

bone comb, and some objects of wood and fabric, the latter being preserved in brass and copper kettles placed with the dead.

MR. ALANSON B. SKINNER of the Museum of the American Indian, Heye Foundation, New York City, spent the months of May and June in Wisconsin among the Menominee Indians where he obtained a set of phonograph records illustrating the songs and ritual of the medicine dance. He also, in association with Dr. S. A. Barrett of the Public Museum of the City of Milwaukee, opened 21 circular and linear mounds in Showano county, Wisconsin. In some instances primary burials with accompaniments, usually pottery vessels, were found but many of the mounds, particularly the linear mounds, were found to contain only secondary burials such as bundles of bones or small deposits of charred human remains. The months of August and September Mr. Skinner spent in Jefferson county, New York, among the Thousand Islands of the St. Lawrence. He obtained a large series of bone implements from the Iroquoian sites of that region including an unusual number of bone objects decorated with incised chevron designs. The most important specimens obtained, however, were two fine examples of eastern Iroquoian pottery jars of ornate type discovered in crevices in the Talus at the foot of a bluff on the Indian river in the town of Theresa, New York. The latter part of the season was spent by Mr. Skinner in Cayuga county, New York where many objects were obtained from the village sites, and cemeteries of the Cayuga Indians of both the prehistoric and Jesuit Mission period were collected.

DR. S. A. BARRETT of the Public Museum of the City of Milwaukee has spent the summer in excavating the famous earthworks of Aztalan, Wisconsin, where a large series of very interesting material was obtained.

MR. D. A. CADZOW of the Museum of the American Indian, Heye Foundation, has returned from a trip to the Arctic where he secured an unusually complete collection of ethnological material from the Copper Eskimo of Coronation Gulf and the neighboring northern Athapascan tribes.

# American Anthropologist

NEW SERIES

VOL. 21

OCTOBER-DECEMBER, 1919

No. 4

## THE MELANESIAN POSSESSIVES AND A STUDY IN METHOD

By SIDNEY H. RAY

IN the *American Anthropologist* for July-September, 1918, Mr. A. M. Hocart has selected some of the Melanesian and Polynesian words which indicate possession as a "point of grammar" upon which to base a criticism of the two schools of enquirers who have used them as proofs and illustrations of their theories. One set of theorists, called by Mr. Hocart the "psychologists," regards the number and complexity of the Melanesian possessive words as the result of a defect in the power of abstraction. "The savage mind can conceive the possession of a leg, the possession of a house, the possession of a drink; it cannot conceive possession pure and simple." The second set of theorists regard these possessive words as evidence of culture-fusion brought about by "the accidents of history and the force of environment."

The first set of these theories has been discussed at length by Mr. Hocart in an article on the "Psychological Interpretation of Language."<sup>1</sup> The second is that propounded by Dr. Rivers in the "History of Melanesian Society."<sup>2</sup>

The present note is not intended to directly support or condemn either of these two theories. Yet it may be said that the writer is in general accord with Mr. Hocart's statement "that these savages, so called, are perfectly capable of expressing abstract ideas at least equal to that of possession in general."<sup>3</sup> The present writer

<sup>1</sup> *British Journal of Psychology*, vol. v, pt. 3, Nov., 1912.

<sup>2</sup> W. H. Rivers, *The History of Melanesian Society*, vol. II.

<sup>3</sup> *A Point of Grammar*, p. 267.

also believes that there is a fusion of cultures in Melanesia which may be measured by the languages, though not precisely in the way suggested by Dr. Rivers.

The notes which follow are intended to point out that the method chosen by Mr. Hocart in his criticism of the two theories tends to obscure and invalidate his explanation of the possessive words. In his desire to avoid prolixity he has confined his evidence to that provided mainly by the Fijian language, although the maxim *ex uno disce omnes* is totally inapplicable to linguistics, and the explanation of these words can only be deduced from a consideration of their use throughout the Pacific islands. When referring to the psychological theorists Mr. Hocart says:

The Melanesian and Polynesian possessives are not multiplied beyond need, but every one is indispensable.<sup>1</sup>

He goes on to say,

In the examples selected by the psychologist to illustrate his theory one possessive would do as well as three or four; but we have no right to judge an idiom by a few examples picked out at random.<sup>2</sup>

And yet he has judged the Melanesian and Polynesian methods of expressing the idea of possession by examples from one language in each region. Also in criticizing the culture-fusion theory that the different methods of denoting possession indicate different cultures, he states that this theory "practically makes no attempt at explaining the form."<sup>3</sup> Yet his own explanations do not, as will be shown later, fully account for the Melanesian forms of expressing possession. He says:

The test of a good theory is that it explains every detail naturally by its own resources, without calling to its aid vain suppositions to fill the gaps. A theory of these possessions should account both for their form and for all the peculiarities of their use.<sup>4</sup>

The present writer accepts this test for all that follows. The examples are drawn from more than thirty years' study of the linguistic problems of the Indo-Pacific region.

<sup>1</sup> *Loc. cit.*, p. 266.

<sup>2</sup> *Loc. cit.*, p. 266.

<sup>3</sup> *Loc. cit.*, p. 268.

<sup>4</sup> *Loc. cit.*, p. 268.

### THE MELANESIAN POSSESSIVES

In Melanesian languages there are two methods of expressing possession:

1. A pronoun follows, or is suffixed to, the name of the object possessed.

2. A word or particle, called a possessive, precedes the name of the object possessed and this word has the pronoun following, or suffixed to, it. The form of the possessive varies according to the nature of the object possessed.

I repeat here the Fijian examples given by Mr. Hocart, and have added the ordinary pronouns in a separate column.

	1	2	3	4	5
1st per. ....	-nggu	nonggu	kenggu	menggu	koi au, au
2nd per. ....	-mu	nomu	kemu	memu	ko iko, ko
3rd per. ....	-na	nona	kena	mena	ko koya
1st inclus. ....	-nda	nonda	kenda	menda	koi kenda, enda
1st exclus. ....	-ikeimami	neimami	heimami	meimami	koi keimami, keimami
2nd. ....	-muni	nomuni	kemuni	memuni	koi kemuni, kemuni, ni
3rd. ....	-ndra	nondra	kendra	mendra	ko ira, ira, ra

The dialectical Fijian series with *ne* or *o* instead of *no*, and the Hawaiian (Polynesian) with *no*, *na*, and *o* are also quoted.

Fiji	2.	nenggu, nemu, nena, etc.
	2.	nggou, omu, ona, etc.
Hawaiian	2.	no'u, nou, nona, etc.
	2.	na'u, nau, nana, etc.
also		o'u, ou, ona, etc. <sup>1</sup>

The first series is, in Fijian, suffixed to nouns of relationship, parts of the body, and parts of things. The second series is used with things possessed or made use of. The third series is used with things destined for, or things to be eaten. The fourth series is used with things to be drunk.

### THE SUFFIXED PRONOUN

The second, third, and fourth series are merely the first attached to monosyllabic particles instead of being stuck directly on to the

<sup>1</sup> *Loc. cit.*, p. 272.

noun.<sup>1</sup> The words in the first series are said to be not really possessive but personal pronouns. This is so far true, that in some Melanesian languages the ordinary personal pronouns which correspond to the Fijian in column 5 are used in the same way. Thus in Saa, Solomon islands, *ama-ku* "my father," but *poro ineu*, "my husband," and in Lau, Solomon islands, *te nau*, "my mother," *maa nau*, "my father." In these *ineu* and *nau* are the personal pronouns corresponding to the Fijian *au*.<sup>2</sup>

In Melanesian languages generally it is only in the singular number that the suffixed pronouns represented by the Fijian *-nggu*, *-mu*, *-na* differ from the personal pronouns used as subjects or objects of verbs. In the plural number the suffixed pronouns appear as shortened forms of the ordinary pronouns and thus there is often an identity in the pronoun used as suffix, and that used with the verb as in Mr. Hocart's example *yava-nda*, "our leg" and *nda lako*, "let us go." But this identity does not occur in the singular number where representatives of the Fiji *nggu*, *mu*, and *na* are never used as the subjects of verbs and are only used to denote possession.<sup>3</sup>

The suffixed pronoun is said to be a personal pronoun in apposition. When a Fijian says *yava-nda* he says in effect not "our leg" but "leg we."<sup>4</sup> But in no Melanesian language does the pronoun in apposition come after its noun, unless it be the subject of a verb. Here are some examples from various places, the first word being the pronoun: Solomon islands: Florida, *igami na lei mane tarai*, "we, the teachers;" Ulawa, *iama mai inoni*, "we, the men;" Santa Cruz: *ningge le Deni*, "we, people (of) Deni." Banks islands: *ikamam ira vatogo ngang*, "we, teachers." New Hebrides: Malo, *kamim mara Malo*, "we, men (of) Malo." New Guinea: Wedau, *taumi mai Wedau*, "you, belonging to Wedau."

<sup>1</sup> *Loc. cit.*, p. 272.

<sup>2</sup> It should be noted that the possessive idea expressed in *amaku* is not the same as that in *poro ineu*.

<sup>3</sup> In languages where the verbal pronouns have some such forms as the Nguna *nae*, Aurora Is. *ni*, Tanna *in* (all New Hebrides) the process of abbreviation has resulted in an apparent likeness but never an identity with the suffix *na* or *n*.

<sup>4</sup> *Loc. cit.*, p. 272.

Examples of noun and pronoun in apposition as subject of the verb:

Solomon islands: Florida, *Magutu*.<sup>1</sup> *igoe*<sup>2</sup> *to*<sup>3</sup> *gilala*; Ysabel *Velepuhi*!<sup>1</sup> *ko*<sup>3</sup> *gidhadha*,<sup>4</sup> Saa *Alaha*<sup>1</sup> *ineu*!<sup>6</sup> *ioe*<sup>2</sup> *ni*<sup>8</sup> *o*<sup>2</sup> *manatainie*<sup>4</sup> *taane*.<sup>9</sup>

New Hebrides: Nguna *Nawota*!<sup>1</sup> *nigo*<sup>2</sup> *ku*<sup>3</sup> *atae*<sup>4</sup> *a*!<sup>7</sup>; Tanna *Yema-asori*<sup>1</sup>, *ik*<sup>2</sup> *ik*<sup>3</sup> *erkuren*.<sup>4</sup>

New Guinea: Motu *Biagugu*<sup>1</sup> *e*!<sup>5</sup> *oi*<sup>2</sup> *o*<sup>3</sup> *dibamu*<sup>4</sup>; Wedau *Bada*!<sup>1</sup> *tam*<sup>2</sup> *u*<sup>3</sup> *nonori*.<sup>4</sup>

All these phrases translate the Fijian *O iko*<sup>2</sup>, *saka*!<sup>1</sup> *ko*<sup>2</sup> *sa*<sup>3</sup> *kila*<sup>4</sup>, the English "Sir! (or chief) thou knowest." (1, Chief; 2, thou; 3, verb particle; 4, know; 5, oh; 6, my; 7, it; 8, demonstrative; 9, indeed.)

The statement that the possessive expressed by the suffixed pronoun implies partial identity<sup>1</sup> does not apply to Melanesian languages generally. It is true that a Fijian can never say *vale-na*, for "his house," because a house is never part of anybody and the pronoun is suffixed in Fijian only to words naming relationships, parts of the body or parts of things. But other Melanesians can say *vale-na*, e.g., Florida, Solomon islands, and the equivalent for "his house" shows in many Melanesian languages the suffixed pronoun. Thus Ysabel, *vathe-gna*; Banks islands, *ima-na*; Santo-Nogogu *imwo-na*. Many other possessions, such as beds, persons, weapons, and places are used with the suffixed pronouns in various languages, and these cannot possibly be regarded as implying partial identity of the possessor and the possessed.

If the suffixed pronoun, then, be not a pronoun in apposition, and not an expression of partial identity of the possessor and possessed, what is it? The answer is found in the common Melanesian syntax by which a word immediately following a noun qualifies it either as an adjective or a genitive. *Nda* in *yava-nda* is therefore either "leg our" or "leg of us," just as the Fijian *mata* "company" may be qualified by the noun *mbete* "priest"; in *a mata mbete*, "a priestly company;" or *su* "basket" may be qualified by *ika* "fish," in *a su ika* "a basket fished," i.e., supplied or filled with

<sup>1</sup> *Loc. cit.*, p. 270.

fish. The Fijian *a sangga<sup>1</sup> vatu<sup>2</sup>*, "a stone<sup>2</sup> jar"<sup>1</sup> is translated in the Solomon islands by the Florida *na popo vatu*, Mala, *hou atea hau*; Ysabel, *na tabili gahira*; all having the word for "stone" following its noun. It may be noted here that many languages which, unlike Fiji, may take a pronoun suffixed to words which are not names of relationships, still have the qualifying word or words following the noun, and the use of a prepositional or verbal phrase causes no difference in position. Compare the exact concordance in the succession of qualifying words in the following phrase.

Fijian:	<i>Na vua ni kau nga sa tu e loma ni were.</i>
	The fruit of tree — stands in middle of garden.
Ysabel:	<i>Na sagaro i gai kori hotagi-gna na takao.</i>
	The fruit of tree in its-middle the garden.
Nguna:	<i>Na wa ni na kau waina e ndoko mwaleopulo ni roara.</i>
	The fruit of the tree that it stands-in middle of garden.
Mota:	<i>O woi tape tangae alo vatime utag.</i>
	The fruit belonging-to tree in middle-of garden.

This insistence on the position of the qualifying word has a bearing on the position of the separate possessives in Melanesian and Polynesian, as will be seen later on.

#### THE POSSESSIVE PARTICLES

According to Mr. Hocart the first part of the possessive words *n-onggu, ne-nggu, ke-nggu, me-nggu* is "an article or a preposition."<sup>1</sup> He says "both answers are right, for in Melanesian and Polynesian the article and the preposition run into one another." It is not clear from the last statement whether he means that articles become prepositions or whether he means that articles are used preceding or combined with prepositions. The first does not appear in any collective view of the languages but the second, *i.e.*, the article preceding the word used as a preposition, is fairly common throughout Melanesia.

In Melanesian languages many prepositions are in their primary sense nouns. That they are so is shown by their use with the

<sup>1</sup> *Op. cit.*, p. 273.

article preceding or they may themselves like any other nouns be preceded by a preposition.<sup>1</sup>

The prepositions which resemble the first part of the possessive words in Fijian are cited by Mr. Hocart. I quote them with some remarks on their distribution.

1. "*O* means 'of' throughout Polynesia." This is not found as a preposition meaning "of" in Melanesia. It may be represented by *u* in Ancityum in the words used as possessives, *u-nyak, u-nyum, o un*. In Tanna *o* means "to" or "for." The *a* of Polynesia meaning "of," is not found as a genitive preposition in Melanesia but is locative "in" or "at," and corresponds to the Fijian *e*. But *a* is found as a possessive in the New Hebrides (Nguna *a-ginau, a-ninggo, a-neana*) prefixed to the full pronouns and in San Cristoval as *a-gu, a-mu, a-na*. It is also in New Guinea, in Wedau *a-u, a-m, a-na*.

2. "*Ne* means 'of' in high Fijian before proper names, in Rotuman before common nouns." In Melanesia *ne* means "of" only in Ambrim. It is not used as a possessive in Melanesia except in Fijian. (*Cf.* 4, below.)

3. "*Ni* is 'of' in Fijian before common nouns." In the Solomon islands *ni* is also the preposition "of" and in the same region is also used as the stem of the possessive.

4. "*Na* and *no* mean 'of' in Hawaiian, Tahitian," etc. *Na* is found in Melanesia as the preposition "of" only in a few languages of the Solomons and in the Bismarck archipelago. In the New Hebrides it does not mean "of" except in Epi. As a possessive it is found only in Ulawa, Lakona of the Banks group, and in Epi, New Hebrides. Here it is probably the same as the Fijian *ne*. *No* is never a preposition in Melanesia but is found as a possessive in the Banks islands, Santa Cruz group, and the New Hebrides. It is not found in the Solomons.

5. "*Ke* in Fijian means 'for' before proper nouns. In certain dialects it also means 'to,' 'towards' before common nouns." *Ke* or *ge* does not appear among prepositions in Melanesia. But

<sup>1</sup> For examples, *cf.* Codrington, *Melanesian Languages*, pp. 151-155, and Sidney H. Ray, *Report of Cambridge Expedition to Torres Straits*, vol. III.

the Fijian *ke* probably represents the possessive *ga* (sometimes *ka*, or *a*) which is very common in Melanesia and is everywhere used exactly like the Fijian *ke*.

6. "*Ki* means 'to' in most Fijian dialects as in Tongan, Maori," etc. In the New Hebrides the preposition *ki* or *gi* is instrumental. It is never found as a possessive.

7. The fourth series, *i.e.*, *menggu*, *memu*, *mena*, is said to be obscure and is "left out of consideration." This is in fact the least obscure of all these words, *me* being the Fijian equivalent of *ma* used as a possessive in the New Hebrides, Banks islands, and Bismarck archipelago.

It should be noted that all these prepositions are not found in the possessive words of Fiji and Polynesia. Those which seem identical with the particle forming the possessive are only four, *o* in Lau Fijian and Polynesian, *no* in Mbau Fijian and Polynesian; *ne* in Fijian and Rotuman, and *ke* in Fijian.

The Hawaiian possessives *o-na* or *a-na*, "of him;" *ko-na* or *ka-na*, "his;" *no-na* or *na-na*, "for him;" are also quoted as though prepositions of different meanings, though they differ only in syntactical use. It should have been noted also that *ko-na*, *ka-na*, are merely *o-na*, *a-na*, with the article *ke* prefixed to show that only one object is possessed. In other Polynesian languages the construction is the same although the article is different: thus

Samoan: *le* or *se* article: *lona*, *lana* or *sona*, *sana* his.

Tongan: *ae*, *ha*, *ko* article: *aena*, *haena*, *hono*.

Maori: *te* article: *tona*, *tana* his.

The function of an article is to define a noun, to point it out or distinguish it as a noun, hence the presence of the article with the possessive word shows that it is in native thought a noun. The Fijian possessive words are also used with the article: *a nona* (or *nena*) *wai*, *a kena wai*, *a mena wai*, "his liquid," in Mbau.

The Melanesians have not supplied the want of a possessive pronoun by a prepositional phrase "of him," "for him," but have classified their possessions in various categories and used a general, non-particularized noun such as the English "possession" or

"chattel," "eatable" or "drink," which stands as a representative of its class. For clearness of speech this general noun requires definition and hence it is followed in the place of the adjective by an explanatory word or phrase. Mr. Hocart tries to explain a difficulty in his theory by a supposition.

The difficulty is that if these words "are really nothing but pronouns with prepositions they ought to occupy the same position in the sentence as nouns with prepositions," but "in Fijian and kindred tongues possessives do not behave like prepositions followed by pronouns or nouns."<sup>1</sup> This is explained by the supposition that "in the parent language of Polynesian and Melanesian the dependent noun or pronoun could stand either before or after the principal word."<sup>2</sup>

There is no difficulty if we regard the possessive words as nouns, and hence there is no necessity for a supposition. The Fijian sentences quoted are typical of Melanesian *A vale ne i Rasolo*, "the house of Rasolo;" *A nona vale*, "his house." In the first example the principal noun *a vale*, "a house" is explained, it is *ne i Rasolo* the "property of Rasolo." In the second example the principal noun *a nona*, "his property" is explained, it is a "house."

The examples from Hawaiian show no contradiction.

*Ka hale o ke ali'i*, "the house of the chief," *i.e.*, "the chief's possession (is) a house."

*Ko ke ali'i hale*, "the chief's house," *i.e.*, "the house (which is) the chief's property."

And with the pronouns:

*Ka hale o makou*, "the house of us," *i.e.*, "our possession (is) a house."

*Ko makou hale*, "our house," *i.e.*, "the house (is) our property."<sup>3</sup>

The position of the possessive word is entirely a matter of em-

<sup>1</sup> *Op. cit.*, p. 274.

<sup>2</sup> *Op. cit.*, p. 275.

<sup>3</sup> Mr. Hocart's first two examples are wrongly quoted. (*Cf. Andrew's Grammar of the Hawaiian Language*, p. 34.) In the first he has *ka* for *ke* the article before *ali'i*. This is unimportant as the articles *ka* and *ke* are interchangeable. In the second the article with *ali'i* has changed places with the possessive and made an unmeaning phrase.

phasis. In Polynesian the predicate comes first in the sentence and is usually identified with the most emphatic word in the sentence. Cf. for example the Maori:

*Noku te whare nui*, "the large house is mine (*noku*)."

*He whare nui toku*, "mine is a large house (*he whare nui*)."

*He nui toku whare*, "my house is a large (place) (*nui*)."

If a house be enquired about, *Tehea whare?*, "which house?" the answer may be: *Te whare kowhatu*, "the stone house;" *te whare o kuri*, "*Kuri's* house," or, *he whare noku*, "a house belonging to me," with the words distinguishing *whare* following it. But if the query be: *Towai whare?*, "Whose house?" or *No wai tera whare?*, "Whose property is that house?" the answer may be: *No Kuri tera whare*, "that house is *Kuri's* property," or, *Ko toku whare tera*, "that house is my property," or, (as above). *Noku te whare*, "the house is mine." In these the ownership is the emphatic part of the sentence and so comes first.

In both Melanesian and Polynesian languages the possessive nouns have prepositions preceding them which would not be the case if they were themselves prepositions. Some examples are: Fijian: *na lewe ni nona vale*, "the people of his house;" *ki nona vale*, "to his house;" *e nona vale*, "in his house;" *kei na nona lewe*, "for his people." Banks islands: *ape non a vavakae*, "about his strength;" *alo nor o paito*, "in their shed;" *nan mom a lea*, "from thy law;" *mun mok o vavae*, "through my word." Maori: *nga hua o au mahi*, "the results (fruits) of thy labor;" *kei tona ringa*, "in his hand;" *e matauria ana ahau e aku*, "I am known by mine;" *i to ratou ropu*, "in their company."<sup>1</sup>

The common use of the possessive in Melanesian languages without any other noun, equivalent to the English "mine," "thine," etc., when it may be subject or object of a verb is another evidence of its being actually a noun. Cf. Fijian: *erau na nonggu*, "mine are the two," "they two are mine;" *sa nonggun ga*, "it is mine only;" *sa nona na vale*, "the house is his." Banks islands: *ilone te namona*, "that will be his," *anona o lama*, "his is the sea."

<sup>1</sup> The prepositions are: Fijian, *ni, ki, e*; Banks islands, *ape, alo, nan, mun*; Maori, *o, kei, e, i*.

Another reason for regarding these words as primarily nouns and not prepositions is to be found in the number and variety of similarly used classificatory words in the languages of Melanesia and Micronesia. I note some among many languages, giving examples in the first person singular only.

Banks' islands: *nok o wose*, "my paddle;" *mok o vavae*, "my word;" *gak o nam*, "my yam (to eat);" *mak o pei*, "my water (to drink);" *o tanun anak*, "a man of mine, my man;" *tak i tasik*, "my mate my brother;" *pulak som*, "my money." (Suffix pronoun *-k*, "my.") Espiritu Santo: (Malo island) *noku tamalogi*, "my servant;" *gaku mbaigo*, "my breadfruit;" *maku tou*, "my sugar cane;" *bulaku ugai*, "my trees." (Suffix pronoun *-ku*, "my.") Tanna: *nuk senak*, "the yam my food," *nak uk*, "my food yam," *suk wi*, "my drink water." A coconut may be either *sabasak*, *i. e.*, my fruit, it has grown on a tree belonging to me, or I intend to plant it: *sanumak*, *i. e.*, my drink, as I intend to drink it: *senak*, *i. e.*, my food, as I intend to eat it: or *seiau*, my property that I may keep or dispose of as I choose. (Suffix pronoun *-ku* or *au*, my.) Iai (the Melanesian language of Uvea island in the Loyalty group) has more of these expressions than any other Melanesian language: *haok kumara*, "my food potato;" *anyik hele*, "my possession knife;" *belik wanu*, "my coconut (to drink);" *halek buaka*, "my chattel pig;" *ok buaka*, "my pig (carried as a burden);" *ik nyei, gak nyei*, "my field;" *dek gethen*, "my path;" *languk tang*, "my bag;" *tabuk tap*, "my seat;" *umuk uma*, "my house," *umuk op*, "my cave;" *hwak hofuj*, "my saying." (Suffix pronoun *-k* "my.")

In Micronesian languages this classification by possessives is also common. Thus *a* is found indicating a simple possession in all the islands from the Carolines to the Gilbert group, and each language has various ways of classifying the objects possessed. In Ponape *na* with suffixed pronouns indicates an article specially valuable or closely connected with the possessor: *nai kapit*, "my knife;" *nai jokau*, "my kava;" but *ai paut*, "my wife." In other Micronesian languages the possessives are still more numerous and are used for food, drink, animal property, and houses or land. Some examples from Kusaie (Strong's island) appear thus: *lom sik*, "my house;"



*met tumuk*, "my husband;" *mwen nutig*, "my child;" *met kulanshap luk*, "my servant;" *nine kiuk*, "my mother;" *mutan kiuk*, "my wife." Some of these words though possessives only in Kusaie are elsewhere separate nouns. Thus *tumu* is the common *tama*, "father;" *met tumuk*, "my father man, my husband;" but *papa tumuk*, "my father." *Nutig* is the common *natuk*, "my child," and *kiu* shows the common word for the pandanus mat *kie*, here used of something to lie on, as *kubus kiuk*, "my bed."

In Micronesia this excess of classification is extended to other words, especially to demonstratives and numerals.

#### SURVIVALS AND POSSESSIVES

From the Hawaiian and Polynesian examples already given it is plain that a theory of survivals is not needed to explain the position of the possessives in Polynesian. Neither is it necessary to explain the Melanesian use, where the preceding possessive remains a noun and the following possessive tends to lose its distinctly nominal character and become identified with the preposition. Some notes follow on Mr. Hocart's "survivals."

The Lauan *a medha ona*, "the cause of it," "the reason why," is not fully explained,<sup>1</sup> but as the phrase is said to be "not a living usage," but "a solitary example, occurring in a set formula,"<sup>2</sup> it may belong to the same category as the language used in songs and invocations, which throughout Melanesia differs from the ordinary speech chiefly in variations of construction and the use of strange words.<sup>3</sup>

In Rotuma *ri on fata*, "house of him, this man," *on* is used with the personal noun *fa*, "man" instead of the preposition *ne* as in *hu ne oi*, "root of a tree." Before common nouns *on* means "his," *on ri*, "his house." The Rotuman language is such a mixture

<sup>1</sup> In the Lau dialect *medha* means "thing" as a *medha i ei*, "this thing." Cause is usually indicated by the preposition *i*, "at" (Mbau *e*); Lau: *i na medha i ei*, "at this thing, for this cause;" Mbau: *e na vuku ni ka onngo*, "at the knowledge of this thing," "because of this." The possessive may be used in Lau: *i na omudou tawa kila*, "at your not knowing, because ye know not."

<sup>2</sup> A. M. Hocart, *op. cit.*, p. 277.

<sup>3</sup> Cf. Codrington, *Melanesian Languages*, p. 308; Sidney H. Ray, *Journal Anthropological Institute*, 1897, p. 436 ff; Calvert, *Fiji and the Fijians*, p. 98 ff.

of Melanesian and Polynesian that the two chief authorities on the languages<sup>1</sup> do not agree upon its classification. It is evidently corrupted by the imposition of a Polynesian dialect on a Melanesian (or *vice versa*) in comparatively recent times. For this reason its forms obviously cannot be used as examples of survival in Melanesian or Polynesian. The phrase *ri on fata* corresponds to the common Melanesian idiom, as, e.g., Florida *na vale-na na tinoni*, "the house of the man," lit. the "house his the man," but Rotuman having no suffix pronoun has copied the idiom by using the Polynesian possessive, thus *ri on*, "house-his." With regard to the Eddystone island *na mani tana*, "his basket,"<sup>2</sup> compared with the Wallis island *ko tana fa'e*, "his mother," it cannot be said that the word *tana* has the same origin in each language. The Wallis island possessive word *tana* is the same as the Maori, etc., *tana*, Hawaiian *kana*, and is composed of *te*, article, *a* possessive and *na* pronoun. The Eddystone *tana* is probably formed by the suffix pronoun *na* from *ta*, the noun-preposition which is common in Ysabel, New Georgia, etc., as, e.g., *tagna* in Ysabel *na manu tagna parako*, "the birds belonging to it, the air," or as *tanisa* in New Georgia *vetu tanisa*, "house belonging to him." The position of the possessives varies in the same region, as, e.g., in New Georgia: *vetu tanisa* or *nana vetu*, "his house," *nggua vetu*, "my house," *mua vetu*, "thy house." The last two correspond to the *ninggua*, *nimua* of Ysabel and Florida which make the New Georgia and Eddystone island forms appear as abbreviations.

#### CULTURE FUSION

And now a final word as to the Culture Fusion theory. It is significant that the possessive words are most numerous in the southern New Hebrides where the ordinary vocabulary and grammar differ most from the common Melanesian. They are also numerous in the eastern Micronesian region where the vocabulary

<sup>1</sup> "The language can by no means be classed with those of the eastern Pacific, but must be ranked as Melanesian." Codrington, *Melanesian Languages*, p. 402. "Het Rotuma is klaarblijkelijk een Polynesisch dialect, in spijt van de bewering van Codrington." Kern. Bijdr. t.d. Taal-, Land-, en Kunde 5e Volg. II. Klankverwisseling in de Maleisch-Polynesische Talen.

<sup>2</sup> *Loc. cit.*, p. 277.

varies greatly. But in the Melanesian islands nearest to Polynesia, in Polynesia itself, and in New Guinea, that is, in the islands nearest to the Indonesian region, and where the racial type approximates most to the Indonesian, the possessive words are few. In Indonesia itself they appear only in Malagasy, eastern Borneo, and a few other places. Are these words then, the survival of a linguistic habit of the primitive Melanesians, or a relic of the speech of some earlier population which occupied the islands before the Melanesians?

There are traces of the tendency to noun classification in several of the primitive languages of the Indo-Pacific region.<sup>1</sup> In the only region outside New Guinea where these languages have been able to resist the Melanesian and retain their own grammar, it is noteworthy that one group, that of southeast Bougainville elaborates the classification of nouns to a very great extent.<sup>2</sup> For example, in Nasioi, one of these languages, nouns are divided into more than twenty classes by a suffixed article, and the numerals, demonstratives, adjectives, and possessives have to agree with them. Thus: *pava*, "house;" *pava nava*, "house one;" *pavanava nkanava*, "house my;" *pava nava dakana*, "house they." But it is: *minto nkana*, "work my;" *mintong dakana*, "work they;" and *mpana vang*, "bow my;" and so on, the possessive changing its termination in concord with the noun.

In this connection it might be possible to regard the Melanesian possessives as survivals of a Prae-Melanesian habit of classifying things possessed. But the use of the general noun before the name of the possession, as a possessive, or its use after the noun, where it tends to become a preposition cannot be regarded as survivals but belong to the common and widespread usage of Melanesian speech.

ILFORD, ENGLAND

<sup>1</sup> *Reports of Cambridge Expedition to Torres Straits*, vol. III, pp. 28, 58, 310, 339, 524.

<sup>2</sup> *Cf. Anthropos*, vol. VII, 1912.

## A BUFFALO SWEATLODGE

By GEORGE BIRD GRINNELL

IN September, 1906, I witnessed the ceremonial construction of a sweathouse,<sup>1</sup> which preceded the unwrapping of *İssi wūn*, the sacred hat of the Cheyenne, by Wounded Eye, its keeper.

The ceremony was spoken of as a buffalo ceremony. Wounded Eye and his wife, who took the chief parts, represented the buffalo bull and cow, and a little girl, eight or ten years old, daughter of Squint Eye, represented the buffalo calf—a yellow calf of the past spring. The little girl was ill—suffering from tuberculosis—and the ceremony was performed that she might be restored to health.<sup>2</sup> The sweatlodge was built in the Rosebud bottom, not far from the lodge of Wounded Eye, in which the sacred hat was kept. Its construction occupied practically the whole day, about nine or ten hours.

The various ceremonial acts were performed with great deliberation and much detail, and with what seems, when written out, an endless amount of repetition. Something like twenty distinct and elaborate operations were undertaken and completed before the sweathouse was ready for the use for which it was erected.

### <sup>1</sup> ORDER OF OPERATIONS IN BUILDING THIS SWEATLODGE

- |   |   |
|---|---|
| 1. Excavating for hot stones.               | 12. Laying up the wood for fire.                                  |
| 2. Making the earth pile.                   | 13. Painting the stones for heating.                              |
| 3. Digging holes for the frame.             | 14. Placing the stones for heating.                               |
| 4. Planting the willows for frame.          | 15. Taking the pipe to the sweatlodge.                            |
| 5. Completing the frame.                    | 16. Bringing offerings to sweatlodge.                             |
| 6. Painting the frame.                      | 17. Preparing place for the pipe.                                 |
| 7. Placing the buffalo skull in position.   | 18. Cleaning the straight pipe before skull.                      |
| 8. Painting the buffalo skull.              | 19. The sacrifice to the four directions, <i>Nīv' stān i wó</i> . |
| 9. Covering the sweatlodge.                 | 20. Lighting the fire for the stones.                             |
| 10. Spreading the sage stem floor covering. | 21. Preparing for the sweat.                                      |
| 11. Painting the wood for fire.             |   |

<sup>2</sup> She lived for about three years after these ceremonies and then died of tuberculosis. At her request her little dog and her saddle pony were killed at her grave, so that they might go with her.



## SOME CONCLUSIONS AND SUGGESTIONS REGARDING THE POLYNESIAN PROBLEM

By EDWARD S. HANDY

IN view of the organized attack on Polynesian problems, anthropological and otherwise, which is on the eve of being launched at this time, it is perhaps the duty of those who feel that they have conclusions and theories which may possibly be useful or stimulating to others who are working or thinking in the same field, to put before their co-workers these suggestions, even though the conclusions are necessarily of a tentative nature. The conclusions stated below are based on literary research into certain phases of Polynesian culture in which the writer has been engaged for several years. While it is felt that the information derived from these sources is sufficient to warrant the drawing of such conclusions, it is hoped that these will be clearly understood to be tentative suggestions based on the limited data now available. The information now at hand will probably dwindle into insignificance before the more plentiful and accurate data which it is hoped that the next few years' work in the area will place before the scientific world.

Unfortunately lack of time and space makes impossible the presentation of the evidence which it is believed supports the conclusions which follow. These conclusions are the outgrowth of a somewhat exhaustive study of the literary sources of information with regard to the area, in the course of which was accumulated a considerable amount of material which cannot even be referred to in an article of this kind. In most cases also it has been impossible to go into explanations of the lines of reasoning which have led to the conclusions. A few references chosen from a considerable number may aid those who are interested in judging for themselves as to whether the conclusions are justified.

### I

The places of burial of sacred chiefs were places of public worship in Hawaii, the Society islands, the Marquesas, Tonga, and New Zealand. Information regarding this is lacking in the Cook group. In Easter island worship seems to have been conducted before the great image platforms which were used for burial. From Samoa evidence which would indicate that chiefs' tombs were places of public worship is lacking.<sup>1</sup>

In historic times it appears that places of public worship, or temples, were frequently, though not always, used for burial purposes.

It is believed that the prototype of the stone tomb and temple forms of Hawaii, the Society group, the Marquesas, and Easter island was a tomb form. The rudimentary type of this tomb-temple is probably to be found in the tombs of the kings in Tonga, consisting of superimposed earth platforms faced with stone blocks.<sup>2</sup> These platforms may have originated in the simple earth mound used here for burial in historic times, or this earth mound may have represented a degeneration from a stone tomb.

The following temple and tomb forms, derived from this Tongan prototype, were found in those island groups which utilized stone construction, and concerning which we have adequate information.

<sup>1</sup> See for Hawaii: W. Ellis, *Polynesian Researches*, vol. iv, pp. 164-6, London, 1853. James Cook, *The Three Voyages of Captain James Cook Round the World*, pp. 882-3. London, 1842.

Society Group: Cook, *op. cit.*, p. 771.

Sir Joseph Banks, *Journal of the Right Honorable*, etc., p. 175. London, 1896.

J. A. Moorenhout, *Voyages aux Iles du Grand Ocean*, vol. I, p. 470. Paris, 1837.

Marquesas: A. Baessler, "Reise in östlichen Polynesien," *Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*, 1896, p. 464.

Tonga: W. Mariner, *An Account of the Natives of The Tonga Islands in the Pacific Ocean*, compiled by John Martin, pp. 385-387.

New Zealand: R. Taylor, *Te Ika a Maui; or, New Zealand and its Inhabitants*, pp. 98-9, 174, 183, 208. London and New Zealand, 1870.

Easter Island: Paymaster W. T. Thompson, "Te Pito Henua, or Easter Island," in *Report of the U. S. National Museum for the year ending June 30, 1889* (published 1891), pp. 470-1, 499.

<sup>2</sup> A *Missionary Voyage to the South Pacific Ocean . . . in the Ship Duff*, etc., pp. 278-9. London, 1799.

In the Society group there were early platform, and later pyramidal types of maraes; the pyramid growing out of the superposition of a number of platforms. In Hawaii were found early platform and pyramidal types, and later walled heiaus with inner compartments. In the Marquesas there developed the platform ma'ae, sometimes consisting of several terraces running up a hillside. And in Easter island there were the stone platforms on which the great images stood, the platforms being stepped on the landward side.<sup>1</sup>

The variation in form of the tomb-temple in the several groups may be explained for the most part by local environment and political development. Thus, the influence of environment is to be seen best in the Marquesas where the necessity of accomodating the temples to the abrupt slopes of the valleys produced the terrace forms. The effect of political development may be seen in Hawaii, where the organization of state and cult had attained its greatest development. This led to the exclusion of commoners from temple ceremonial and to the development of the great walled heiaus.

The use of large stone construction in tombs and temples seems scarcely to have touched the Cook group, and not to have influenced New Zealand at all. Thus, large stone construction was found to have been confined to the northern and central part of the area.

Certain important features connected with tomb-temples occurred pretty generally over the whole area, including New Zealand. The first of these was the association of the places of worship and places of burial which was discussed above.<sup>2</sup> Other features of importance were the following.

<sup>1</sup> Society Group: Paul Huguenin, "Raiatea la Sacrée," *Bulletin de la Société Neuchateloise de Géographie*, Tome XIV, p. 164. Neuchatel, 1902. *Duff's Voyage*, p. 304.

D. Tyerman, and G. Bennett, *Journal of the Voyages and Travels*, etc., compiled by James Montgomery, pp. 176, 194-5. Boston and New York, 1832.

Hawaii: Cook, *op. cit.*, p. 968.

A. Fornander, *An Account of the Polynesian Race*, vol. II, p. 6. London, 1878-1885.

Ellis, *op. cit.*, vol. IV, pp. 97-8, 116.

Marquesas: Dr. Tautain, "Notes sur les Constructions et les Monuments des Marquises," *l'Anthropologie*, VIII, pp. 667-71.

Easter Island: Thompson, *op. cit.*, pp. 499, 502.

<sup>2</sup> This was, of course a natural concomitant of the ancestral cult which constituted a fundamental element in the worship everywhere.

In all the groups there was found to be a sacred area, which was in front of, or around, the sacred place. The sacred place usually consisted of a mound, platform, or pyramid. A sacred enclosure was formed by surrounding this area with a fence or stone wall in all the groups concerning which we have information, viz., Hawaii, the Society group, the Marquesas (apparently only sometimes here), Easter island, Tonga, and New Zealand.<sup>1</sup>

Within and without the sacred enclosure were sometimes one, sometimes a number of sacred houses used for different purposes: protecting the tomb, sacred relics, images or other representations of deity, paraphernalia; for housing priests; and so on.

Sacred groves were associated with places of burial and worship in Tonga, Samoa, the Society and Cook groups, the Marquesas, and New Zealand.<sup>2</sup> The fact that these sacred groves were not found in Hawaii may be due to environment. This would certainly be capable of explaining the lack of them in Easter island.

At the back of the sacred place in Hawaii, the Society group, the Marquesas, and the Cook group was a sacrifice pit into which remains of offerings were thrown.<sup>3</sup> A ditch at the back of the

<sup>1</sup> Hawaii: D. Malo, *Hawaiian Antiquities*, pp. 211-14. Honolulu, 1903.

Society Group: *Duff's Voyage*, p. 304.

Marquesas: Pedro Fernandez de Quiros, "The Voyages of . . . 1595 to 1606," *The Hakluyt Society*, Series II, vol. XIV, p. 60. London, 1804.

H. Melville, *Typee*, p. 59. London, 1904.

Easter Island: Don Felipe Gonzalez, "The Cruise of . . . to Easter Island," 1770-1771. *The Hakluyt Society*, Series II, No. XIII, p. 136. Cambridge, England, 1808.

Tonga: *Duff's Voyage*, pp. 278-9.

New Zealand: S. Percy Smith, "The Lore of the Whare-wananga," etc., *Memoirs of the Polynesian Society*, vol. III, p. 89. New Plymouth, N. Z., 1913.

See also Taylor, *loc. cit.*

<sup>2</sup> Tonga: Cook, *op. cit.*, p. 419.

Samoa: G. Turner, *Nineteen Years in Polynesia*, p. 240. London, 1861.

Society Group: Ellis, *op. cit.*, vol. I, pp. 341-2.

Cook Group: W. W. Gill, *Historical Sketches of Savage Life in Polynesia*, p. 195. Wellington, 1880.

Marquesas: Melville, *op. cit.*, p. 147.

New Zealand: Taylor, *op. cit.*, pp. 98-9.

<sup>3</sup> Hawaii: Malo, *op. cit.*, pp. 211-14.

Society Group: M. de Bovis, "État de la Société Tahitienne a l'Arrivée des Européens," *Revue Coloniale*, 1855, pp. 44-7.

tomb of a Tongan chief, which is described by Cook, probably corresponds to this sacrifice pit elsewhere.<sup>1</sup> There is interesting indirect evidence which suggests that the sacred latrine in New Zealand<sup>2</sup> may also correspond to these pits.

There was definite orientation in the Cook group<sup>3</sup> and New Zealand,<sup>4</sup> temples or sacred buildings facing the east. In Hawaii temple enclosures seem to have been orientated to different cardinal points in those instances in which we have information regarding this.<sup>5</sup>

There was too much variation with regard to houses, altars, images, drums, ovens, certain boards erected in memory of chiefs, and some other features associated with places of worship, to allow of a discussion of these here. The oracle tower in Hawaii appears to have had no correspondence elsewhere in the area.<sup>6</sup> The mere mention of these as features which were associated with places of worship in various parts of Polynesia may, however, be suggestive.

## II

Stone slab seats associated with sacred places, sacred chiefhood, and the ancestral cult,<sup>7</sup> were found in New Zealand, on Rarotonga

Marquesas: Tautain, *op. cit.*, p. 688.

Cook Group: W. W. Gill, *Myths and Songs, from the South Seas*, p. 295. London, 1876.

<sup>1</sup> Cook, *op. cit.*, p. 716.

<sup>2</sup> Smith, *op. cit.*, p. 88, note.

<sup>3</sup> Gill, *Historical Sketches, etc.*, p. 32.

<sup>4</sup> White, John, *The Ancient History of the Maori*, vol. 1, p. 5. Wellington, 18-- to 1890.

<sup>5</sup> Malo, *op. cit.*, p. 214.

A. Kraemer, *Hawaii, Ostmikronesien, und Samoa*, p. 106. Stuttgart, 1906.

C. Wilkes, *Narrative of the U. S. Exploring Expedition*, vol. IV, p. 100. Philadelphia, 1885.

Ellis, *op. cit.*, vol. IV, pp. 97, 116.

<sup>6</sup> Malo, *op. cit.*, pp. 211, 222.

<sup>7</sup> It will be of importance to determine whether these stone slabs used as seats were identified with the slabs which lined the graves of chiefs in Tonga and Samoa. Dr. Tozzer has made the interesting suggestion that the platform which it has been supposed was the prototype of the temple forms may itself have been in origin an elaborated seat of sacred chiefs. There is evidence to support this suggestion. This is a very important point: the proof of the identity of origin of the slab seats and the platform would, as is easily to be seen, necessitate a total abandonment of most of the conclusions stated in the second part of this paper.

(Cook group), Niue, Samoa, the Society group, and the Marquesas.<sup>1</sup> We know of no evidence of the use of such seats in Tonga or Hawaii. This usage was, therefore, of importance in the southern groups where stone construction was not found, *viz.*, New Zealand and the Cook group. Furthermore, stone seats were not found in association with chiefs or sacred places in Tonga or Hawaii where large stone construction was of great importance. Hence it was concluded that this use of stone slab seats belonged to one cultural stratum, while the utilization of large stone in temple construction belonged to another.

In connection with this there is some interesting and very suggestive evidence with regard to Hawaii. The Pohaku o Kane, or stones of Kane, were here upright stones of varying sizes which were venerated by the lower classes.<sup>2</sup> It seems possible that the Pohaku o Kane originally corresponded to the stone seats under discussion. If this proves to be so, will it not indicate the submergence in Hawaii of that cultural stratum of which the veneration of such slabs as seats of sacred chiefs was typical? A number of other bits of evidence lend support to this theory. It is impossible, however, to enter into a discussion of these here, because they have grown out of the study of certain phases of the religion of Polynesia as a whole, which would have to be described with more thoroughness than space allows at this time. But it may be said in passing that careful study of certain matters in Hawaii would be expected to throw much light on this question. Some of these features in Hawaiian culture are the use of face tattooing by the Kauwa, or lowest class, exclusively; the fact that these Kauwa were also called

<sup>1</sup> New Zealand: S. Percy Smith, *Memoirs of the Polynesian Society*, vol. III, pp. 88-9. Cook Group: S. Percy Smith, "Arai-te-Tonga, the ancient Marae of Rarotonga," *Journal of the Polynesian Society*, vol. XI, p. 174; vol. XII, pp. 218-20.

Niue: S. Percy Smith, "Niue Island and its People," Part II, *Journal of the Polynesian Society*, vol. XI, p. 174.

Samoa: G. Turner, *Somoa, a Hundred Years Ago and Long Before*, p. 23. London, 1884.

Society Group: A. Baessler, *Neue Südsee Bilder*, pp. 119-20. Berlin, 1900.

Marquesas: LeP. Mathias Garcia, *Letters sur les Iles Marquises*, p. 72. Paris, 1843.

<sup>2</sup> W. D. Alexander, *A Brief History of the Hawaiian People*, pp. 37, 44. New York, 1892.

Aumakua, the term used for ancestral deities of the private cult; the apparent use of flexed burial by the lower classes only; the use of the kuahu shrine and employment of shamanistic workers exclusively, and the use of the oven largely, in private ceremonial; evidences of former cannibalism; and so on.

To sum up, therefore, the hypothesis is presented that the cultural stratum, of which the use of stone slab seats was characteristic and which was represented by the chiefs in New Zealand and elsewhere in the southern and central part of the area, was submerged in Hawaii, being represented there by commoners; and that another cultural stratum, of which the use of large stone construction was characteristic, was spread over the central region and Hawaii but influenced the Cook group and New Zealand only to a very slight extent.

### III

An analysis of the elements constituting the religion of Polynesia and a study of these with regard to their distribution led to the following grouping of these in association with the use of stone slab seats and large stone construction. Unfortunately time and space do not allow me to give my reasons for this classification, to present my evidence, or even to give adequate references. How much of this classification will stand, how much of it will be found erroneous in the light of future information, is unknown. It is offered at this time, however, in the hope that it may be suggestive and perhaps stimulating to others interested in the Polynesian problem, and in the problems of the other related areas to the westward where lie the routes by which the Polynesians must have migrated.

Simply for the sake of having some designation for the peoples to whom belonged these several cultural strata, those who brought the use of stone slab seats have been called Slab Users, and those who utilized stone construction, the Stone Builders. The Slab User elements are to be found most clearly defined in New Zealand, while the Stone Builder elements are dominant in Hawaii. In the central region they are combined in various ways.

It may be pointed out that certain important elements stand

out in very distinct contrast as characteristic of the religions of the northern and southern extremes of the Polynesian area. Around these as nuclei were grouped other elements which seemed to be associated. Thus we find:

In Hawaii: stone construction, seasonal ceremonial in which a sacred king takes a priestly part, the ceremonial taboo, in general a thoroughly organized and ordered worship. These are totally lacking in New Zealand.

In New Zealand: stone slab seats, sacred groves, the veneration of skulls, shamans, the use of coercive spells in connection with public enterprise, planting and harvest a ritual performance, the Hawaiiki belief. These are totally lacking or entirely secondary in Hawaii.

*Elements typical of the Slab Users are the following:*

- (1) The veneration of slabs associated with ancestors and sacred chiefs, these slabs being generally used as seats by chiefs.
- (2) Sacred groves.
- (3) Sacred chiefs functioning in the public ancestral cult.
- (4) Ancestral deities, both public and private. The veneration of skulls and other ancestral relics.
- (5) Methods of disposal of the dead: exposure, flexed inhumation in a sitting posture, use of canoe coffins, secondary disposal of skeletal remains in caves. The placing of offerings of food and weapons with dead bodies.
- (6) Funerary feasts.
- (7) Survival of head hunting in the preservation of enemy skulls and heads.
- (8) The belief in incarnation of ancestral spirits in animate and inanimate objects.
- (9) Omens from animal movements.
- (10) Divination by gazing into liquids, by possession, and in trance.
- (11) Shamans: inspirational diviners, necromancers, magic workers. A great use of witchcraft in public and private application, employing coercive spells.
- (12) The use of genealogies as religious formulae.
- (13) The belief in the similarity of spirits of natural objects to man's spirit.

- (14) A more primitive form and use of the dance: war dances, paddle dances, spear dances, dances by widows of warriors.
- (15) The work of planting and harvest a ritual performance.
- (16) Those types of taboo which are particularly associated with the ancestral cult.
- (17) Rahui, prohibition or restriction by means of badges or signs.
- (18) The use of water in purification ceremonies.
- (19) The use of the oven in public and private rites.
- (20) The belief in Hawaiki, an origin-land to which the spirits of men returned.
- (21) Stratified heavens of myth.
- (22) Tattooing.
- (23) Cannibalism.

*Elements typical of the Stone Builders:*

- (a) The use of large stone in the construction of tombs and temples. (See No. 1 above.)
- (b) Embalming.(?) The use of tombs. (See No. 5 above.)
- (c) Violent mourning, dissipation after a sacred king's or chief's death, hired weepers, the singing of eulogies. (See No. 6 above.)
- (d) Special rites for deifying great men.
- (e) General or ceremonial taboo. (See No. 16 and No. 17 above.)
- (f) The worship of the great gods of myth in the public cult. (See No. 4 above.)
- (g) Divining by breaking objects and observing the scattering of fragments. (See No. 9 above.)
- (h) Haruspication. (See No. 10 above.)
- (i) An organized priesthood, the temple priests or directors of ceremonial being allied to the chiefs or kings. Inspirational diviners, necromancers, and magic workers relegated to a secondary position. (See No. 11 above.)
- (j) Craftsmanship: the development of trades in the hands of master-craftsmen who were priests of the rituals of their trades.
- (k) True prayers, supplications, associated with the offering of sacrifices. Human sacrifice. (See No. 11 and 12 above.)

- (l) The belief in man's possessing a soul peculiar to himself, and in nature's being animated by nature spirits differing from men's souls. (See No. 13 above.)
- (m) A generation or fertilization cult expressed in seasonal ceremonial; dancing in which sexual abandon played a part; the functioning of sacred chiefs or kings in a priestly capacity in first fruits rites, and a belief in the intimate connection between the sacred chief or king and the growth of things and prosperity. (See No. 15 above.)
- (n) Organized dancing and singing as part of public ceremonial. (See No. 14 above.)
- (o) The belief in a lower hades for the unfortunate, and an upper paradise for the fortunate. (See No. 20 above.)
- (p) In general this stratum was represented by a better organized and higher type of worship.

It may be remarked in connection with recent discussion of the occurrence of sun worship in Polynesia<sup>1</sup> that no evidence was found which would, in the opinion of the writer, warrant the assumption that a sun cult was ever a basic element in Polynesian worship.

We must leave untouched for the present the questions as to whether the Slab Users or Stone Builders were the first to colonize the area; whence they came, and when; and with which of the waves of colonization outlined by other students of the area they would probably be identified. It may be found as our store of accurate knowledge increases that many of the elements mentioned above are wrongly classified. But it is my belief that the work of the next few years will prove at least the general conclusions which underlie this tentative grouping of elements; that the greater part of the culture of Polynesia was made up of the combination of the elements of two great cultural infusions; that it will be possible to resolve the cultural complexes of the various island groups into constituent elements which will be found to have been originally characteristic of these two strata; and that these groups of elements will be capable of being traced back through the regions to the west-

<sup>1</sup> See W. H. R., Rivers "Sun Cult and Megaliths in Oceania," *American Anthropologist*, N. S., vol. XVII, pp. 431-445.

ward to the cultural sources whence they were derived. Mention should be made in connection with this statement that there is evidence in Tonga and Samoa of the presence of a later infusion, and that there occur here and there in the area sporadic intrusive elements.

It is felt that all these questions must be left more or less in the balance until the promised harvest of facts is reaped and garnered. Until then, when theory and discussion will be on firmer ground, may the gathering of the harvest prosper!

CAMBRIDGE, MASS.

## THE FOSSA PHARYNGEA IN AMERICAN INDIAN CRANIA

By LOUIS R. SULLIVAN

THE fossa pharyngea, fovea bursae, or medio-basial fossa is a small oval depression in the ventral surface of the basilar part of the occipital bone. The major axis lies in the antero-posterior direction in the median line. It varies in depth from 2 millimeters to 7 millimeters. The width is approximately 4 millimeters on the average while the length varies from 5 to 11 millimeters.

The function or purpose of the fossa is not altogether clear. Anatomical text-books dismiss it with a sentence. Thompson<sup>1</sup> writing in Cunningham says: "An oval pit, the fovea bursae or pharyngeal fossa, is sometimes seen in front of the tuberculum pharyngeum. This marks the site of the bursa pharyngea. . . . The origin and morphological significance of this pouch are not yet solved." Romiti<sup>2</sup> and Agostino<sup>3</sup> claim that the fossa pharyngea is produced by a pharyngeal diverticulum either abnormal or accessory. This is in agreement with the opinion stated above. Perna<sup>4</sup> concludes that the fossa pharyngea can be explained as a survival of that part of the median basilar canal which passes below the perichondrium on the ventral surface of the basilar portion of the occipital bone. The basilar part of the occipital bone ossifies like a vertebra and the fossa is the result of the non-ossification of the hypochordal bow element due to the position of the notochordal element in this region. I am not in a position to state the relative merits of the two opinions nor am I altogether certain that they are necessarily contradictory.

<sup>1</sup> Arthur Thompson and David Waterson in *Cunningham's Text-book of Anatomy*. New York, 1917.

<sup>2</sup> Romiti, 1891.

<sup>3</sup> Agostino, 1901.

<sup>4</sup> Perna, 1906.