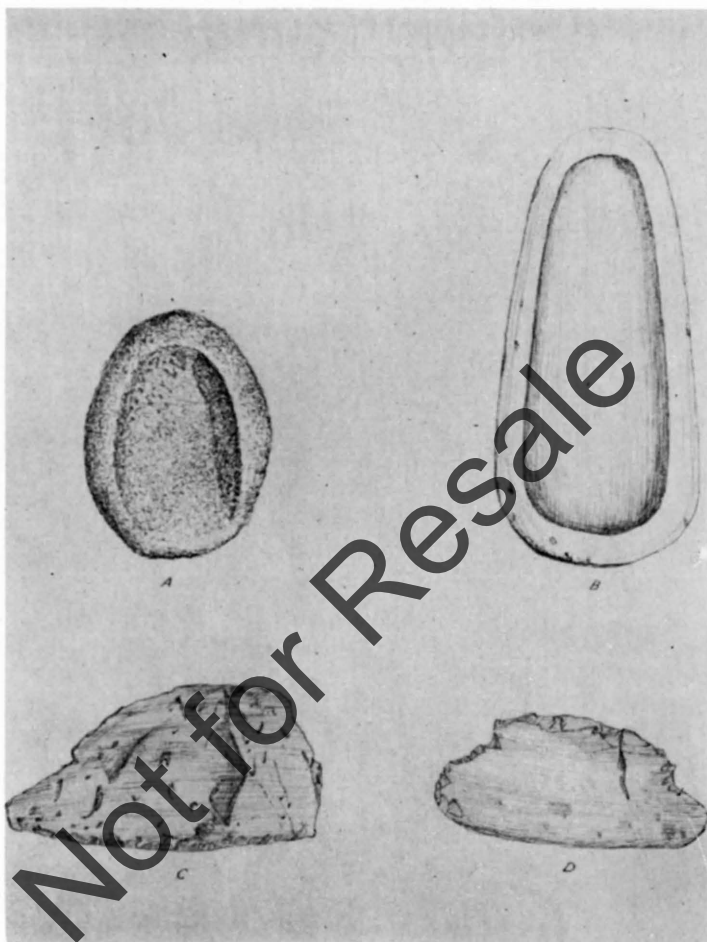


PLATE 3

- A. Basic style stone lamp.
- B. Stone lamp of latest style.
- C. Chipped stone ulu.
- D. Ground slate ulu.