# CULTURE ELEMENT DISTRIBUTIONS: VII 

## OREGON COAST

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# CULTURE ELEMENT DISTRIBUTIONS: VII OREGON COAST 

BY<br>H. G. BARNETT<br>\section*{INTRODUCTION}

The information in the following list was collected during the summer of 1934, and, with the exception of Coos, all at Siletz reservation. Here for many years have been gathered in part the survivors of the almost extinct native groups of southwestern Oregon. Among those to be completely dispossessed in the middle of the last century, these people retain scarcely a single outward manifestation of their old culture and most have never witnessed the features they are able with some adequacy to describe. Almost nothing exists outside the memory of the oldest inhabitants and this in turn derives chiefly from the traditions of the old people before them; acculturation and hybridization of originally unique complexes have proceeded to such a degree as to reduce to the minimum the value of direct observations of an informant.

Admitting the difficulties of even a general reconstruction of the various cultural entities under such circumstances, it is the more remarkable that a detailed inventory such as is here presented should yield anything more than an indifferent picture. That it does, I think, will appear from the analysis included in this introduction. That there are contradictions and frank omissions within accounts is only natural and does not detract from the validity of the material in its more fundamental aspects. The service of such an approach to cultural facts is evident to anyone who has attempted a simple distributional study or an analysis of relationships from the contents of descriptive accounts.

The present work had its inception in the original Gifford-Klimek trait field-list for central California, which has since been expanded and applied to a broader field. With this first list as a basis, more in regard to method than to content, revision was undertaken along lines indicated by a few weeks' previous familiarity with the Oregon situation. Lacking adequate literature on the immediate area, I have used Kroeber's Yurok data as a further aid to the establishment of a framework; it also provided a good control for much of the subsequent investigation. To this foundation new traits were added as they came to light, some of them too late in the season to be of value for comparative purposes, hence information on many of the traits is totally absent. Further, the effort at subdivision and refinement of any given complex into its ultimate, irreducible elements has produced an isolated plus or minus here and there; some of these reductions were logically induced, others suggested in practice.

While it is true that minutiae of custom or technology are of little intrinsic interest, at the same time, in the survey of a restricted and closely connected area they frequently are the measure of disparity or unity; from this point of view the procedure described above, in spite of the blanks it has occasioned, has sufficient justification.

The ethnic groups are not arranged in the order in which they were studied but rather in geographical sequence, proceeding northward along the coast (except for Galice Creek) from the Tolowa in California to the Tillamook just above presentday Siletz. Such a scheme has the obvious advantage of at once satisfying a natural order and making the material more readily intelligible. Since the peoples stuadied were primarily fishermen, and lived invariably on rivers, I have found it most convenient where no other name has become attached to them to designate them by the appropriate river names. Such is the situation with Chetco River and again with the small Athabascan group living on Galice creek, a tributary of Rogue river some distance above Agness. Tututni was the name of the largest village on Rogue river about two miles from its mouth. The next group was situated on Sixes river, which opens into the sea near Cape Blanco. The Coos or Kus held the territory around Coos bay and the information here given refers to the old site near Empire. Next in order going north is the Siuslaw River, and then Alsea River. Salmon river, from which come the Tillamook data, is the next stream of any size above Siletz. (See map, p. 156.)

The people of Smith River (Tolowa), Chetco River, Tututni, Galice Creek, and Sixes River all spoke dialects of the Athabascan stock. The Coos form a distinct linguistic entity according to the old Powell classification. The Siuslaw (plus Umpqua) and the Alsea (plus Yaquina) are also without affiliation either between themselves or with others about them, so far as we know. The Tillamook are the southernmost representatives of the Salishan family.

With these facts in mind we are prepared to review some of the results of calculations relative to the trait list. A total of 1901 elements was operated with at one time or another during field work. For 59 of these, only minus was recorded. These have been taken out of the list, and are grouped in a solid block after it. In regard to their occurrence among the ten tribes, the remaining 1832 (net) elements distribute as follows:


Map 1. Ethnic groups treated

|  |  |  |  | $(+)(-)$, <br> blank | $\%+$ | $\%-$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Tolowa | To | 767 | 575 | 490 | 57 | 43 |
| Chetco | Ch | 1029 | 383 | 420 | 73 | 27 |
| Galice Cr. | Gl | 835 | 400 | 597 | 68 | 32 |
| Galice Cr. | G2 | 802 | 341 | 689 | 70 | 30 |
| Tututni | Tu | 635 | 175 | 1022 | 78 | 22 |
| Sixes R. | SR | 877 | 332 | 623 | 73 | 27 |
| Coos | Ku | 486 | 145 | 1201 | 77 | 23 |
| Siuslaw | Si | 892 | 362 | 578 | 71 | 29 |
| Alsea | Al | 453 | 225 | 1154 | 67 | 33 |
| Tillamook | Ti | 909 | 452 | 471 | 67 | 33 |

These figures and their bearing upon the interpretation of the list as a whole, require some discussion. First of all, let it be noted that the total pluses and minuses for Galice Creek, Sixes River, Siuslaw, and Tillamook are within the range of variation expectable from comparable informants interviewed with the same fundamental aims in mind: 1143 to 1361. The Chetco + and total of 1412 exceeds this range somewhat and can be explained, possibly because the culture is more elaborately developed, but chiefly because the informant was more competent and had greater initiative, combined with the fact that he was the last to be questioned. Hence the new elements offered by him lack any sort of treatment in previous inquiries. Low totals for Tututni, Coos, and Alsea ( 631 to 810) are at once apparent and the cause is equally clear. For these three groups the list was not used directly with the informant. Their inclusion here is due to the generosity of Mr. Philip Drucker, from whose notebooks the relevant items were extracted. His work in the same field at the same time offered an opportunity to fill in the gaps of my study and to give it more of the representative quality that it needed. Moreover, he has been good enough to supply the Tolowa data from his manuscript on this people; with them the information is more complete and provides a better basis for comparison, trait for trait, with the groups directly examined with the list in hand. In fact, the Tolowa yield a greater number of traits (1342) than all but two other groups. This I attribute to two causes: first, they doubtless had a more complex culture; and second, if I am not mistaken, Drucker has supplied the information, not from one informant (as data for the others have been gathered), but from his knowledge of Tolowa derived from several sources, so that what we have is a composite total, an amalgamation of all that is known of them. To this there is no objection, for it cannot be too vigorously insisted that the account of one individual, no matter how excellent his memory or integrity, is not to be accepted as the final word on his tribal life, and that ethnographies are not to be written on the basis of one person's testimony. Nevertheless, the method of this undertaking has been to segregate entirely each individual line of evidence, submitting it on its own merits, and checking it when possible by a second independent inquiry. Unfortunately,
time and the obvious inequality of informants left this latter aim unrealized, except with the Galice Creek, so far as it aided in the selection of the best of the complete accounts which were obtained.

On this matter of the reliability and suggestibility of informants, the figures relating to the percentages of pluses and minuses throw some objective light. For Chetco, Galice Creek, Sixes River, Siuslaw, and Tillamook--in other words those directly dealt with--the average proportion of positive statements to negative ones is 70 to 30, which would suggest a high degree of comparability for the sources of the information, and inferentially of their validity. However, Coos and Tututni depart somewhat from it (77-23, 78-22, respectively) and conform in a fair measure with each other. In actual practice as well as in abstracting from Drucker's notes I have not felt justified in inferring a presence or an absence even when substantiated by confirming evidence, nor have I accepted as absent a trait whose possible alternative is given as present unless a statement of absolute negation for it is also forthcoming. In other words, a trait uninquired about is always left a blank, and every symbol represents the results of a specific inquiry about the trait, not always direct, of course. The consequences are obvious. In any ordinary assemblage of facts the affirmative components are far in excess of differentiating negatives. Taken objectively, at face value and without presumption, we therefore might expect a preponderance of pluses. This is definitely the situation with Coos and Tututni, and may be the cause of the equally striking irregularity of the Tolowa (57-43). In transcribing his Tolowa notes into my list, I am not sure that Drucker has adhered to the foregoing principle in all its strictness, and I suspect that very likely he supplied minuses where he had every reason to believe they belonged. The proportion is not far from half and half although the total of traits is even less than for Chetco. All this certainly does not make the Tolowa data less trustworthy or valuable, but does, I think, reveal their composite (and therefore good ethnographic) character and their lack of strict comparability with others of the lists, and serves to elucidate an isolation more pronounced than otherwise expectable. To this last and related matters we may now turn.

At bottom, a distributional study has value in that it gives evidence of cultural affiliations. Some estimate of ethnic entities can be gained from a careful perusal of a trait list but only with difficulty for one unfamiliar with this manner of presentation. It is possible, however, with the raw data in this form, to arrive at a precise definition of the measure and degree of interrelationship between any two or all of the entities involved and it may be of some assistance to outline the procedure and results of this approach. A simple plus or minus, being in the nature of an abstract unit, lends itself readily to mathematical treatment. The Yule $Q_{z}$ formula of "coefficient of association" or similarity yields the coeffi-
cients shown in the adjoining table. The formula yields values between +1 (identity) and -1 (total dissimilarity) ; approximations to +1 in terms of positive decimals indicating the degree of cultural affinity for the two groups under consideration. This value appears in the table at the intersection of their respective coordinates. ${ }^{1}$

TABLE 1
$Q_{E}$ Coefficients

|  | G2 | G1 | To | Ch | Tu | SR | Ku | Si | Al | Ti |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| G2 |  | 86 | 07 | 40 | 31 | 15 | 11 | 01 | 24 | 13 |
| G1 | 86 |  | 12 | 49 | 39 | 40 | 24 | 24 | 16 | 08 |
| To | 07 | 12 |  | 45 | 63 | 06 | 17 | 25 | 51 | 52 |
| Ch | 40 | 49 | 45 |  | 87 | 75 | 60 | 50 | 17 | 21 |
| Tu | 31 | 39 | 63 | 87 |  | 84 | 68 | 55 | 38 | 22 |
| SR | 15 | 40 | 06 | 75 | 84 |  | 72 | 62 | 16 | 19 |
| Ku | 11 | 24 | 17 | 60 | 68 | 72 |  | 83 | 79 | 42 |
| Si | 01 | 24 | 25 | 50 | 55 | 62 | 83 |  | 77 | 65 |
| Al | 24 | 16 | 51 | 17 | 38 | 16 | 79 | 77 |  | 79 |
| Ti | 13 | 08 | 52 | 21 | 22 | 19 | 42 | 65 | 79 |  |

The greatest coincidence (but one) occurs naturally between the two informants from Galice Creek (1 and 2), and together they are somewhat apart even from their neighbors Chetco and Tututni, and more so from all others. This distinctness is more or less predictable because of their inland recessed position. On the northern end of the series the Alsea and Tillamook, although exhibiting differences, nonetheless form an association more closely related one to the other than to any people adjoining them on
${ }^{1}$ For the counts on which the computations for this table were based, the following were omitted throughout: all items for which only + entries were obtained ( $6+$ and 4 blank, or $2+$ and 8 blank, as well as $10+$ ); all for which only was recorded; all items on which no clear-cut + or - was entered among any of the ten tribes. In any particular correlation, as of G2 and G1, there were also omitted elements in which either of the pair of tribes was represented by a doubtful or qualified entry, such as $(t),+?,(-)$, -?. These deductions bring down the number of elements operated with. Thus, whereas G2 and Gl are represented by a total of 1143 and 1235 elements respectively (besides 59 universal negatives), only 580 clean-cut + or - elements were used for computing $Q_{2}$ for $G 2-G 1$. These 580 distributed as follows: $a$ or ++ , 242; b or,+- 71 ; c or,-+ 56 ; d or,-- 211 . From the se values the coefficient of . 86 is derived by the formula $Q_{z}=$ $(a d-b c) /(a d+b c)$.
the south. A third fairly homogeneous block comprises Chetco, Tututni, and Sixes, no doubt in conformity with their common language and geographical position. Less definitely segregated are the Coos-Siuslaw relationships. These two are closely similar (.83). They are about equally related to the Alsea-Tillamook on their north and the Tututni-Sixes River on the south.

A better understanding of the entire situation may be had by reference to figure 1 , page 201, in which the table of coefficients is translated directly into a graphic representation.

The importance of a $f$ ew hundredths degree of variation in a coefficient is left to the reader's own judgment; apart from its possible inconsequence for the totality of a culture, the irregularities which are more sharply delineated by this mathematical analysis have received an adequate explanation in the foregoing discussion of the source material. Its fragmentary and sec-ond-hand character is sufficient to account for those items which offer problems. Furthermore, over and above the lesser conflicts, the general conformity of the whole is not to be overlooked, for it is in fact quite satisfactory.

The translation of diffuse, vaguely comprehended culture complexes into precise mathematical terms which can be readily manipulated has its attractions, but it also leaves much to be desired. For one thing, the fundamental units are not truly so, but are frequently somewhat variable and of unequal significance. A plus may be, and often is, qualified by some additional statement; there are emphatic, undeniable occurrences and occurrences in moderation or even some of questionable certainty. Again, the arts and crafts give little difficulty, being tangible and rigidly definable, whereas the recording of the social aspects of any culture immediately introduces the interpretative element and inevitably embarrasses the objective quality of the testimony. It is impossible to ask an informant if the guardian spirit is inheritable.

Aside from this more intensive internal examination, a few generalizations are possible and will assist in a better understanding of Oregon's place in the broader picture of Northwestern coastal cultures. For there can be little doubt that throughout this long narrow strip, even to the Yurok, there exists a common substratum of intensive maritime pursuits, coupled with an insistence upon wealth and prestige of a nature peculiar to it. It is not to be supposed that southern Oregon with its pliable Athabascans should break the continuity, and indeed they do not; the flavor, the attenuated pattern, is certainly present even where no specific North Pacific elements are demonstrable. Moreover, they exhibit a special facet of this development which I conceive to be derived from the more striking secondary elaboration contrived by the Yurok and their immediate congeners. That is to say, for all their distinctive characteristics, the cultural flow as far as these less colorful people
are concerned has been not from the far north, but from the California hearth in an ever-fading overlay. This backwash extends as far as the Coos, there to blend with the more precise manifestation of North Pacific Coast features. It is to this cause also that I would assign part of the ambiguous character of the Coos-Siuslaw region, and in support of it I submit the appearance of such new traits (proceeding from south to north) as a second type of boat, increased use of wood (cradles, dishes), steam sweating, canoe burial, less reliance upon the acorn,
head deformation (Alsea), a change in the basketry technique, and so forth.

It is interesting too that this fusion should take place in the area of linguistic diversity, the Athabascans, as implied, being a fairly homogeneous lot culturally. Further, that this diversity should amount to subdivisions of such restricted areal extent as to occupy as a rule only the lower reaches of a single river. But into these matters I refrain from entering; a more extended survey is to be found in Drucker's The Tolowa (UC-PAAE 36:221-300, 1937).

## CULTURE ELEMENT DISTRIBUTION LIST

## INFORMANTS

(F, father; M, mother; Ff, father's father; Fm, father's mother, etc.)

Tolowa (To), from Drucker's manuscript. Chetco River (Ch).--Tom McDonald. M from Brookings, Mm Burnt Ranch, Mf Winchuck. F from upper Chetco, Ff same, Fm southwest of Grant's pass.

Galice Creek (Gl).--Hoxie Simmons. M from Galice cr., Nm ?, Mf Galice cr., F from ?, Fm Yamhill, Ff white.

Galice Creek (G2).--Nettie West. M from Galice cr., Mm Cow cr., Mf Gálice cr. F from upper Rogue r., Ff same, Fm?.

Tututni (Tu).--Abe Logan. M from Chetco, Mf same, Mm ?. F from. Tututni, Ff same, Fm?.

Sixes River (SR).--Oscar Brown. M from Sixes r., Mf same, Mm Bandon. F white.

Coos (Ku).--Agnes Johnson. M ?. F from Empire, Ff same, Fm?.

Siuslaw River (Si).--Spenser Scott. M from Siuslaw, Mf Umpqua, Mm Siuslaw. F white.

Alsea River (Al).--Mrs. Lotson. M from Yaquina r., Mf same (?), Mm ?. F from Alsea, Ff same (?), Fm?

Tillamook of Salmon river (Ti).--Louis Fuller. M from Siletz r., Mf Yaquina, Mm Siletz. F from Salmon r., Ff same, Fm Clatsop.

## SYMBOLS USED

+ Presence of trait, or statement is true.
- Absence or denial.
- Indicates ignorance of informant relative to the trait.
Blank Information was not obtained.
? Signifies that there are reasons for doubting the truth of the statement given.
() Indicates some reservation on the part of the informant; usually it means "sometimes," or "a few."

Indentations are the result of trait splitting, the subsumed features referring to captions directly above.

A running list of relevant traits which were not encountered in the area is given after the tabular lists, as well as a brief description of those (marked with an asterisk, *) which require some explanation.

| ELEMENTS | OCCURRENCE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{r} \text { 宫 } \\ 1 \\ 0 \\ \hline-1 \end{array}$ |  |  | $\begin{aligned} & \dot{\jmath} \\ & 0 \\ & 0 \\ & .-H \\ & \text {-H. } \end{aligned}$ | $\begin{aligned} & \text { 萠 } \\ & \text { ? } \\ & \text { H } \\ & \text { E } \end{aligned}$ | $\begin{gathered} \dot{4} \\ \omega \\ \infty \\ \infty \\ \dot{x} \\ i=1 \end{gathered}$ | $\begin{aligned} & 2 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{gathered} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ \sim \end{gathered}$ |  |
| STRUCTURES |  |  |  |  |  |  |  |  |  |  |
| 1. Wooden house--bark or plank . . . . . . . . . . . . . $+++{ }_{+}^{+}+{ }_{+}^{+}$+ |  |  |  |  |  |  |  |  |  |  |
| 2. Excavated . . . . . . . . . . . . . . . . . | + | + | + | + | + | + | + | + | - | - |
| 3. Plank walls . | + | + | - | +? | + | + | + | + | - | - |
| * 4 . Horizontal full | - | + | - | . | $+$ | + | - | (+) | - | - |
| 5. Vertical . | + | - | - |  | (+) |  | - |  | - | - |
| 6. Horizontal half | - | - | - |  |  | - | + | (+) | - | - |
| 7. Bark walls (full and half). | - | - | + |  | ( + | - |  | - | - | - |
| 8. Dirt walls . . . . . . . | - | - | (+) | -? | - | - | + | (+) | + | + |
| 9. Mat lined | - | - | + | - | (+) | - | + | + | + | + |
| 10. Grass gable ends | - |  |  |  |  |  |  | ( + | + | + |
| 11. Plank roofing : . . | + | + | + | + | + | + | + | + | + | - |
| 12. Longitudinal | - | - | - | - |  | (+) |  | $(-)$ |  |  |
| 13. Roof binders | + | + | + | + | + | + | + | - | + |  |
| 14. Center post. | - | + | - | - | + | - |  | + |  |  |
| 15. Corner posts . | + | + | + | + | + | + | + | + | + | + |
| 16. Connecting beams | + | - | + | + |  | - |  | - | + | + |
| 17. Two end posts (ridge support) | (+) | + | + | + | (+) | + |  | + | + | + |
| 18. Single ridgepole |  | + | + | + | (+) | + | + | + | + | + |
| 19. 2-pitch roof. | + | + | + | + | + | + | + | + | + | + |
| *20. Wall binders | + | - | + | + | + | - |  | - | - | - |
| 21. Adjustable smoke hole . . | + | + | + | + | + | -? | + | - | + |  |
| *22. Round doorway . . . . . . . . . . . . . . . . . . + |  |  |  |  |  |  |  |  |  |  |
| 23. Rectangular doorway . . . . . . . . . . . . | + | + | + | + | + | + | + | + | + | + |
| 24. Cut out . . | + | + | - | - | - | +? | - | - | - | - |
| 25. Half plank omitted | - |  | + | - | + |  | + | + | - | - |
| 26. On ground level. | + | + | + | + | + | + | + | + | + | + |
| 27. Sliding door . . | + | + | + | + | + | + | - | - | - | - |
| 28. Hanging door mat | - |  |  |  |  |  | + | + | + | + |
| 29. Door to side of end post |  | + | + | + | (+) | + |  | + | + | + |
| 30. Firewood under eaves | - | + | + | + | + | + |  | + |  |  |
| 31. Front--incomplete anteroom | - | + |  |  |  | + |  | + |  |  |
| 32. Side . . . . . . . . . . | - |  | + | + |  |  |  |  |  |  |
| 33. Anteroom . | + |  |  |  |  |  |  |  |  |  |
| 34. Overhead drying frames | + | - | - | - | + | (+) | + | + | + | - |
| 35. Drying on roof |  | - |  |  |  | + |  | - |  |  |
| 36. Overhead storage racks | (+) | (+) | (+) | + |  | + | + | + | + | (+) |
| 37. Storage around walls on raised planks | - | $+$ |  | + | + |  |  | - | - |  |
| 38. Notched log ladder . | + | + | - | +? |  | - | + | - | - | - |
| 39. Vertical plank ladder (triangular holes) | - | - | - | - |  | + |  | + | + | - |
| 40. Tied-rung ladder . . . . . | - | - | + | - |  | - |  | - | - | + |
| 41. Bed mats on floor | + | + | - | - | (+) | + | + | + | + | + |
| 42. Pole frame on floor for bed | - | - | + | - |  | - | + | + |  | - |
| 43. Suspended plank bed . | - | - | - | + | ( + | - | - | - |  | - |
| 44. Mat partitions | - | + | + | - |  | . | + | + | + | + |
| 45. Hide partitions | - | - | - | + | - | - | - | - | - | - |
| 46. For young girls | - | + | + | + | + | + |  | + | + | + |
| 47. Stools | + | + | + | + |  | - | $(-)$ | +? | - | . |
| 48. Rocks | - | (+) |  |  |  | (+) |  |  | - | + |
| 49. Cylindrical blocks <br> 50. Decorated | + + + | $+$ | + | + |  | ( | - | +? | - | + |
| 51. For men only | + | + | + | + |  | - |  | + | - | - |
| 52. Fire on floor level | + | + | + | + | + | + | (+) | + | + | + |



|  |  | To | Ch | G1 | G2 | Tu | SR | Ku | Si | A1 | Ti |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 115. Tunnel-like |  | - | + |  | + | + |  | + |  | - |
| 116. | Door on side | + | - | - | - | + | + | - | (+) | - | + |
|  | 117. Below surface | + | + | + | + | + | - | + | - | + | - |
|  | 118. Square . | + | + | + | + | + | + |  | + | + | + |
|  | 119. Plug . | - | - | - | - | + | - |  | + |  | - |
|  | 120. Sliding | - | + | + | + | - | + |  | - |  | + |
|  | 121. Hanging mat | - |  |  |  |  |  |  |  | + |  |
|  | 122. Wind screen only . | + |  |  |  |  |  |  |  |  |  |
|  | 123. Pole sill | + | + | - | - | + | + |  | + |  | + |
|  | 124. Dirt step | - | - | - | - | - | - |  | + | - |  |
|  | 125. Notched vertical steps | - | - | - | - | - | + |  | - | - | - |
|  | 126. Block step. | + | - | + | + | - | - |  | - | - | - |
| 127. | Platform in front | $(-)$ | - | + | + | - | + |  | + |  | - |
|  | 128. Sloping, not cobbled |  |  | + | + |  | + |  | + |  |  |
| 129. | Pole pillow | + | + | + | + | + | + |  | + |  | - |
| 130. | Individual pillows . | + | + | + | + |  | - |  | + |  | - |
| 131. | Sleep heads to east or south | + | + | + | + |  | + |  | - |  | - |
| 132. | Named and ranked places . . . . . . . . . . . 132a. Owner only | $\stackrel{(+)}{+}$ | + | - | - | + | + |  | - |  | - |
| 133. | Poles setting off places | - | - | - | - |  | + |  | - | - | - |
| 134. | Fir boughs to sleep on . | - | + | + | - | + | + |  | + |  |  |
|  | 135. Got from east side of tree | - | + | - |  |  |  |  | - |  |  |
| 136. | Young men gathered fuel |  | + |  |  |  |  |  | + |  |  |
|  | 137. Anybody | + |  | + | + |  | + |  |  | + | + |
| 138. | Prescribed fuel | + | + | - | - |  | - |  | - |  | - |
|  | 139. Maple or alder | + | + |  |  |  | - |  | - |  | - |
|  | 140. Got at night | + | + |  |  |  |  |  |  |  |  |
| 141. | Direct fire | + | + | + | + | + | + | $(-)$ | $(-)$ | - | - |
| 142. | Steam | - |  |  |  |  |  | ( + | $(+)$ | + | + |
|  | 143. Praying to rocks . . |  |  |  |  |  |  |  | + |  | + |
| 144. | Regular sweating, morning and evening . . . 145. Before eating | + | + | - |  | + | -? | + | + + + | + | - |
| 146. | Sweating for minor curing and purification | + | + | + | + | + | + |  | + | + | + |
| 147. | Men slept in sweat house | + | + | - | - | + | + | + | + | $(-)$ | - |
| 148. | Pray while sweating . . |  |  | + |  |  |  |  | + |  |  |
| 149. | Sing hunting and gambling songs there | + | + | + | + | + | + |  | + | + | + |
|  | Danced or gambled in . . . . . | + | - | - | - |  | - |  | - | - | - |
| 150.151. | Head of family owned. |  | + | + | +? | + | + |  | - | + | + |
|  | Several in village | + | + | + | + | + | - |  |  | + | + |
| 152. | One large communal (chief's) |  | + | + | + | + | + |  | + |  | +? |
|  | Women's sweat house, same construction | - | - | - | - | - | - | - |  | - | + |
| 154.155. | Summer-camp sweat house - temporary | - | + | - | - |  | + |  | + |  | + |
|  | Plains type (mat, brush) | - | - | - | - | - | (+) | + | $+$ | + | + |
|  | 156. For steam curing. | - | - | - | - | - | + |  | + | + | + |
|  | 157. Individual type (2 or 3 men) | - | - | - | - | - | +? |  | + | + | + |
|  | 158. For women . . . . . . . . | - | - | - | - | - |  | + |  | + |  |

CORDAGE
159. Rolled on bare knee
160. 2-ply string

| + | + | + | + | + | + |  | + | + | + |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| + | + | + | + | + | + |  | + | + | + |
|  | + | + | + |  | + |  | + |  | + |
| + | + | + | + | + | + |  | + |  | + |
|  | + | + | $+?$ | + | - |  | + |  | + |
| + | + | + | + | + | + | + | + | + | + |
| + | + | + | + |  | + |  | + | + | + |

FISHING
166. Fish dam (weir)
*167. Double-trap dam
*168. Fishing scaffold
162. 2-ply cord and rope
163. $4-\mathrm{ply}$ string and rope (double the $2-\mathrm{ply}$ )
164. Ropes or withes of grapevine, hazel, etc.
165. Made by both men and women


## HUNTING

203. Collective hunting
204. Brush burning to drive game

205. Sex and menstrual functioning hostile to hunt and venison
206. Deer-mask decoy
207. Double-barb sea-lion harpoon, line to shaft
208. Sea-lion disguise
209. Sea lions clubbed
210. Game pits (elk)
211. Quail trap, slats, figure 4
212. Bird-snaring booth in connection with drop trap
213. Bird-shooting booth
214. Pets--rabbits, chipmunks, etc.--not propagated
215. Big-game snaring (deer)
216. Spring snare with bent-over branch
217. Quail fence of sticks with nooses in openings
218. Around ant hill for all birds
219. Rabbit fence of sticks with nooses in openings
220. Woodpecker net trap
221. Woodpecker shot
222. Deadfall trap for big game
223. Deadfall trap for small mammals
224. Duck decoys (effigy of tule with skin over)
$+$

|  |  | To | Ch | GI | G2 | Tu | SR | Ku | Si | Al | Ti |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 227. | Game driven through narrow pass and shot . . |  | + | + | - |  | - |  | + |  | + |
| 228. | Game driven over cliff . . . . . . . |  | - | + | -? |  | - |  | + |  | + |
| 229. | Elk driven into river | + | + | + | + |  | + | + | + | - | + |
| 230. | Game run down |  | - | + | + |  | + |  | - | - | + |
| 231. | Game lured by call | - | + | + | - | + | + |  | + | - | + |
| 232. | Shot geese, no flares | + | + |  |  |  |  |  |  |  |  |
| 233. | Skin dressing by men . | + | + | + | + |  | - | - | + | + | - |
|  | 234. By women . | + | + |  |  |  | + |  | + | + | + |
|  | 235. Bladed scraper of stone (dehairing). |  | + | + | + |  | - |  | + | - | + |
|  | 236. Mussel scraper | + | + | + | - |  |  |  |  |  |  |
|  | 237. Wooden scraper. | + | + | + | + |  | + |  | + | + | + |
|  | 238. Deer- or elk-rib scraper | + | + | + | + |  | + |  | - |  | + |
|  | 239. Pointed, slanting post for rubbing |  | + | + | + | + | + | + | + | - | + |
|  | 240. Stretching frame . . . | - | - |  |  |  |  |  | + |  | + |
|  | 241. Stretched on wall | - | + |  |  |  |  |  |  |  |  |
|  | 242. Buckskin | + | + | + | + | + | + | + | + | (+) | + |
|  | 243. Frame for smoking | + | + | + | + | + | + | + | + | + | + |
|  | 244. Brains for curing | + | + | + | + |  | + | + | + | + | + |
|  | 245. Water-soaked for dehairing | + | + | + | + |  | + | + | + | + | + |
| 246. | Dogs for hunting . | + | + | + | + | + | -? | + | + | + | + |
| 247. | Dogs sung to . | - | - | - | - |  | - |  | + | + | - |
| 248. | Dogs kenneled | - | + | + | - |  | - |  | - | - | + |
|  | Dogs buried |  | + | + | - |  | + |  | + | + | + |
|  | 250. Killed at owner's death |  | - |  |  |  |  |  | + | + | - |
|  | 251. Buried with him . . |  |  |  |  |  |  |  | - | - |  |
| 252. | Dogs scarce--trained one valuable |  | + |  |  |  |  |  | + | + | + |
|  | Dogs kept inside house |  | - |  |  |  | + |  | + | - | - |
|  | Dogs named . . | + |  |  |  | + |  | + | + | + |  |
| 255. | Dog flesh poisonous | + | - | - | - |  | - |  | - | - | - |
|  | FOOD |  |  |  |  |  |  |  |  |  |  |
| 256. | Food sold | (-) | + | - | + | + | + |  |  |  | + |
| 257. | Elk meat, pulverized | $(-)$ | + | + | + |  | -? |  | + | + | + |
|  | 258. Deer-hide container |  | - | - | + |  | - |  | + |  | - |
| 259. | Ground bone, cooked | - | + | + | + |  | - |  | - |  | - |
|  | Dried salmon, pulverized | - | + | + | -? |  | - |  | + | + | + |
| 261. | Pulverized meat loaves . |  | - |  |  |  |  |  | - |  | + |
|  | Salmon eggs . | + | + | + | + | + | + | + | + | + | + |
|  | Marrow extract | + | + | + | + | + | + | + | + |  | + |
|  | 264. Use of knife taboo. | + |  | + |  | + |  |  |  |  |  |
|  | 265. Used for orphan baby rearing |  | + |  |  |  |  |  | + |  |  |
|  | 266. Used for cosmetic and hair oil | + | + | + |  |  |  |  | + |  |  |
|  | Eggs . . |  | + | - |  | + | + |  | - |  | $(-)$ |
| 268. | Sea-gull eggs | + | + |  | +? | + | + | + | + | + | + |
| 269. | Shag eggs . | + | + |  |  | + |  |  | + | + |  |
| 270. | Land-bird eggs . | - |  |  |  |  |  |  |  |  |  |
| 271. | Fetuses . | - | + | + | - | - | + |  | + |  | - |
|  | 272. Taboo to young |  | + | + |  |  | + |  | + |  |  |
| 273. | Blood |  | + | + |  | + |  |  | + |  |  |
|  | 274. Cooked | + | + | + |  | + |  |  | + |  |  |
| 275. | Salt from lick (springs or swamps) | - | - | + | + |  |  |  | - |  | - |
| 276. | Seaweed, eaten for salt | + | + |  |  |  | + | ( + | + | - |  |
| 277. | Salt, from ocean |  | - |  |  |  |  | + | + |  | + |
| 278. | Crabs (stuck with pointed pole). |  | + |  |  | + | + | + | + | + |  |
| 279. | Octopus . . . . . . . ${ }^{\text {c }}$. . . | - | + |  |  | -? | + |  | + |  | + |
|  | 280. Chewed on one side of jaw only |  | + |  |  |  |  |  | - |  |  |
| 281. | Barnacles (cooked in ashes). . . . |  | + |  |  |  |  |  | + |  | + |
| 282. | Honey . . |  |  |  |  | + |  |  |  |  |  |
| 283. | Grasshoppers (parched) | - | - | + | + | - | - |  | +? |  | - |
| 284. | Angleworms (boiled) | - | - | -? | + |  | - |  | - |  | - |
| 285. | Yellow-jackets' larvae (parched) | - | + | + | + | (+) | + |  | + |  | - |


| 286. Caterpillars (boiled) . . . . . . . . . . . . . |  |
| :---: | :---: |
| 287. | Slugs |
| 288. | Seeds |
|  | Acorns |
|  | 290. Important |
|  | 291. Buried in mud |
|  | 292. Moldy (dried and pounded or roasted) |
|  | 293. Leached in sand basin |
| 294. | "Wild parsnip" . . . . . |
|  | 295. Stalk . |
|  | 296. Root for external applications-swellings, rheumatism |
|  | 297. Root crushed and steam inhaled for colds, catarrh |
|  | Preparation |
| 298. Roasting of mussels on stick grate over open fire . . |  |
| 299. | Drying of sea foods . . . . . . . . . . . . . . |
| 300. | Drying of river clams and mussels |
| 301. | Broiling for cooking . . . . |
|  | 302. Split sticks (salmon) |
|  | 303. Meat put on coals . |
|  | 304. Pointed stick (meat) . |
|  | 305. Meat twisted around stick |
| 306. Stomach case of elk used for water |  |
| 307. | Parching |
|  | 308. By scorching or burning over field |
|  | 309. In basket . . . . . |
| $\begin{aligned} & 311 . \\ & 311 . \end{aligned}$ | Stone rendering-"platters" . |
|  | Sea-lion bladder oil containers |
|  | 312. Wooden trough for rendering |
|  | 313. Canoe for rendering . . . |
|  | 314. Hot rocks and water |
| 315. | Stone boiling in baskets. |
| 316. | Elkhide sunk in pit for stone boiling |
| 317. | Stomach case of elk in pit for boiling |
| 318. | Sugar-pine nuts roasted in cone |
| 319. | Earth oven . . . . . . . . . . |
|  | 320. Mussels, camas, fern roots, etc. |
|  | 321. Fern leaves to cover food |
|  | 322. Aromatic leaves |
|  | 323. Ash leaves . |
|  | 324. Maple leaves |
|  | 325. Steam cooking |
|  | 326. Fire on top |

To Ch Gl G2 Tu SR Ku Si Al Ti

287. Slugs
(-)
$(+) \quad(+)$
290. Important
292. Moldy (dried and pounded or roasted)
$+\quad-$
293. Leached in sand basin
+
+
295. Stalk
$+$
296. Root for external applications--swellings, rheumatism

## Preparation

298. Roasting of mussels on stick grate over open fire


|  | + |  |  |  | + |  | + |  | + |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| + | + | - | - | + | + | + | + | + | + |
| + | + | + | + | + | + | + | + | + | + |
| + | + | + | + | + | + | + | + |  | + |
| + | + | + | + |  | + |  | + |  | + |
| + | + | - | - |  |  |  | + |  | + |
|  | - | + | + |  | + |  | + |  | + |
| + | - |  | + |  | + |  | - |  | - |
|  | + |  |  |  |  |  | + |  | - |
|  | + | + |  | + |  | + |  | - |  |
|  | + | + |  |  |  |  |  |  |  |
|  |  | $-?$ | $(+)$ |  |  |  | + | - | - |

310. Stone rendering-"platters"

+ 
+ 
+ 

312. Wooden trough for renderin

313. Canoe for rendering
314. Hot rocks and water
$+$
$(-) \quad(-)$
315. Elkhide sunk in pit for stone boiling
$+$
$?+$
$+$
316. Broiling for cooking
317. Split sticks (salmon)
318. Pointed stick (meat)

- ? ${ }^{(+)}$

306. Stomach case of elk used for water bag
307. Parching
308. By scorching or burning over field
309. Stomach case of elk in pit for boiling
310. Sugar-pine nuts roasted in cone
$+(+)$
311. Mussels, camas, fern roots, etc
312. Fern leaves to cover food
313. Aromatic leaves
314. Ash leaves
315. Maple leaves
$+\quad+$
316. Fire on top

## Whales

327. Beach "owned" by individuals
328. Belong to person who finds
329. Flukes claimed
330. Sing and beat on log to bring in floating whale

## Taboos

332. On shooting fish
333. On announcing intention to hunt deer
334. On relating of narrow escape from death on same day.
335. On drinking river water
336. On giving parts of deer away

|  |  | To | Ch | G1 | G2 | Tu | SR | Ku | Si | Al | Ti |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 337. Heart. |  | + | + | - | - | + |  | + |  | - |
|  | 338. On women eating hearts | + | - |  |  | - |  |  | - |  | - |
| 339. | On giving away meat en route | + | + | + | + |  | + |  | + |  | + |
| 340. | On dropping bits of meat on the floor |  | + | + | + |  | + |  | + |  | - |
| 341. | On eating deer and whale together . . | + | + |  |  | + | + |  | - |  | -? |
| 342. | On eating eels and ocean food together | + | + |  |  | + | + |  | - |  | -? |
| 343. | On fawn being eaten by children . |  | - |  |  |  |  |  | + |  |  |
| 345. | On stepping on or over meat--especially women | + | + | + | + |  | + |  | + |  | + |
| 346. | On cooked meat being taken out of house | + | -? | + | + |  | + |  | - |  | + |
| 347. | On young people eating deer, elk tongue |  | + |  |  |  |  |  | + | + |  |
| 348. On young people eating deer, elk liver . . . . . . . |  |  | - |  |  |  |  |  | - | + |  |
| 349. | On asking deer hunter what he is carrying | + | + | + | + |  | - |  | + |  | - |
| 350. On hunter bringing deer in house himself . . . . . |  | - |  |  |  |  |  |  | + |  |  |
|  |  | + |  |  |  | + |  |  |  |  |  |
| 352. On eating first kill . . . . |  |  |  |  |  |  |  |  |  |  |  |
| $353 .$ | On eating youth's first salmon | + |  |  |  |  |  |  |  |  |  |
| 354. | \% 355 . Woman's garment thrown aver head . . . . . . . . + |  | - | + | + |  |  |  | - |  | - |
|  |  |  | + |  |  | + | + |  | - |  | - |
| Prescriptions |  |  |  |  |  |  |  |  |  |  |  |
| 356. Hunter sang and talked to kill . . . . . . . . . . . . |  |  |  |  |  |  |  |  |  |  |  |
| 357. | Deer lowered through smoke hole | - | + |  |  |  |  |  | - |  | - |
| 358. | Ritual disposal of animal bones | + | + | + | + | + | + | + | + | + | + |
|  | 359. Salmon bones thrown back in river | + | + | + | + | + | + | + | - |  | + |
|  | 360. Hidden in woods (deer, etc.) | + | + | + | $+$ | + | - | + | + |  |  |
|  | 361. Careful not urinated on . |  | + | + |  | + |  |  | + |  |  |
| 362. | Blood caught on fern leaves and hidden in brush |  | + |  |  | + | + |  | + |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 365. | Deer eye (raw) eaten for luck . | - | + | + | - | + | + |  | + | + | - |
| 366. Deer eyes punched out for luck . . . . . . . . . + |  |  |  |  |  |  |  |  |  |  |  |
| 368. Bear ceremonialism |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 369. Eaten in one house |  | - | + | + |  | - |  | - |  | - |
|  | 370. Ever dried meat? |  | + | - | +? |  | + |  | + |  | + |
|  | 371. Young people may eat bear |  | - | - | - |  | - | - | - |  |  |
|  | 372. Bear called sister . |  | - |  |  | - |  | + | - |  |  |
|  | 373. Announce intention to hunt bear |  | - | - |  | - |  | +? | - |  |  |
|  | 374. Once a person |  | + |  |  |  |  | + | + |  |  |
|  | 375. Spoken to . . |  | - | - | - | + | + |  | - |  | - |
|  | 376. Hunter brushes the body with fir branches |  | + |  |  |  |  |  | + |  |  |
| *377. | Hands always washed after eating . | + | + | + | + |  | + |  | + |  | + |
|  | 378. l common bowl or basket | + | + | + | + |  | + |  | + |  | + |
|  | 379. May wash in creek | - | + | + | - |  | - |  | $(-)$ |  | + |
| 380. Animals eaten |  |  |  |  |  |  |  |  |  |  |  |
| 381. Bear . . . . . . . . . . . . . . . . . . . ( + + + + + + + |  |  |  |  |  |  |  |  |  |  |  |
|  | 382. Grizzly | $(-)$ |  | + | - |  |  |  |  |  |  |
|  | 383. Panther | - | - | + | + |  | - |  | - |  | - |
|  | 383a.Wildcat | - | - | +? | - |  | - | (+) | - |  | - |
|  | 383b. Raccoon | - | + | + | + |  | + | + | + |  | + |

## UTENSILS



|  |  | To | Ch | G1 | G2 | Tu | SR | Ku | Si | Al | Ti |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hammerstone and anvils (nuts). . . . . . . . . . . . 393. Chipped "design" on hammerstone | + | + + | + | + |  | + |  | + |  | + |
|  | Paint, tobacco, etc., mortar . |  | - | + | - |  | - |  | - |  | + |
| 395. | Paint-grinding slab |  | - |  | + |  | + |  | - |  |  |
|  | Shaped steatite vessels | + | - | + | - | - | + | (+) | + | - | - |
|  | Steatite bowl, eating and catching grease | + | - | + | - | - | + | - | . | - | - |
|  | Clamshell oil containers and ladles . . | + | + |  |  | + | + | + | + |  | + |
|  | Wooden bowls |  | ( + | - | - | - | (+) | + | + | + | + |
|  | Wooden boat bailers--like spoon with handle tied on. |  | - |  |  |  | + |  | - | - |  |
|  | Wooden boat bailers, handle same piece (alder, maple) | ( + | + |  |  | + |  | + | + | + | + |
|  | Household Utensils <br> (Various, excluding baskets, pots, grinding) |  |  |  |  |  |  |  |  |  |  |
|  | Scraper or knife of split cobble (Eolithic) | + | + | + | + |  | + |  | - |  | + |
|  | Hafted knife . . . . . . . . . . . 404. Horn handle | + | - | $+$ | - | + | - |  | - | +? | - |
| 405. | Buckskin-wrapped knife handle | + | + | + | + | + | + |  | + |  | + |
|  | Double-edged salmon knife |  |  |  |  |  |  |  |  | + |  |
|  | Semiovoid salmon knife, not wrapped or hafted | + | - | + |  | $+$ | - |  | - | - | + |
|  | Bone awl . . . | + | + | + | + | + | + |  | + | + | + |
|  | 409. Handle wrapped . |  | + | + | + | - | + |  | + |  | + |
|  | 410. For taking out back string of lamprey | + | + | + | + | + | + |  | + | + | + |
| ${ }_{\star}^{*} 411$ | Thumb guard of mussel for fiber drawing . | $(-)$ | + | + | + |  | + |  | + |  | - |
| ${ }^{*} 412 .$ | Split stick to draw fiber through . . . |  | + |  |  |  |  |  | - |  |  |
|  | Comb of salmon vertebrae |  | - | + | + | - | - |  | - | - | +? |
|  | Hairbrush a pine burr |  | - | + | - |  | - |  | - | - |  |
|  | Hairbrush of porcupine tail |  | - | + | - |  | - |  | - | - |  |
|  | Just a stick for drying hair | + | + |  |  |  |  |  | + | + |  |
|  | Breaking sticks as mnemonic | + | + | - | - | + | + |  | - | + | + |
|  | Notches on named or designated house poles | - | + | + | - | + | + |  | - | + | + |
| ${ }^{*} 419$. | Stick mat, as mnemonic (by addition) . | - | - | - | - |  | - |  | - |  | + |
| 420. | Stick "mat" by subtraction . . |  |  |  |  |  |  |  | + |  |  |
|  | Fire drill . . . . . . . . 422. Willow root | + | + + | + | + | + + | $+$ | + | $+$ | + | + |
|  | Fire making by percussion | (-) | + | - | - |  | - |  | + |  | + |
|  | Slow match . . . . . . . . 425. Burning willow stick | + | + | - | + | + | + |  | - | + | $+$ |
|  | 426. Coals in green cedar bark |  | + |  | + |  | + |  | - |  |  |
|  | 427. Coiled-rope punk . . . |  |  |  |  |  |  |  |  | + |  |
| 428. | Fire with sticks shoved in as burned |  | + | + | + |  | + |  | + |  | + |
|  | Bark burned | + |  |  |  |  |  |  |  |  |  |
| 430. | Paddle food stirrer . | + | + | + | + | + | + | + | + | $+$ | + |
|  | Ornamented acorn-gruel paddle stirrer | + | + | - | + | + | - | + | - | (+) | - |
| 432. | 2 sticks to remove stones from cooking basket | - | + | + | + | + | + |  | + |  | + |
|  | Split stick to remove stones from cooking basket | + | + | + | + |  |  |  | + |  | + |
|  | Digging stick--straight . . . . . . . . 435. Crosspiece handle | + | + | + | + | + | + | + | + | + + | + |
|  | Staff for aged |  | + | + | + |  | + |  | + |  | + |
| 437. | No arrow straightener; hands and teeth used | + | + | + | (+) | + | (+) | + | + | + | + |
|  | $2-\mathrm{piece}$ arrow polisher of sandstone, grooved | + | - | - | +? |  |  |  | - |  | - |
|  | Scouring-rush arrow polisher . . | + | + | + | - | + | + |  | + |  | + |
|  | Forked-stick arrow polisher and straightener | - | - | - | +? |  | +? |  | - |  |  |
| 441. | Lower fish jaw as spoon | - | - |  |  |  | $+$ |  | - |  |  |
|  | Maple spoon |  | + | + |  |  | + |  | + | + | + |
|  | Alderwood ladles |  | + |  |  |  |  |  | + | + | + |
|  | Ornamented elkhorn spoon . . . . . <br> 445. For use of men and visitors | + + | $+$ | - | + + | + | $+$ | + + | + | - | $\stackrel{+}{+}$ |
| 446. | Ornamented wooden spoons | $+$ |  |  |  |  |  |  |  |  |  |
|  | Mussel-shell spoon | + | + | + | - | + | + | + | + | + | + |
|  | Squirrel-tail swab (eating). . . . . |  | - | - | + |  |  |  | - |  |  |
| 449. | Horn button, on cord of lifting net | - | + | + | + |  | + |  | + |  |  |
|  | Wooden mesh spacer . |  | + | + | -? |  |  |  |  |  |  |



## TOOLS

460. Drill, a tiny flint held in fingers with buckskin
461. Drill with stone point, wooden shaft
462. Awl as "drill" for shell work

|  |  | + | - |  |  |  | - | $+$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | + | + |  | - |  | - | . | - |
|  | - | - | +? |  | - |  | - | - |  |
|  | + | + | ? |  | + |  | - |  | + |
|  | + |  |  |  |  |  | - |  |  |
| + | -? | - | - | + | - | + | - |  |  |
| + | + | + | + | + | + | + | + | + | + |
| + | + | + | + | + | + | + | + | + | + |
|  | - | + | +? | - | - |  | - | . | - |
| + | + |  |  |  | + |  | + |  |  |
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| + | + | + | - | + | + |  | + | (+) | + |
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| - | + | + | + |  | + |  | + | $+$ | + |
| (+) | - | + | - |  | -? |  | - | - | + |
| (+) | - | + | - | - | - |  | - | - | + |
|  | $+$ | + | - | + | + |  | - | - |  |
|  | - | + | - |  | - |  | - |  |  |
|  | - |  |  |  |  |  |  |  |  |
| - | - | + | + | ( + | - |  | - |  |  |
| $(-)$ | - | + | + | + | + |  | + |  | + |

463. Wooden vise (cleft stick)
464. Elkhorn chisel, curved (for cutting, digging out). 465. Rawhide loop handle
*466. Straight adz (Yurok type)
465. Horn wedge
466. Wooden wedge
467. Curved elkhorn wedge
468. Long elkhorn wedge (l ft.)
469. Whalebone used 472. Vertebrae as seats
470. Whalebone figurines
471. Maul stone, unshaped
$+$
472. Pear-shaped maul stone
473. Wooden club-shaped maul
474. Flint flaker of antler (no wooden handle)
475. Retouching by pressure
$(+)$
476. Retouching by percussion
477. Heating previous to retouching 481. One man in village knew chipping
478. Rung ladder, one vertical pole, hooked
479. Hook for gathering pine nuts, berries, etc.

WEAPONS
484. Yew bow
485. Bow wood from $E$ or $S$ side of tree (stormy side)
486. Vine-maple bow (inferior).

| $+$ | $+$ | + | $+$ | + | + | + | $+$ | $+$ | $+$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $+$ | $+$ | + ? |  | + |  | - |  | + |
|  | $+$ | $+$ | + | $+$ | $+$ | $+$ | $+$ | $+$ | + |
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| ( + ) | (t) | (+) | - | - | - |  | - |  | - |
| $+$ | + | - | +? | + | $+$ | $+$ | $+$ | $+$ | $+$ |
|  | $+$ | $+$ | - |  | $+$ |  | $+$ |  | + |
| $+$ | $+$ | $+$ | - | $+$ | $+$ |  | + | $+$ | + |
| $+$ | - | - | . | (+) | - |  | $+$ |  | - |
| $+$ | $+$ | $+$ | $+$ | + | $+$ | $+$ | $+$ | $+$ | $+$ |
| $+$ | - | $+$ | - | $+$ | $+$ |  | + | $+$ | -? |
| + | $+$ | $+$ | $+$ |  | $+$ |  | $+$ |  | $+$ |
| - | $+$ | $+$ | - ? | $+$ | - |  | + |  | $+$ |
| - | $+$ | $+$ | - | $+$ | - |  | $+$ |  | - |
| $+$ | $+$ | $+$ | $+$ | $+$ | $+$ | $+$ | $+$ | $+$ | + |
| $\cdots$ | $+$ | - | - | $+$ | $+$ |  | $+$ | $+$ | + |
| - | $+$ | $+$ | -? | $+$ | $+$ |  | $+$ | $+$ | $+$ |
|  | $+$ | $t$ | $+$ | (+) | $+$ |  | $t$ | $+$ | + |
|  | - | $+$ | - | $+$ | - |  | $+$ | $+$ | + |
| - | - | - | - |  | $+$ |  | - |  | - |




## CRADLES



BURDENS
587. Pack strap, fiber
588. Sewed weft
589. Twined weft
590. Pack strap, skin
591. Women used pack strap on forehead
592. Cap worn by women when carrying
593. Shoulder-chest strap 594. Usual for men
595. Square deerskin or buckskin, tied at corners
596. Circular flexible rawhide netting
597. Men's (double) snowshoe-shaped pack frame
598. Hand carrier of hide on frame
599. Carrying basket, conical
*600. Carrying basket, openwork
601. Wedge-shaped, tight weave, flexible carrying basket.
602. Sick packed on back
603. Litter for sick

## BASKETRY (twined)

604. Hazel and conifer roots used

| + | + | + | + | + | + | + | + | + |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| + | + | + | + | + | + | + | + | + |
| + | + | + | + | + | + | + | + | + |
| + | + | + | + | + | + | + | + | + |
| + | + | + |  |  |  |  |  | + |
| + | + | + |  | + |  | + | - | - |
| + | + | + |  | + |  | + | + | + |
| + | + | + | + | + |  | $(-)$ | $(-)$ | + |
| + | + | + | + | + | + | - | - | - |
| + | - | - | + | + |  | - | - | $+?$ |
| + | + | + |  | + |  | $+?$ | - | $+?$ |

605. Xerophyllum basketry complex



## MUSICAL INSTRUMENTS



|  |  | To | Ch | G1 | G2 | Tu | SR | Ku | Si |  | Ti |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 788. | Tobacco planted | + | + | + | + | + | + |  | + | + | + |
|  | 789. Specialization |  | (+) |  |  | + | + |  | - | + | + |
|  | 790. Hill crest and side. |  | + | - | - |  | + |  | - |  | - |
|  | 791. "Protected from wind" | + |  |  |  |  |  |  |  |  |  |
|  | 792. Brush or log burned before planting | + | + | + | + |  | + |  | - |  | - |
|  | 793. Mixed with a beachweed. | - | + | - | - |  | + |  | + | + | + |
| 794. | Tobacco basket with lid |  | + | - | - |  | - |  | + |  | - |
| 795. | Concave wood pipe with mortised steatite bowl. | + | + | + | + | + | + |  | ${ }^{+}$) | - | + |
| 796. | Haliotis inlay in pipe | + | + | + | - | (+) | + |  | ${ }^{+}$) |  | - |
| 797. | Tobacco pouch of buckskin, standard size, sold |  | + |  |  | + | + |  | - | + | + |
|  | Pipe sack (tubular)--deerskin, esp. mink, mole, or weasel | + | + | + | + | + | + |  | + |  | + |
| 799. | Midday smoking . |  | + | + | + |  | + |  | - |  | + |
| 800. | Bedtime smoking | + | + | + | + |  | + |  | + |  | + |
| 801. | After meals . . |  | ( + | + | + |  | - |  | - |  | + |
| 802. | Pipe used by shamans, smoked | + | + | + | + | + | + | - |  |  | + |
| 803. | Smoked if visitor came or upon meeting of friends. |  | + | + | + |  | + |  | + |  | + |
|  | Tobacco offering--tossed into air before going hunting, etc. | + | + | - | + | + | + |  | + |  | + |
| 80 | Tobacco smoke wafted up while praying | + | + | + | + | + | + |  | + |  | + |
|  | GAVES |  |  |  |  |  |  |  |  |  |  |
| 806. | Throwing sticks at stake | + | + | + | + |  | + |  | + |  | - |
| 807. | Throwing wooden spear at stake | + | + |  |  | + |  |  |  |  |  |
| 808. | Throwing mud balls flicked from end of springy stick |  | + | + | + | + | + |  | + |  | + |
| 809. | Hoop-and-pole game. | - | - | - | - | + | - | + ? | + | - | + |
|  | 810. Sex connotations, dreams <br> 811. Cord-wrapped hoop | - | - | - | - | - | - |  | + |  | + |
|  | 812. Block for hoop. |  |  |  |  | + |  |  |  |  |  |
| 813. | Ring-and-pin game. |  | - | - | + | + | - | - | +? |  | - |
|  | 814. With salmon vertebra |  | - | - | - | - | - | - | - |  | - |
| 815. | Double ball by boys, with wrestling | - | + |  |  |  |  |  |  |  |  |
| 816. | Double ball played by women--2 sticks tied with cord | + | + | + | + |  | + |  | + |  | + |
| 817. | Simple shinny game . . . | + | + | + | + | + | + | + | + | + | + |
|  | 818. Ball of hardwood. | + | + | + | + | + | + | + | + |  | + |
|  | 819. Men's shinny game | + | + | + | + | + | + | + | + | + | + |
|  | 820. Women's shinny game | - | - | - | - | - | - | + | + |  |  |
| 821. | Guessing game | + | + | + | + | + | + | + | + |  | + |
|  | 822. 2 bones | - | - | - | + | - | - | + | - |  | + |
|  | 823. Bones called man and woman | _ | - | - | + | - | - |  | - |  | + |
|  | 824. Hiding in bare hand . . | - | - | - | - | - | - | + | - |  | + |
|  | 825. Hiding in grass in hand | - | - | - | + | - | - |  | - |  | - |
|  | 826. 4-stick guessing game . | - | - | - | - |  | - |  | - |  | + |
|  | 827. Many-stick guessing game | + | + | + | + | + | + | + | + |  | - |
|  | 828. Stick peg in ground for each game | - | + |  |  |  | + |  | + |  | + |
|  | 829. Begin with 12 sticks in center (counters) | + | + | + | + |  | - |  | + |  | + |
| 830. | Dice game . . . . . . . . . . . . . . . . . . | + | - | - | - | - | - | + | + | + | + |
|  | 831. Women play | + | - | - | - | - | - | + | + | + | + |
|  | 832. Beaver-teeth dice | - | - | - | - | - | - | - | + | - | + |
|  | 833. 4 teeth--1 decorated | - | - | - | - | - | - | - | + |  | + |
|  | 834. 4 mussel-shell disks | + | - | - | - | - | - | - | - | - | - |
|  | 835. 4 split sticks | - |  | - | - | - | - | + | + | + |  |
| 836. | Stretched deerskin for dice or guessing | + | + | + | + | + | + | + | + | + | + |
| 837. | Women gamble | + | + | + | + |  | -? | + | + | . | + |
| 838. | Jacks with stones | + | + | - | + | + | + |  | + |  | + |
| 839. | Top . |  |  |  |  | + |  |  |  | + |  |
|  | Spruce-bark top |  |  |  |  |  |  |  | + |  |  |
| 841 | Acorn buzzer toy |  | - | + | + |  | + |  | + |  | + |
|  | 2-holed button as buzzer |  | + |  |  |  |  |  |  | + |  |
| 843. | Cat's cradle . . . . . . . . . . . . | + | + | + | + | + | + |  | + |  |  |

## CALENDAR, COUNTTNG, DIRECTION








## BOYS' PUBERTY




To Ch Gl G2 Tu SR Ku Si Al Ti


## SOCIAL STATUS

| 1367. | Social rating by wealth | + | + | + | + | + | + | + | + |  | + |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1368. | Damage compensation by social rank | + | + | + | + | + | + | + | + |  | -? |
| 1369. | Parents' marriage price determines wergild | (+) | + | + | + | + | + |  | + |  | + |
| 1370. | Intent minor factor in damage . . . . . . | + | + | + | + | + | + |  | + |  | -? |
| 1371. | Slaves few | + | + |  |  | + | + | + | + | + | + |
|  | 1372. By purchase | + | + |  |  | - | - |  | + | + | + |
|  | 1373. By capture. | - | + |  |  | - | - |  | + | + | + |
|  | 1374. Debt slavery | + | (+) |  |  | + | - |  | + |  | - |
|  | 1375. No slavery . | - |  | + | + |  |  |  |  |  |  |
|  | 1376. Woman could still exact bride price from master (owned services only). |  | - |  |  |  |  |  | + |  | - |
|  | 1377. Issue of slaves were slaves. | - | + |  |  | -? |  |  | + | + | + |
|  | 1378. Slave wergild to master . | + | + |  |  | + |  |  | + |  | + |
|  | 1379. Slaves made of orphans or bastards | - | + |  |  | - |  |  | + |  | + |
|  | 1380. Slaves separately housed | - | - |  |  | - |  |  | (+) |  | + |
| 1381. | Berdaches (transvestites) . . . | $(-)$ | - | + | + | + | - |  | + |  | - |
|  | 1382. Female |  |  |  |  |  |  |  |  |  |  |
| 1383. | Appellations from house or marital status | + | + | - |  | + | - | ( + | + |  | - |
| 1384. | Ostracism for illegitimacy | (+) | + | + |  | + | - | + | + |  | + |
| 1385. | Specialization in labor . . | (+) | + | + |  | + |  |  |  |  | + |
|  | 1386. Hunters, fishers, canoe-builders, etc. | (+) | + | + |  | + |  |  |  |  | + |
|  | SOCIO-"POLITICAL" ORGANIZATION |  |  |  |  |  |  |  |  |  |  |
| 1387. | Village the political unit | + | + | + | + | + | + | $+$ | + | + | + |
| 1388. | Groups designated by village names | + | + | + | + | + | + | + | + | + | + |
| 1389. | Village game rivalry (shinny) . | (+) |  | + |  |  |  | + |  |  |  |
| 1390. | Chief equivalent to weal thy man . | + | + | + | + | + | + | + | + | + | + |
| 1391. | 2 plus "chiefs" in village possible | (+) | + | + | + |  | + |  | + | + | + |
|  | 1392. Assistant chief, named as such | - | - | + | - |  | - |  | + |  | + |
|  | 1393. Both called same | - | + |  | + |  | + |  | - |  | - |
|  | 1394. Closely related | (+) | + | + | + |  | + |  | + |  | + |
| 1395. | Almost every man related to his chief | + | + | + | + | + | + | + | + | + | + |
| 1396. | Chiefs decide on war . . | (+) | + | + | + |  | + |  | + |  | + |
| 1397. | Council of all men decide on war | - | + | + | - |  | - |  | + |  | +? |
|  | 1398. Unanimous consent necessary | - | - | - | - | - | - |  | - |  | - |
|  | 1399. Conform to chief's' decision | (+) | + | + | + | + | + |  | + |  | + |
| 1400. | All men obliged to go to war | + | + | + | + | + | + |  | + |  | + |
| 1401. | Chief leads | ( + | ( + | + | + |  |  |  | ( + |  | - |
|  | 1402. Conducts battle from rear | - | + | + | + |  | + |  | + |  | + |
|  | 1403. 2d chief leads | - | ( + |  |  |  |  |  | ( + |  | + |
| 1404. | Chief is arbitrator in village disputes | + | + | + | + |  | + | + | $+$ |  | + |
|  | 1405. Gets a share of adjustments . | - | . | + | + | - | + |  | - |  | - |
| 1406. | Chief champions village members | + | + | + | + | + | + | + | + | + | + |
|  | 1407. Subscribes to, or gets share of compensation. | + | + | + | + | + | + | + | + |  | + |
|  | 1408. Can disavow a member--no redress | + | + | + |  | + |  |  |  |  |  |

1409. Usually tries to make individual responsible
first of office determined by wealth and
1410. Inheritance of office determined by wealth and
personality . . . . . . . . . . . . .
1411. Requires village approval
1412. Tacitly acknowledged
1413. Successor named by chief
f.
older ones

PROPERTY


## Inheritance of Property

1431. To eldest son who divides
(+)
1432. Apportioned informally between grown sons and
father's brother

| + | + | + | + | + | + | + | + |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| + | + | + |  | + |  | + | + |
| + | + | - |  | - |  | - | + |
| + |  |  |  | + |  | + | + |
| + | + | + |  | + |  | + | + |
| + |  |  |  |  |  | + |  |
| + | + | + | + | + | - | + | + |
| + | + | + | + | + | - | + | + |
| + | + | + | + | + |  | + |  |
| + | + | + | + | + | + | + | + |
| + | + | + | + | + | + | + | + |
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| + | + | + |  | + |  | + | + |
| + | + | + |  | + |  | + | + |
| - | + | - |  | + |  | - |  |

1433. Woman's personal effects to daughter

## WAR

1434. To avenge witchcraft
1435. To avenge unadjusted murder or injury

1436. Mercenary warriors
1437. Recruited relatives from other villages
1438. Dance of incitement
1439. Preceded by training--sweating, bleeding, etc.
1440. All night till daybreak when they attack
1441. War songs, used only at this time
1442. Away from village
1443. Circle
1444. Abreast
1445. Circled around fire
1446. Effigy of proposed victim
1447. Carried by shaman
1448. War-antics dance in front by good warrior
1449. Strikes and stabs the effigy
1450. Shamans present (may be women)
1451. Throw baskets of ashes at enemy
1452. Make death signs at enemy
1453. Draw bow at enemy
1454. Examine warriors' hands for blood stains
1455. Attempt to divine who will be killed.
1456. Those advised not to participate



MURDER
1520. Murderer departs in direction of victim's head
1521. Goes directly to sweat house

1543. His house purified with salal and fir

## SHAMANISM


To Ch Gl G2 Tu SR Ku Si Al Ti
1567. Only till pain received.
1568. Directed by older shamans
1569. Drum on ceiling with 2 poles
1570. Novice inhales angelica-root fumes
1571. Family and friends present
*1572. Shot by pain giver
1573. Only close relatives told kind of power
1574. Old shaman announces kind of power
1575. Try to send back bad power
1576. Sends other pains into novice to test him
1577. Cataleptic manifestations 1578. Just good doctor
1579. Throw up in air "or bounces up on rope"
1580. Novice exhibits pain
1581. Sponsor doctor takes it out
1582. Restores to body
1583. Swallows it 1584. Living object, as worm 1585. Inanimate object--bone, hair, etc. 1586. Resides in shaman's body
1587. Blood letting and sweating after dance
1588. Further training for novice necessary
"1589. Second dance to fix or "deaden" the pain
1590. Often continues to train for more power
1591. Shaman calls on power for help
1592. Pain giver (or power) present at each curing
1593. Pain giver drives pain to surface in curing
*1594. Persons other than shamans seek guardians
1594a. Guardian-spirit concept absent

* 1595. Spirit must address the seeker

1596. Mostly women shamans
1597. Men doctors strongest
1598. Berdaches esteemed as
$\qquad$1599. Unmarried shamans esteemed more
1599. Wished to be shamans*601. Dreams come unsought1602. Young and doesn't have much to say
1600. Urged by chief*1604. Urged by male kin
*1605. Unconfessed shaman evil
1601. Has gone through doctor making secretly*1607. Because of risk to doctor's life
1602. Patient gets better if such a one is killed.
1603. Sometimes obliged to doctor own victim im.1610. Killed if victim dies1613. Pays for having made person sick-••••
1604. Life paid for (little).
1605. Kin can take revenge
$\qquad$
1606. Pays patient's people1615. Can or does cure in own home or family
1607. Shaman wears yellowhammer tail feather in hair
1608. Has bundle of yellowhammer feathers, each represent-
ing a power
1609. Hair long and done up in minkskin
1610. Shaman wears yellowhammer feather in nose1620. When doctoring only
1611. Both good and evil acknowledged shamans1622. Good ones might be evil for gain
1612. Good ones might become evil
1613. Power demands blood and must be satisfied

| - | - | - | + | $+?$ | - |  | - | + | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| + | + | + | + | $(+)$ | + | + | + | + | + |
| - | - |  |  |  |  | + | + | + | + |
| - | + | + | + |  | + |  | $+?$ |  | + |
| + | + | + | + | + | + | + | + |  | + |
| - | + | + | + | + | + | + | $\bullet$ |  | + |
| - | - |  |  | - |  |  | $+?$ | + | $+?$ |
| - | + | + | + | + | + |  | + | - | + |
| - | + |  |  | + |  |  | - |  | - |

## Kinds of Power



To Ch G1 G2 Tu SR Ku Ki Al Ti

|  |  | To | Ch | G1 | G2 | Mu | SR | Ku | Si |  | Ti |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1678 .$ | 1677. Talks to power while smoking | - | + |  |  |  |  |  | + |  | + |
|  | Sleight of hand . . . . . . . . . . | (+) | + | + | + |  | + |  | + | + | + |
|  | 1679. Exhibitions in winter at time of novice initiation |  |  |  |  |  |  |  |  | + |  |
|  | 1680. Eats ground flint | - | + | + | + |  | + |  | - |  | - |
|  | 1681. Eats fire . . . |  | + | - | +? |  | + |  | + |  | + |
|  | 1682. Handles hot rocks |  | - |  |  |  |  |  | - | + | - |
|  | 1683. Hands in hot water or drinks it |  | + | - | + |  | + |  | - | + |  |
| 1684. | Herbs used | + | + | + | + | + | + | + | + | + | + |
| 1685. | Names shaman responsible for sickness . | ${ }^{+}$ | + | + | + |  | + | + | + |  | + |
|  | 1686. Clairvoyance--"to see cause of illness" | + |  |  |  |  |  |  |  |  |  |
|  | 1687. Tells whether can cure or not . . . . | + | + |  |  | + |  |  | + |  | + |
|  | 1688. Spews water, angelica root, etc. | + | + | + | + | + | + | + | + | + | + |
| 1689. | Sucks pain . | + | + | + | + | $+$ | + | + |  | + | + |
|  | 1690. Direct | + | + | + | + |  | + |  | + | + | + |
|  | 1691. With pipe | + | - | - | - |  | + |  | - | - | - |
|  | 1692. With minkskin |  | - | - | + |  | - |  | - |  | - |
|  | 1693. With yellowhammer quill |  | - |  | - |  | + |  | - |  | - |
|  | 1694. Sucks to relieve tumid condition |  |  |  |  |  |  |  |  | + | + |
| 1695. | Removes pain with hands |  | + | + | + |  | + |  | + | + | + |
|  | 1696. Empowered by a seizure |  | + | + | + | + | + |  | + | + | + |
|  | 1697. Held and helped by assistants |  | + | + | + | + | + |  | + | + | + |
|  | 1698. Puts pain in bowl of water. | - | + | + | + |  | + |  | + | + | + |
| 1699. | Destroys pain . . . . . . . | - | + | + | + |  | + | + | + | (+ | + |
|  | 1700. Burns in pitch ball . . | - | + | + | + |  | + | + | + |  | + |
|  | 1701. Throws in air, i.e., away | - | + | + | + |  | + |  | +? |  | - |
|  | 1702. Cuts it up . . . . . . . . | - | - |  | + |  |  | + | - |  |  |
|  | 1703. Kills sender thereby | - | - |  | + |  |  |  |  |  |  |
|  | 1704. Swallows | - | - |  |  |  |  | + | - | + | - |
|  | 1705. Bites . | - |  |  |  |  |  | + |  |  |  |
|  | 1706. Sends it east | + |  |  |  |  |  |  |  |  |  |
|  | 1707. Presses into chest to enhance own power and weaken the sender's | - | - |  |  | + |  |  | + | + |  |
| 1708. | Returns pain to sender | + | + | + | + |  | + |  | + | ${ }^{+}$ | - |
|  | 1709. At option of patient's kin. | - | + | + | + |  | + |  | + |  |  |
|  | 1710. Kills evil doctor (sender) if his power is stronger | - | + | + | . |  | + |  | + |  |  |
| 1711. | Money taken to doctor when asked to come | + | (+) |  |  |  |  |  | - | (+ | - |
| 1712. | Paid if cure not effected. . | + | + | $+$ | - | + | - |  | $+$ | + | - |
|  | 1713. Gives some back if fails | + | + | + |  | + |  |  | + |  |  |
| 1714. | Must try if asked (easy to alibi though). | + | + | + | + | + | + | + | + | + | + |
| 1715. | Part of fee to "chief" . . . . |  | - | - | +? | - | - |  | - | - | - |

## SICKNESS

Caused by:
1716. Pains given by hateful shaman
1717. Persons not shamans or devils
"1718. Breach of taboo-or crimes
1719. Pain concept involved
1720. Confession helps
1721. Poisoning by "Indian devil"
1722. By pointing
1723. Soul's loss through fright
1724. Ritualist employed
1725. Petitions, prays for its return
1726. Shaman's spirit goes after

1726a. Sends his power.
1728. Bury hair or clothes by grave
1729. Hang article on pole in wind on mountain to cause insanity
$+$

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To Ch Gl G2 Tu SR Ku Si Al Ti

1730. Creator commonly prayed to for luck, health, good
weather, etc., with offering of tobacco smoke
DANCES


## Regalia for Dance

1777. Men carry otter quivers with arrows
1778. Some hold small hafted blades
$+$
1779. Women carry feather bundles
(-)
1780. Haliotis-decorated headbands (men)
1781. "Horns" made of Haliotis rim
$+$
1782. Woodpecker headbands (men) secured at back 1783. l row of woodpecker scalps
(+)


## ELEMENTS DENIED BY ALL INFORMANTS

All the following elements or complexes are lacking:

Structures. Wooden houses: interior shelf; plank partitions; mushroom-shaped stools. Sweat house: ventilation hole cobble-lined or used as exit.

Cordage. 3-ply cord; human-hair cord.
Fishing. Fish dam with falling door, holed sinker, straight "hook," creel, double-pointed "fishhook," fishing fly, clay-ball sinker, spear with spread prongs, crab pot.

Hunting. Communal (collective present); basketry game trap; game net; living decoy; bird cage; arrow for water skipping; rabbit club.

Food. Eating of dog, coyote, sea gull, buzzard, raven, dove, eagle, owl, wolf, shark, pelican, rodents, and reptiles. Head of bear set up; taboo on presence of children at cooking of deer head. Acorn leaching on conifer boughs or in baskets; acorn bread or biscuits; use of manzanita berries, salt from burned grass.

Utensils. Shaped pestle (other than those mentioned); steatite bowl or fry plate; knotted string mnemonic; jointed fire drill; root or fiber hairbrush; weighted digging stick; granary.

Weapons. Shield, rod-jacket armor, spear thrower, untipped war arrow; "slave killer" shaped club. Spear or sling doubtful except for use by boys.

Navigation. Simple dug-out and balsa; split poling rod; anchor; double paddle.

Cradles. Basketry hood; designs indicating sex.

Burdens. Net sack; back carrier of hide on frame; carrying case of sticks; reinforced and coated carrying basket.

Basketry. Obtuse cone sifter; bone tapper; basketry spoon; pitched water basket. Evidence of use of Woodwardia and Evernia dyeing lacking. Coiled basketry (except for a suggestion of its importation from the north by the Alsea).

Dress. Hair net, dye, or plaster; eyeshade; shaving of beard; body mud-coating and anointing with salmon oil.

Pictographs.
Musical instruments. Notched scraper; multiple split-stick rattle (single doubtful); basket scraped; flute played through nose; flageolet; cocoon, gourd, and shell rattle. Roof may not have been drummed on until after introduction of Ghost Dance.

Money and wealth. Money graded on forearm tattoo and by number on arm-length string; Dentalia personified and loaned at interest; Olivella-shell disks and squares.

Pipes, tobacco, etc. Convex and straight tubular pipes; bone mouthpiece; clay and all-stone pipes; disk bowl; tobacco eating.

Games. Ball race; woman's lacrosse; men's double ball with wrestling; dice game with stone markers; knee-cap game; odd-or-even and guessing remainders; acorn spun as top.

Calendar, counting, direction. 2-solstice calendar (apparently); water flow instead of cardinal direction designation; tree in moon.

Marriage. Brother-sister and parent-in-law avoidance; village exogamy as such; prostitution.

Birth and childhood. Special hut at birth; childbirth drink for mother; infanticide.

Girls' puberty. Seclusion in menstrual hut (except for reported uses of brush sweat house by Alsea); wood carrying or similar exertion for the menstruant; drinking tube; dance performed by a double circle of men and women, or by circle of men only; split-stick rattle.

Boys' puberty. Ceremonial recognition.
Mortuary customs. Contamination scapegoat; belt of widow's hair; mourning necklace; mourning beginning before death; scratching face, beating breast, etc., by mourner; face left unwashed; mourning anniversary; gravedigger, a berdache; grave plot bought in alien village.

Social status. Berdache-making ritual; capricious slave killing; destruction of wealth for display; potlaching (unless reciprocal giving at wedding and births so construed).

Property. Wife inherited.
War. White paint; prearranged or pitched battle; formal declaration of war; spies; scalping; torturing prisoners; retention of prisoners (except by alien groups seeking slaves); mutilation of dead (except those bitterly hated) ; dependence on armor in warfare rather than ability to dodge.

Shaman. Pains received in dream; power saleable; ritualist undergoes doctor-making dance, and dances to remove pains.

Dances. Localized, and with sacred connotations; specific items of the Yurok Deerskin Dance (such as head nets, civet aprons, wolf fur, and sea-lion teeth headbands); obsidian dancers in any numbers; flapping, broad, woodpecker-scalp headband (except Tolowa); cylindrical dance basket; incense offering or esoteric preliminaries required of "talker"; whistle or wooden drum; sexual license tolerated; outdoor dances (except puberty); dance in which men alone participate; public dance for curing.

Miscellaneous. New fire (except some account of doctor's building fire to cook first salmon on Rogue river); new-moon racing.

## ETHNOGRAPHIC NOTES ON THE ELEMENT LIST

Traits here discussed are marked by an asterisk(*) in the lists

1. I should not insist upon the discontinuity in house type which is apparent from the Siuslaw and Alsea data. Drucker has volunteered later information from a second Alsea, now living at Oakville, Washington, who described houses with plank walls and roofs. This, it is suggested, has the weight of probability, supported as it is by the general impression that there is no real reason for an anomalous condition in this respect for the Alsea and Tillamook.
2. Full, meaning below ground surface as well as above; half is above only.
3. I.e., in a horizontal plane.
4. Strips inside and out, lashed together to secure walls.
5. See also items 64 and 65.
6. Enclosing a strip across the stream.
7. Platform for spearing, netting, etc.
8. Basketry cylinder laid on river bottom, frequently at opening in dam.
9. At opening in dam, above lower water level, salmon stranded.
10. Mesh large enough to admit head and gills, retreat impossible.
11. Attached to gill net, vibrates when fish is caught, notifies waiting fisherman.
12. Very similar to tennis-racket frame with long handle.
13. The Yurok type, cf., Kroeber's Handbook of the Indians of California.
14. Like all "lifting" nets lowered into the water, plane of frame perpendicular to surface, net bag drifting downstream, usually steadied by upright posts driven in river bed. The handle on this net is horizontal or nearly so when in position.
15. Wood or bone stem to which is lashed at an acute angle a short, pointed bone spur.
16. Short strands of hair bound together at ends and baited.
17. To train them for hunting.

Food. See also items 380-383b.
255. That is, not eaten because said to be poisonous (cf. Yurok in Kroeber, Handbook).
261. Mixed with tallow and stored.
355. This takes place when boy returns with his game and is subjected to this and other ritual treatment.
369. Refers to the prescription that it must be consumed at once, all in one dwelling.
377. There is some doubt whether this is a prescription of magical import.

411-412. To strip fibrous material for cordage, etc.
419. A hazel stick added each day by simple twine weave, forming small pad or mat. 418 also as mnemonic.
424. Slow burning substance for carrying fire a short distance in moving camp, etc.
466. Straight as compared with the more northern types (Puget Sound, etc.). Actually it has a pointed upturned tip. It should have occurred in most of this area but the results are inconclusive. A perfect specimen was dug up in the Chetco River bed and is now in the possession of a local collector at Brooking, Oregon.
511. Held between thumb and forefinger.
534. This is the Yurok type; see Kroeber, Handbook.
564. Ceremony by ritualist to ensure good fortune to boat.
566. All members of fishing or hunting crew pretended to play shinny, etc., and only made references to their occupation in these terms-for good luck and fear of offense to sea lion, fish, etc.
579. A toe, or pocket filled with padding on which the child sits when cradle is upright, in distinction with 580 in which no toe.
600. Openwork or open weave refers to large interstices between the elements of the basket.
664. Drucker's remarks seem to convey that Tolowa sole (extra) is recent. My Galice Creek notes indicate informants regard it as aboriginal. 695. Mostly women.

696-697. Both men and women.
734. Definitely asserted by most to have come in late with one of the southern cult dances. 745. Recent for Tolowa.

772-775. These two Drucker has labeled "woman's money." If not explicitly so this attitude toward them is probably implicit in the description "decoration" for the rest of these people. 844. As "white moon," "dead leaf moon," etc.
846. There is some uncertainty with respect to the question: Should there be 12 or 13 moons throughout this area?
852. Knowing the season, the star position gives the hour.
861. This refers to "the way the world lies" and has no connection with river flow.
868. Two men exchange their respective sisiers in marriage, the transaction always involving a monetary exchange also.
870. In which indigent suitor pays only small amount for bride and goes to live with his par-ents-in-law.
881. Bereaved spouse goes directly to live with new mate.
902. Holding woman close to hot fire to make her confess.
908. Purely accidental or innocent contact regarded as an adulterous offense.
914. If by another woman, she paid the offended one with "woman's money." (Tolowa)
929. The real blood group, not a fictitious segment to which a name rigidly adhered, determined the exogamic unit. Consequently, in spite
of the fact that the village was for the most part a patrilineal group, neither village exogamy, so conceived, nor clan exogamy can properly be said to have existed. Both notions are foreign to these peoples' minds.
964. Magically, by formula, gesture, etc.
990. Ceremonial treatment each day--in vapor rising from dampened hot rocks.
1000. Not true couvade, and refers here to both mother and father. Restrictions of magical significance.
1011. Any but dried fish, meat, etc. (uncooked).
1023. Could talk of land from which they came and would become nostalgic.
1072. That is, until a dead name in the family could be revived again.
1083. The following items refer to observances at time of girl's first menstruation.
1097. Inserted in septum perforation.
1118. "Travels"--wandering through the woods on foot.

1133-1135. These take place among the rest of the groups (besides Tolowa) at varying times after conclusion of lst menstruation--usually some multiple of 5 in terms of days or months.
1170. In living house, men hold to wall, women to men's belts, girl dances with rattle and visor, and is in care of ritualist.
1189. "Training"-abstinence, exercise, taboo observances, etc.
1208. These are quite formalized and have a definite character--not mere weeping.
1226. To prevent his hanging on to anyone in this world.
1234. Before finally lowering it to rest in grave.

1286-1287. If there were no direct heirs.
"People didn't like to see strangers use them" (Drucker).
1306. This I believe to be same as 1305 since in the accounts pertaining to that element, the evil shaman often left animal tracks.
1308. Not in same grave, of course.
1326. Namesake in the sense of one who has the same name. I am not sure of Drucker's concept (1327).
1329. Among the Yurok the recently bereaved must be paid by those organizing or participating in a dance if they have not already been compensated, as by murderer of kin.
1383. As "Lives-on-river-bend," "Married-to-the-south," etc.
1395. The village is essentially a group of male relatives and their wives, bound together by blood and common interests.
1400. This is a moral obligation involving the responsibility which is incumbent upon one who receives protection for his allegiance.

1415-1421. This may seem a gratuitous distinction but was designed to show the nature of property individually owned and inherited, that communally claimed, and that produced by joint effort. It is not inconceivable that a dam,
though erected by several men, should belong to the owner of the site. In fact, it is true that here a prominent man nominally may own the dam, but at the same time his aids and subordinates share its products and so in effect own it too. The circumstances are elusive and are really not amenable to a facile plus and minus diagnosis. 1421 need not be dam sites.
1419. Means use of gaff, harpoon, and line. May be the sole resort of those without dam, nets, traps, or canoes.
1438. "The purification dance (Tolowa) was used as dance of incitement and apparently of settlement as well" (Drucker).
1459. Because they are the primary objectives of the enemy.
1460. Usually some bird or animal with attributes of ferocity or agility valuable in dodging arrows or hand-to-hand encounters.
1483. A formal adjustment of differences after the fight, on the field, by the warriors, involving the exchange of payments for losses suffered.
1489. That is, no standard values for lives or property, and no lump sum demands.
1490. The more aggrieved side does not simply receive the excess of its demands over that of the other side.
1493. With likely exception of chief, on whom the burden of war and indemnity mainly fell.
1502. A Yurok trait. It is steamed and a formula recited over it.
1520. Turns head toward him, or departs directly from that point.
1525. "Bad blood"--impure by reason of the crime.
1545. Here vision and dream are differentiated, the first partaking in the nature of an hallucination, the latter used in the ordinary sense of the word.
1551. The training of the youth during adolescence contributed to this and usually if he had inclinations toward shamanistic pursuits they were at least manifested at this time.
1557. That is, when first dreamed or seen.
1560. The Yurok idea of initiations and gaining control of one's supernatural assistant. The term given to this being, which is sometimes a natural object, but more often a living creature, is "power." Doctor and shaman are synonymous in this paper.
1567. The possession of a "pain" is the prerequisite of a shaman. When made visible it takes various forms--a hair, worm, bone, or some wriggling, nondescript likeness of these things. At the same time it has a supernatural existence and maintains vital contact with its possessor, even transmitting injury of itself to its owner. It is still more intimately related to the supernatural who bestowed.it--in fact, they are one, and the native term for "pain" is also that of the pain-giver, otherwise called in English a "power." The possession of a "pain" (the direct cause of sickness and death) within the shaman's body makes him capable of curing by virtue of it.
1572. The explanatory gestures of the informants were those of one shooting an arrow.
1574. He is able to see or know what the nature of the power is--whether bird, bear, yellow jacket, etc.
1579. Refers to novice and obviously suggests some deception of the spectators.
1589. A Yurok feature.
1594. As such, the guardian-spirit concept is undoubtedly weak in this region, but one or two facts tend to deny its total absence. As shown before (1460) warriors of consequence had attending and protecting supernaturals, and these did not, so far as I was able to determine, pertain to shamans. Then too, not only was a shaman's power felt to be actually present and assisting at a curing seance, but it could be called upon in time of stress, though rarely was that done. In all instances it was called a power.
1595. That is, merely seeing an apparition or having a dream is not sufficient.

1600-1602. These elements illustrate an attempt to determine the essential cause at the outset of a shamanistic career, whether voluntary, involuntary, or externally induced. As indicated, the wage is probably compounded of all three factors.

1603-1604. Either of which might profit from the earnings of one of their number.
1605. These are called by a distinct term.
1607. Doctors frequently killed if suspected of evil machinations or for repeated failures.
1625. The possession of certain powers made one at least potentially a menace to health and happiness. At the same time these powers made the most powerful doctors when they were disposed to cure.

1620-1653. Not to be found on coast.
1641. On the occasion of an assembly for the purpose of recovering lost articles the snake is released by the shaman and makes its way toward the thief, or toward the article itself.

1642-1643. These are not "powers" in the same sense as the rest. They represent bodily transformations of certain persons who had this power of sorcery and capability for evil which was acquired, at least by some shamans, by purchase. An account of the "Indian Devil" is given in Kroeber's Handbook account of the Yurok. The "unicorn" ran about at night on two legs, piercing people in the back with his single horn. One escaped him by jumping behind a rotten stump into which the onrushing unicorn rammed his horn and so was stuck.
1652. This is the individual whom I have alluded to throughout the list as ritualist (or perhaps inadvertently as a priest) in contradistinction to shaman or doctor. The two are undeniably different, both in function and in the manner of their induction. Furthermore they are separated in the minds of the people, who use different names for the two, and, in English, speak of the ritualist as a "talking doctor" since his business and the efficacy of his
office lie in the recitation of the appropriate ritual words. These may be derived from a dream, by purchase, or by inheritance, which last is never, or only to the slightest degree, true of the shaman, who must receive direct contact with the supernatural and even exhibit at the time of this contact the characteristic manifestations of spirit possession. The ritualist has no such formal initiation but does hold a sort of office in the community, being appealed to in all situations which involve a formal religious procedure, the essence of which is learned (not revealed) formulaic recitals which often recount the origin and history of the relevant ceremony. These, as said, may be dreamed and so become established in time, but the insistence is upon inheritance.
1694. This was spoken of by Tillamook as "bad blood," but I interpret it as a physical condition, not the result of a taboo transgression, because blood was actually withdrawn from a localized area.
1696. At the moment he extracts the pain, the doctor displays unnatural strength in quelling its powerful efforts to escape from his hands. He flings himself about in violent fashion so that it sometimes requires the aid of two men to hold him on the ground--all in consequence of the "pain's" strength, of course. I am inclined to interpret this behavior, if not feigned, as evidence of a seizure of some kind, perhaps of possession.
1718. This is usually treated by the ritualist by means of formulae.
1721. Not actual poisoning but so spoken of by informants.
1750. The foundation for many of the elements of regalia as well as the dance itself is to be found in the Yurok pattern (q.v.). Being primarily an opportunity for the display of wealth, the participants naturally made all possible use of their (or their patron's) valuables, such as otterskins and white deerskins, obsidian blades, dentalia, and woodpecker scalps.
1751. Songs were individually owned, so after leader started one he "loaned" it to the rest to sing, in consequence of which they joined in.
1753. The very good dancers were called upon at will by the spectators to step out in front and assume the spotlight with an individual performance. These persons, according to my information, were to be found to the rear or sides of the routine dances (chorus), not among them.
1761. A sort of "apache dance" requiring agility and precision of movement on the part of the two dancers.
1764. This does not seem to be of a ritualistic character. The speech of this person recurrently introduces a solemn note compounded of feelings of thanksgiving, sadness, etc.
1774. Increasing amounts and rarities of wealth on each succeeding night. Sometimes the most prominent men refrained from attending until the last nights.
1775. The entire village pooled its valuables
to outdo the visitors, or the adherents of one rich man aided him thus to eclipse the efforts of a rival group.
1796. Carried large obsidian blades, as long as 1 foot or more and up to 6 inches wide.
1806. The ritualist in some way puts a mark on each of the communicants as a symbol of his
having eaten of the ceremonially prepared fish and henceforth for the year may eat it at his pleasure.
1820. This was to prevent their catching of the blood of the injured moon.
1821. Usually for good luck or long life at the moment of seeing the new moon.

# APPENDIX 

BY

## A. L. KROEBER

It seems worth while to comment further on the comparative significance of some of Barnett's findings, especially with respect to reliability of the element-survey method, as previously examined in connection with Gifford's Pomo data in No. IV of this series of studies. ${ }^{\text { }}$

The antecedents and circumstances of Barnett's collecting were these. In 1933 Drucker spent part of the summer making a strictly old-fashioned ethnographic field study of the Tolowa, a coastal Athabascan group in California just inside the Oregon line. In regard to territorial continuity, the Tolowa form the southerly member of a block of Athabascan "tribes" who held nearly half the coast of Oregon, but were cut off by the Yurok and Wiyot from all other Athabascans in California. In short, ethnographically the Tolowa presumably belonged with Oregon, not in California, in which modern political boundaries happened to put them. Presumably because they participated heavily in the Oregon Athabascan culture, the Tolowa culture, as obtained from several good informants, showed so many differences from that of the Yurok, that some knowledge of the Oregon Athabascan was seen to be urgent, and Drucker planned to spend the summer of 1934 in trying to obtain it. Because the culture of the Oregon coast Indians was known to have been violently and deliberately shattered by the whites seventy years before, and because none of the several anthropologists who for thirty years past had worked at Siletz or Grande Ronde reservations had brought back any coherent report on the general ethnography of even one tribe, it was evidently useless to hope for too much. Drucker therefore planned not to repeat his intensive Tolowa approach, which would presumably have been fruitless, but instead to gather what he could on the Tututni of Rogue river, on other Athabascans, and on non-Athabascans of the coast, as far as opportunity allowed. The Takelma were included in the program because Sapir's linguistic informant, who had manifested also appreciable ethnological value in Sapir's hands, was reported still alive. Unfortunately, she had died, the last survivor capable of giving information on her people, a few months before Drucker's arrival; but there were Kus and Alsea informants still available, as well as Athabascan ones.

Barnett accompanied Drucker as assistant on this 1934 trip to Oregon. By midsummer, Gifford's Pomo element survey had shown the list method as so practicable that we decided to apply it in another area; and Barnett was asked to make the
${ }^{2}$ Gifford and Kroeber, Culture Element Distributions: IV--Pomo, UC-PAAE 37:117-254, 1937.
attempt during the remainder of the summer. He had first to build up a list. This he did by conbining and selecting from the old Kroeber list of 1928, the Klimek list of No. l of this series (both these being built wholly on literature), the list just used in the field by Gifford among the Pomo, and his own and Drucker's experience in Oregon. This was a difficult task for a man who had never tried to use a formal list, in fact had not even seen a list purporting to cover a whole culture, and who was only in the beginning of his apprenticeship as a field ethnographer. The eminent success with which Barnett constructed a pertinent, workable, and soundly descriptive list under these formidable circumstances, certainly is proof that he possesses ethnographic insight

Having made his list, he filled it six times through informants of three Athabascan tribes: Chetco, Sixes River, and Galice Creek (two informants) ; and through informants of two nonAthabascan tribes: Siuslaw and Tillamook. To these he added, at Drucker's suggestion, three lists compiled from Drucker's ethnographicsketch notebooks: for the Athabascan Tututni, and the non-Athabascan Coos (Kus) and Alsea. This difference in manner of obtaining information is emphasized because it affects the statistical and therefore the ethnographic results.

Finally, after the nine lists had been put together, at his own suggestion Drucker filled a tenth column with pluses and minuses for the Tolowa of his previous more intensive summer.

It is plain that the ten lists represent three somewhat different types of source, and may therefore be comparably similar, not identical. In the previous Pomo contribution it was found that the intrinsic reliability of lists collected by seemingly entirely parallel method appeared to vary according to several easily ascertained criteria, including the total size of list filled and the ratio of plus and minus answers within it. Barnett has already commented on differences in these two respects shown by his three different types of list. For the sake of readier clarity I have regrouped part of his figures in the adjoining table. In average, the lists taken from ethnographic sketches obtained in the old-line way average only about 740 entries with only 26 per cent of negative answers; those filled in interviews having to do directly with the list, around 1270, with 29.7 per cent of negatives; the one extracted from an intensive old-line study by the author himself, 1350 and 43 per cent. Further, the table shows that there is no overlapping between these three classes, except that the single Alsea list, with 33 per cent of
minuses, falls in the range of negatives of the middle group. ${ }^{3}$

CLASSIFICATION OF LISTS ACCORDING TO SOURCE
From full standard ethnographic monograph, based on several informants:

$$
\begin{array}{cc}
\text { Total } & \text { Per cent } \\
1342 & 43
\end{array}
$$

Tolowa
From list used directly with single informant:

| Chetco . . . . . . . . . | 1412 | 27 |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Tillamook | . | . | . | . | . | . | 1361 | 33 |
| Siuslaw . . . . . . . . . . . | 1254 | 29 |  |  |  |  |  |  |
| Galice 1. . . . . . . . . . . . | 1235 | 32 |  |  |  |  |  |  |
| Sixes River | . . . . . . . . . | 1209 | 27 |  |  |  |  |  |
| Galice 2 . . . . . . . . . . | 1143 | 30 |  |  |  |  |  |  |

From ethnographic sketch, single informant:

| Tututni | . | . | . | . | . | . | 810 | 22 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Alsea | . | . | . | . | . | . | 7 | 778 | 33 |
| Kus . . . . . . . . . . . | 631 | 23 |  |  |  |  |  |  |  |

Although it may seem strange that the lists filled by list questioning should occupy the middle place between the two types extracted from notebooks of "standard" ethnography, the reason for this fact is easily discerned. In general, ethnographers record presences more fully than absences. The scantier their material, the greater is the disproportion likely to be. In using Drucker's sketches, Barnett hewed straight to the line and entered a minus only where an absence was specifically recorded in the notes, and refrained from inferring an unspecified absence even where he had reason to suspect it. However, when Drucker filled in the Tolowa column from his own far fuller notes plus observation and memory, he was able to enter with assurance some 125-250 more minuses than Barnett had felt warranted in extracting from Drucker's Tututni, Kus, and Alsea notebooks. With reference back to

[^0]Barnett's tabulation, it will be seen that the specialization of the Tolowa material lies precisely in its negatives, which are from two and a half to three and a half times as numerous as those for the three other notebook tribes, whereas in positive items it exceeds them only from a sixth to two thirds. (Incidentally, the Tolowa list also has fewer positive entries than all of the six lists filled by direct questioning, although it again far exceeds all of them in negatives.) We may infer accordingly that the Tolowa list differs from the Tututni, Kus, and Alsea not only in being based on fuller data on a richer culture, but in having been extracted by the collector of the data on a somewhat different basis of judgment.

It has been necessary to go into these matters of qualitative list differences because they affect the ethnographic conclusions to be drawn from the lists. A glance at Barnett's map shows that all but one of the groups represented were coastal, living either on a bay, like the Kus, or on the lower reaches of a stream entering the ocean, like all the others except the Galice Athabascans. These eight tribes thus lived in a linear order from the Tolowa in the south to the Tillamook in the north. Everything we have in the way of many years' experience in these matters would lead us to expect that the sequence of cultural similarity would be the same, ${ }^{\frac{4}{4}}$ namely, Tolowa, Chetco, Tututni, Sixes, Kus, Siuslaw, Alsea, Tillamook, the only problem being: At what points did the major cleavages or changes of culture occur? The ninth tribe, that of Galice creek, is the only interior one. It might therefore be expected to stand somewhat apart from the seriation of the others, especially as the two lists representing it show definite resemblances to the Shasta culture of inland northern California. The group to which presumably the Galice Athabascans would most closely attach among the eight coastal ones would be the Tututni of the mouth of Rogue river into which their Galice creek drains; and next, to adjoining Chetco and Sixes River.

Such is the picture of relationships inferable from the geography. Now let us match against this

[^1]

Fig. 1. Tribal relationships, Qz coefficients.


Fig. 2. Tribal relationships, G percentages.
the relationships indicated by the $Q_{z}$ coefficients of similarity as already tabulated by Barnett, and represented graphically in figure 1.

In general, the geographical order along the coast is pretty regularly followed by the coefficients. There are occasional exceptions as when marginal Tillamook shows a somewhat higher coefficient with Chetco and Sixes River than nearer Alsea shows with them. But in the main Tillamook has the lower coefficients and Alsea the higher ones with southerly tribes; and so all through the list for the coast.

Second, with regard to the Tolowa. These appear to stand much farther apart from all the other seven coastal tribes than any of these from the rest. They show the only intercoastal coefficient below . 15 (Tolowa-Sixes River . 06), and their maximum is .63 (with Tututni), whereas all other coastal tribes run to maxima of .79 to .87 . It is entirely probable that the Tolowa have taken over a mass of Yurok (or Yurok-Karok-Hupa) specializations, many of which did not succeed in filtering northward beyond them. However, this is almost certainly not the only factor involved. The abnormally high percentage of minuses in the Tolowa list may not be left out of the reckoning. The 43 per cent of negative entries in the Tolowa list, as compared with a range from 22 to 33 in the others, undoubtedly accounts for the preponderance of Tolowa low coefficients. Another aspect of the Tolowa coefficients is their irregularity. Instead of decreasing regularly northward, they run: . 45 with the Chetco, their immediate neighbors, but up to .63 with the Tututni; then down again to .06 for the next Athabascan tribe, Sixes River; still low for Kus and Siuslaw, . 17 and .25; but up again to .51 and .52 for the most distant Alsea and Tillamook. We may conclude therefore that the aloofness of the Tolowa caused by the influence upon them of the specialized Yurok who adjoin them but are outside the frame of this study, is less great than the figures indicate,
part of the aloofness or cultural separateness being fictitious and resulting from the different method in which the Tolowa list was filled. ${ }^{5}$

Third, with respect to the inland Galice Creek Athabascans. Here we have lists from two informants of the same tribe. This raises another problem of reliability, soon to be considered; but for the present we must find some way of treating the two lists as representative of a single tribe. Galice 2 shows lower coefficients 6 times out of 8; the two exceptions are with the most remote Alsea and Tillamook. The means of their coefficients run: To . 10 , Ch . 45 , Tu . 35 , SR . 27 , Ku .17, Si .13, Al .20, Ti .11. As we have seen, Tu ought to be highest, SR and Ch next. Actually Ch is a little higher than Tu. In the main, however, the coefficients place Galice culturally about as is expectable from geography.

All in all, apart from the Tolowa, the fit of the coefficient table to expectability is rather good--somewhat better perhaps than for the Pomo area lists. There are unexplained displacements of expectable order; but none of them is very serious in coefficient quantity. Considering how long the cultures have been dead, and the impossibility of choosing informants among the almost extinct survivors, the fit is in fact surprising indeed.

For comparison I add also the $G$ coefficients, which are derived from a formula, $a / \sqrt{ }(a+b)(a+c)$, which makes no use of common absences of traits ( d , or - -). It will be seen that the diagram (fig. 2) yields a grouping closely similar to the $Q_{2}$ diagram (fig. 1). The principal differences are: the GZ-Gl coefficient is not so high as it should be, being surpassed by five intertribal ones; the G2-Ch relation seems abnormally high;

[^2]and Tolowa is set apart from the rest even more than are G2 and G1, in fact, it provides all but two of the lowest coefficients under 50.

TABLE 2
G Percentages

|  | G2 | G1 | To | Ch | Tu | SR | Ku | Si | Al | Ti |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| G2 |  | 79 | 47 | 83 | 66 | 69 | 59 | 53 | 46 | 50 |
| G1 | 79 |  | 42 | 67 | 64 | 65 | 58 | 57 | 46 | 54 |
| To | 47 | 42 |  | 58 | 67 | 50 | 48 | 40 | 30 | 30 |
| Ch | 83 | 67 | 58 |  | 84 | 84 | 69 | 69 | 57 | 61 |
| Tu | 66 | 64 | 67 | 84 |  | 82 | 75 | 70 | 64 | 52 |
| SR | 69 | 65 | 50 | 84 | 82 |  | 77 | 71 | 57 | 61 |
| Ku | 59 | 58 | 48 | 69 | 75 | 77 |  | 81 | 76 | 67 |
| Si | 53 | 57 | 40 | 69 | 70 | 71 | 81 |  | 75 | 71 |
| Al | 46 | 46 | 30 | 57 | 64 | 57 | 76 | 75 |  | 76 |
| Ti | 50 | 54 | 30 | 61 | 52 | 61 | 67 | 71 | 76 |  |

The question next arises: Where does the major cleavage come in the line of cultures on the coast? Inspection of the $Q_{z}$ coefficient table shows three major breaks: between Tolowa and Chetco; between Sixes River and Kus; and between Siuslaw and Alsea. The first is much the largest, but cannot be wholly relied on because of the aberrant nature of the Tolowa list. However, it cannot be ruled out because we do not know the strength of the aberrance as expressible in coefficients. Of the two other breaks, that between Sixes River and Kus, in other words between Athabascans on the south and non-Athabascans on the north, seems the greater: coefficient .72, versus .77 for Siuslaw-Alsea. As against these, we have, still in linear geographic order: within the Athabascan block: Ch-Tu, .87; Tu-SR, .84; within the next block, Ku-Si, .83; within the northern block, Al-Ti, . 79.

With these two provincial borderlines within the linear coastal culture may be compared the abruptness of the frontier between coast and interior. Here we can compute the mean of all coefficients of the Galice and two adjacent coastal tribes. ${ }^{6}$ These means run: Galice 2, .18; Galice 1, .265; Chetco, . 49; Thututni, .57. Even the marginal coast tribes run higher mean coefficients than Galice: Tolowa, .33; Tillamook, .39. In other
${ }^{6}$ Omitting the G2-Gl coefficient, and including only $G$ value in the means for other tribes.
${ }^{7}$ The absolute values are: $\mathrm{a},++, 607$; $\mathrm{b},+-, 63$; $\mathrm{c},-+, 55 ; \mathrm{d},-\mathrm{H}, 190 ; \mathrm{N}=915$ (as against 580 for the $Q_{z}$ of the table). Besides, there are 73
words, our one inland tribe shows lower average coefficients than any coastal tribe, even though half of these share Athabascan speech with it. We have here then an approximate indication of the strength of the environmental influence of coastal versus inland habitat in the Oregon area. It is only approximate because we do not know how much of the cultural separateness of the inland tribes is attributable to their specific environment and how much to their position in contact with other tribes still farther inland and from contact with whom they themselves cut off the coast dwellers. However, whatever the respective strength of these two factors-natural environment as such and geographical position as such--their combined influence seems to have been sufficient, in this area, to differentiate inland neighbors from coast neighbors more than any coast neighbors from each other. In short, in Oregon west of the Cascades the actual coastal cultures apparently tended to form one block or primary stratum, the inland cultures another.

There is another matter which bears on the reliability of lists-on the problem of how far any one list is authentically representative of the culture of the "tribe" or social unit of which it purports to give a picture. Here we have some check in the fact that Barnett was able to fill independent lists from two survivors of the Galice Creek Athabascan group. How well do these agree? Their $Q_{R}$ coefficient is the second highest obtained: . 86 , as against .87 for Chetco-Tututni, and from .84 to .01 for others. The two Galice lists are also similar in size: 1235 and 1143 items; and in percentage of negative answers: 32 and 30. However, with ideal informants questioned by an ideal ethnographer on an ideally appropriate list, two informants of the same social unit should give identical answers throughout, and their $Q_{R}$ would then be 1.00. The difference of the actual coefficient of .86 from the ideal one of 1.00 serves as a sample indication-it hardly is a measure, I assume, statistically speakingof the lack of reliability in the sum of data obtained. The possible causes of the differences in the two theoretically identical lists will be obvious: questions so worded as to be ambiguously construable; indifference, fatigue, partial ignorance, or loss of memory by one or the other informant; lack of concreteness or cross-checking by the recorder, etc.

Actually, the reliability is better than the $Q_{z}$ of .86 would indicate, because this $Q_{R}$ is based on figures excluding all pluses and minuses universal or uncontradicted in the area. With these included, the percentage of agreements in the two Galice lists rises from 78 to 87 ; and the $Q_{2}$ from .86 to $.94 .{ }^{7}$

[^3]Even this would be a disconcertingly high figure of disagreements where the cultures had survived until recently and there was ample choice of informants for checking. Under such more favorable conditions it seems that the percentage of clean-cut agreements could reasonably be expected to approach 95 per cent. Whether this degree of accuracy can be attained with lists constructed on the basis of larger experience and more skilfully used with informants, or whether any list method of collecting ethnography will always remain subject to a 10 per cent or larger discrepancy, remains to be seen. The question can fairly be raised whether the old-line, individual, haphazard method of field study ever yields as much as 90 per cent of noncontradicted statements. We cannot tell, because in most monographs there is little indication whether a given statement rests on the authority of one or several or many informants and whether it represents their unani-
mous or their majority opinion. Where conflicting evidence is given at all, it is usually rather variable in detail.

A final word with respect to the value of Barnett's data. They are expected to be read by anthropologists-read down the columns, with appreciable time saving-when and as anthropologists concern themselves with Oregon ethnology. For use by the layman, the local historian, and those who like their data predigested, they can easily be transmuted into conventional literary form whenever it seems worth while. I believe that in the present work Barnett has probably assembled more new concrete information on the native cultures of the Oregon coast than was available in all previous sources put together. If this opinion is correct, it would seem to establish both Barnett's ethnographic competence and the value of the culture element distribution survey as a field method.


[^0]:    ${ }^{3}$ A similar examination of + and - frequencies was made of Pomo lists in No. IV. There it was found that the best lists showed an excess of + over - of 0 to 20 per cent, those with a higher or lower excess tending to be less reliable. (The excess was reckoned in terms of the total: thus, $\mathbb{N E}$ Pomo, +221, -423, total 644, excess $-202,=-31$ per cent of 644.) This means that in the better lists positive answers tended to constitute from 50 to 60 per cent, negative answers from 40 to 50 per cent of the total. This is about the proportion of the Tolowa list, and it is far higher for negatives than Barnett's informant-filled lists, which average around 70 per cent + , 30 per cent -. The results differ evidently because different men handled different lists in a somewhat different way. Obviously there can be no outright transfer of absolute values of reliability from one body of work to another. By Gifford's standards all Barnett's

[^1]:    informant-collected lists would be highly unreliable, and vice versa. We can only say that a Barnett Oregon list which shows appreciably fewer than 25 per cent or more than 35 per cent of minuses is out of step with the rest and not wholly comparable with them; and that for Gifford's Pomo lists the corresponding limits are 40 per cent and 50 per cent. This raises a problem for the future when the several areal blocks of lists shall be compared for interpretations with respect to culture relations within the wider area embracing them all.
    "Such an inference might not hold in the east; it has held universally in experience on the Pacific coast, where everything known indicates the high sessility of groups, an almost complete absence of migrations or shifts of populations in recent centuries, and a gradation of culture continuous according to distance.

[^2]:    ${ }^{5}$ Further information on this point will be available on publication of a new Tolowa list obtained in the autumn of 1935 by Driver as part of an element survey of northwestern California.

[^3]:    items for which one or both Galice lists contain $(+),(-),+$, or - , that is, a more or less dubious entry. Fifteen of these are agreements, 58 disagreements. In other words, when doubt was raised in the collecting, 4 times out of 5 the two Galice informants were giving conflicting answers.

