



Theses and Dissertations

---

1952

## Evidences of Culture Contacts Between Polynesia and the Americas in Precolumbian Times

John L. Sorenson Sr.  
*Brigham Young University - Provo*

Follow this and additional works at: <https://scholarsarchive.byu.edu/etd>



Part of the [Anthropology Commons](#), and the [Mormon Studies Commons](#)

---

### BYU ScholarsArchive Citation

Sorenson, John L. Sr., "Evidences of Culture Contacts Between Polynesia and the Americas in Precolumbian Times" (1952). *Theses and Dissertations*. 5131.  
<https://scholarsarchive.byu.edu/etd/5131>

This Thesis is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact [scholarsarchive@byu.edu](mailto:scholarsarchive@byu.edu), [ellen\\_amatangelo@byu.edu](mailto:ellen_amatangelo@byu.edu).

B.Y.U.  
378.2  
S0684

EVIDENCES OF CULTURE CONTACTS BETWEEN POLYNESIA  
AND THE AMERICAS IN PRECOLUMBIAN TIMES

A Thesis

Presented to

the Department of Archaeology

Brigham Young University

Provo, Utah

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

176710

by

John Leon Sorenson

July, 1952

## ACKNOWLEDGMENTS

Thanks are proffered to Dr. M. Wells Jakeman and Dr. Sidney B. Sperry for helpful comments and suggestions which aided research for this thesis. To the author's wife, Kathryn Richards Sorenson, goes gratitude for patient forbearance, constant encouragement, and secretarial help.

For help in providing books or other material aid recognition is given to Mr. Ross T. Christensen, Mrs. Hattie Knight of the Brigham Young University Library staff, Mr. Glen Horspool, and Mr. Cecil Reinsch.

Others, unnamed, have been of assistance by showing their extreme interest in this fascinating subject, thus providing needed encouragement.

## C O N T E N T S

Chapter	Page
I. INTRODUCTION . . . . .	1
The Problem of Diffusion . . . . .	1
The Development of Thought on the Problem. . . . .	3
Criteria for Establishing Culture Contact. . . . .	8
The Scope and Arrangement of the Thesis . . . . .	12
II. LANGUAGE AND COMMUNICATION . . . . .	18
Vocabulary . . . . .	18
Stylistics . . . . .	37
Writing . . . . .	37
The Quipu . . . . .	39
Other Communication Systems . . . . .	40
III. FOOD ACQUISITION AND USE . . . . .	42
Agricultural Tools . . . . .	42
Methods of Cultivation . . . . .	42
Attitudes and Beliefs on Agriculture . . . . .	45
Flora . . . . .	46
Fauna . . . . .	52
Fishing . . . . .	53
Fish Poisoning . . . . .	55
Food Preparation . . . . .	56
Cooking . . . . .	57
Vessels . . . . .	58
Storage . . . . .	61
Kava . . . . .	61
IV. CLOTHING AND ADORNMENT . . . . .	63
Clothing . . . . .	63
Headdresses . . . . .	64
Ornaments . . . . .	66
Accessories . . . . .	67
Body Painting . . . . .	68
Mutilation . . . . .	68
V. EXPLOITIVE ACTIVITIES AND MANUFACTURING . . . . .	71
Textiles . . . . .	71
Stone Industry . . . . .	74
Metals . . . . .	77
Implements . . . . .	78

Chapter	Page
VI. HOUSING AND CONSTRUCTION . . . . .	79
Domestic and Civil . . . . .	79
Religious . . . . .	80
Military . . . . .	86
VII. RELIGIOUS BELIEFS AND PRACTICES . . . . .	89
General Nature of Polynesian Religions . . . . .	89
Gods . . . . .	90
Guardian Spirit . . . . .	94
Idols . . . . .	94
Religious Beliefs About Nature . . . . .	94
Eschatology . . . . .	98
Cosmology . . . . .	100
Mortuary Practices . . . . .	101
Ritual . . . . .	105
Sacrifice . . . . .	105
Cannibalism . . . . .	107
Finger-sacrifice . . . . .	108
Circumcision . . . . .	108
Rain Sacrifice . . . . .	108
"Turning the Mat" . . . . .	109
Childhood and Puberty Ceremonies . . . . .	110
Avoidance and Taboo . . . . .	112
Confession . . . . .	113
Divination and Astrology . . . . .	114
Fire-walking . . . . .	116
Priesthood . . . . .	116
VIII. LEISURE-TIME AND INTELLECTUAL ACTIVITIES . . . . .	118
Games and Sports . . . . .	118
Gambling . . . . .	121
Decorative Art . . . . .	121
Representative Art . . . . .	123
Music . . . . .	126
Dance and Drama . . . . .	128
Numbers . . . . .	130
Ordering of Time . . . . .	131
Education . . . . .	133
IX. TRAVEL AND TRANSPORTATION . . . . .	135
Water Craft . . . . .	135
Litters . . . . .	138
Carrying Pole . . . . .	139
Roadways . . . . .	139

Chapter	Page
X. HUMAN BIOLOGY . . . . .	141
Somatology . . . . .	141
Genetics . . . . .	143
XI. CONCLUSIONS . . . . .	145
BIBLIOGRAPHY . . . . .	154

## CHAPTER I

### INTRODUCTION

The problem of diffusion. Of the great unsettled problems of archaeology and anthropology perhaps the most hotly debated has been the relative importance of migration, diffusion, and independent invention in the origin of culture elements. The question has obvious importance, both for a proper understanding of man and culture, that ambitiously comprehensive goal of modern anthropology, and for historical reconstruction, the latter a necessary preliminary of the former.

The concern of this thesis is with culture movement in the eastern Pacific Ocean area. The Pacific area as a whole has long been the geographical center of the diffusion problem (if we may so term it). Over the years advocates of the Old World origin of the ancient high cultures of the New World by migration or diffusion have advanced a large number of similarities common to Asia or Oceania, on the one hand, and the Americas, on the other, as evidence in support of their views. So far there has been no comprehensive recapitulation of the evidence. As a result independent-inventionist criticism has limited itself to a correspondingly unconvincing level. As a matter of fact it is not unwarranted to claim that the problem is still virtually unexplored on a systematic basis. It is the purpose of this work to begin such a systematic approach

by setting forth a large body of the evidence for culture contacts across the Pacific for critical evaluation by students of culture. The magnitude of the cultural comparisons involved in such a project obviously requires that only certain portions of the general field be examined in this thesis.

Restriction of the geographical area to the eastern Pacific (Polynesia) developed in part because of the writer's personal acquaintance with that region (as a result of residence of two and one-third years in the Cook Islands and New Zealand as a missionary of the Church of Jesus Christ of Latter-day Saints, 1947-1949). An additional consideration was that previous "diffusionist" comparative work had emphasized Melanesia, to the west, seemingly leaving a broad cultural gap between that region and the Americas. If culture traits had actually moved into or out of the Pacific in this area, geographically proximate Polynesia should show evidence of it. A third reason for choosing Polynesia was that its relatively homogeneous people (physically and culturally) possessed a culture considerably higher than might be expected in view of the geographic isolation of these islands. Kroeber and others have commented on the air about Polynesian culture of its having been derived by a dwindling process from something higher, and this in direct contrast to most Oceanic cultures which show little evidence of having seen better days.<sup>1</sup>

---

<sup>1</sup>A. L. Kroeber, Anthropology (rev. ed.; New York, 1948), pp. 760-61; K. P. Emory, "The Native Peoples of the Pacific," Geography of the Pacific, ed. by O. W. Freeman (New York, 1951), pp. 55-56; E. Tregear, The Maori Race (Wanganui, 1904), pp. 427, 455.



This rather elaborate content of the culture plus the now abundant (though not, of course, exhaustive) source material--linguistic, traditional, ethnological, and archaeological--held out the hope that a search for correspondences to American traits would at least have a satisfactory range of materials to examine. Other reasons could be cited for this choice, such as, for example, the problem of Polynesian culture history itself.

For Americanist studies the significance of the problem is obvious. The failure of American archaeology to find any direct evidence of the development of high precolumbian culture from the early hunters (Cerro Prieto notwithstanding) has been a thorn in the scholarly side, which is being made no more bearable by an increasing number of elbow jabs to the academic ribs by such "heretics" as Gladwin. As a result, the time seems ripe for a new attack on the problem of diffusion and migration in relation to ancient American origins. This study alone cannot, of course, solve the problem. However, the lines it takes may suggest other studies which, taken together, may give us a clearer answer to the diffusion problem in the Americanist field.

The development of thought on the problem. As early as Samuel Mitchell<sup>2</sup> there was supposition that at least some

---

<sup>2</sup>S. L. Mitchell, "The Original Inhabitants of America Consisted of the Same Races with the Malays of Australasia, and the Tartars of the North," Archaeologia Americana, Transactions and Collections of the American Antiquarian Society, I (1820), 321ff.

of the American Indians were of Oceanic derivation. In general, though, little serious study was given Oceania as a cultural or populational source by students of the American cultures until the end of the nineteenth century. At that time such workers as Thomas,<sup>3</sup> Campbell,<sup>4</sup> Hill-Tout,<sup>5</sup> and Tregear<sup>6</sup> indicated an Oceanic connection for Maya and Northwest Coast cultures. Their work was based chiefly on linguistics and lacked the completeness necessary to convince many of their colleagues.

The next burst of interest began with Graebner and the Kulturkreis school. Graebner,<sup>7</sup> Friederici,<sup>8</sup> and others of this period produced much evidence for the belief in trans-pacific movement, but much of their data dealt with non-material traits, an area where the argument of "psychic unity" could destroy the Graebnerian structure. Another factor in

<sup>3</sup>C. Thomas, "Maya and Malay," Journal, Polynesian Society, VII (1898), 89-100.

<sup>4</sup>J. Campbell, "The Origin of the Haidahs of the Queen Charlotte Islands," Proceedings and Transactions, Royal Society of Canada, 2d series, III (1897), sec. 2, 91-112.

<sup>5</sup>C. Hill-Tout, "Oceanic Origin of the Kwakiutl-Nootka and Salish Stocks of British Columbia and Fundamental Unity of Same, with Additional Notes on the Déné," Proceedings and Transactions, Royal Society of Canada, 2d series, IV (1898), sec. 2, 187-231.

<sup>6</sup>E. Tregear, "Notes on Maya and Malay," Journal, Polynesian Society, VII (1898), 101-108.

<sup>7</sup>F. Graebner, "Amerika und die Südseekulturen," Ethnologica, II (1913), fasc. 1, 43-66.

<sup>8</sup>G. Friederici, "Zu den vorkolumbischen Verbindungen der Südsee-Völker mit Amerika," Anthropos, XXIV (1929), 441-487.

the lack of Graebner's success in persuading Americanists to accept his views was undoubtedly the appearance on the scene of the "Manchester school" of extreme diffusionists, led by Grafton Elliot Smith. The violent reaction among conventional anthropologists to these extreme claims seems to have swept out even moderate suggestions without careful consideration so long as the tag "diffusion" could be seen on the goods.

Probably the most important single contribution of the first third of the century was Rivet's comparison of "Malayo-Polynesian" with Sapir's Hokan phylum.<sup>9</sup> Rivet's stature as an anthropologist was great enough that most Americanists begged off criticizing his results directly on the ground that such should properly be the work of linguists. Actually it seems that Rivet succeeded in convincing few of the importance of his linguistic comparisons. In subsequent publications he has done much to compile and synthesize the comparative material extant.<sup>10</sup>

Beginning in the same general period as Rivet, Imbelloni and others (the "d'Eichthal school") of Argentina began to support vigorously the hypothesis of Oceanic-American contacts.<sup>11</sup> Their chief point of argument was somatic,

---

<sup>9</sup>P. Rivet, "Les Malayo-Polynesiens en Amérique," Journal, Society of Americanists of Paris, XVIII (1926), 141-278.

<sup>10</sup>E.g. Rivet, Los Origenes del Hombre Americano ("Ediciones Cuadernos Americanos," No. 5 /Mexico, 1943/).

<sup>11</sup>E.g. J. Imbelloni, La Esfinge Indiana; Antiguos y Nuevos Aspectos del Problema de los Origenes Americanos (Buenos Aires, 1926).

but they considered culture also. We omit here a discussion of the long, drawn-out controversy over "Melanesian" somatic types in America. Much of the literature on the subject is listed in Hrdlička<sup>12</sup> and Imbelloni.<sup>13</sup>

A surprising fact is that hardly anyone had yet seriously considered deriving Polynesian culture from America. Brooks<sup>14</sup> early raised an almost unheard voice to claim such a movement and, even before, Ellis<sup>15</sup> had arrived at the conclusion that the Polynesians were partly from America. The failure to take up this point probably was due to the fact that chiefly Americanists were studying the subject and their prime concern was the problem of Old World influence on American cultures, not movements in the opposite direction.

Most of the last two decades passed without much change in the drawn ranks. By the 1930's most Americanists would admit that there had been some slight, but insignificant, cultural contact between Polynesia and South America. Many would have admitted also--partly as a result of MacLeod's work<sup>16</sup>--that some sort of contact had taken place between

---

<sup>12</sup>A. Hrdlička, Melanesians and Australians and the Peopling of America ("Smithsonian Miscellaneous Collections," Vol. XCIV, No. 11 [Washington, 1935]).

<sup>13</sup>J. Imbelloni, "The Peopling of America," Acta Americana, I (1943), No. 3, 309-30.

<sup>14</sup>C. Brooks, "Origin of the Chinese Race," Proceedings, California Academy of Sciences, Ser. 1, Vol. VII (May, 1876).

<sup>15</sup>W. Ellis, Polynesian Researches during a Residence of Nearly Eight Years in the Society and Sandwich Islands, 4 vols; (London, 1831).

<sup>16</sup>W. C. MacLeod, "On the Southeast Asiatic Origins of American Culture," American Anthropologist, n.s., XXXI (1929), 554-560.

Oceania and the northwest coast. A significant influence of the period in stabilizing discussion of the problem was Nordenskiöld. His extended comparative work seemed to show, as he thought, that some vague sort of inter-areal influence had taken place, but that in view of the apparent difficulties in explaining the distribution of parallels, it represented nothing one could put his finger on.<sup>17</sup> This more-or-less neutral position seemed to satisfy the majority of Americanists who knew anything about the question.

Until 1948 only a few new works appeared, none of them of great importance. Then came Heyerdahl and the Kon-Tiki expedition.<sup>18</sup> The new "evidence" for an American origin of at least some parts of Polynesian culture and population did not meet with a warm reception among students of either Polynesia or America. Recently publication of Boyd's genetic data<sup>19</sup> has given new support to the idea of an American origin for Polynesians.

Among Americanists the heretical trend exhibited in some recent work seems on the definite upgrade. But, on the whole, the attitude is still one of caution<sup>20</sup> or else dogmatic.

<sup>17</sup>E. Nordenskiöld, "Origin of the Indian Civilizations in South America," The American Aborigines, ed. by D. Jenness (Toronto, 1933), pp. 276-320.

<sup>18</sup>T. Heyerdahl, "The Voyage of the Raft Kon Tiki," The Geographical Journal, CXV (1950), 1950.

<sup>19</sup>W. C. Boyd, Genetics and the Races of Man; an Introduction to Modern Physical Anthropology (Boston, 1950).

<sup>20</sup>E.g. P. Martínez del Río, Los Orígenes Americanos (2d ed.; Mexico, 1943), pp. 257-334.

restatement of past error, such as Hibben's recent pronouncement that "the racial type of the Easter island natives holds nothing in common with the physical make-up of the South American Indians."<sup>21</sup>

It may, then, be not inauspicious at this time to attempt a synthesis of previous work in the hope that it will stimulate a new generation of workers to attack the problem of transpacific diffusion with vigor and fairness.

If the discussions in this thesis of diffusion and diffusionists seem biased in favor of that side of the controversy, it may be attributed to an attempt to counteract some of the past criticisms, in large part valid, but frequently overdone, which conservative independent-inventionists have made of the diffusionist position and evidence.

Criteria for establishing culture contact. On the other hand, the diffusion of culture has been claimed in so many cases of cultural similarity which plainly do not require such an explanation (such as much of the work of G. Elliot Smith), that it seems wise to state here some concepts by which the following work will be guided in distinguishing diffusion from independent invention. Our views coincide in principle, although not in exact expression, with those of previous conservative treatments of the subject.<sup>22</sup>

---

<sup>21</sup>F. C. Hibben, Treasure in the Dust (Philadelphia, 1951), p. 35.

<sup>22</sup>E.g. J. H. Steward, "Diffusion and Independent Invention: a Critique of Logic," American Anthropologist, n.s., XXXI (1929), 491-95; E. M. Loeb, The Blood Sacrifice Complex ("Memoirs, American Anthropological Association," No. 30 Menasha, 1923), p. 3.

Of prime necessity in the diffusion process is a means of communication. There enters here the problems of geographical accessibility, suitable means of transportation, and cultural transmissibility and receptivity. For our problem these points will be discussed later at appropriate places in the study.

A second criterion is that in one of the cultures or areas involved in the comparison there was a condition or development which would have, or did, eventually lead to migration of some of its people or diffusion of its culture.

A third, qualitative, requirement is that at least some traits of definitely arbitrary or complex nature be common to the localities considered. Such traits are those generally thought to be so unusual in conception or complex in form or function that the law of parsimony would eliminate independent invention from consideration as a possible origin. Unfortunately this criterion is subjective and has produced widely differing opinions in the past.

An additional, quantitative requirement may also be laid down. This holds that the similarities used as evidence of contact, both specific and general, must occur in sufficient number to make an actual cultural connection of the two areas logical. Of course this does not eliminate minority diffusion or migration from consideration merely because the total cultural context does not correspond.<sup>23</sup>

---

<sup>23</sup>E.g. the case of Aztec-Pawnee arrow-sacrifice which is quite certainly a diffusion despite widely differing total culture.

Several cautions need observing in the application of these criteria. Obviously one cannot deny, as the extreme diffusionist school of a quarter-century ago did, that innovation and independent invention can never occur. One must also use care in projecting one's own views into the minds of the ancient diffusers or inventors. It is admitted that from the viewpoint of western civilization any "better" way of doing something (e.g. the use of wheeled vehicles or the animal-drawn plow) would surely be adopted by people not having them, given only the opportunity. However, anthropological literature and minds are too full of instances of (to us) inexplicable cultural resistance to trait imports to require us to accept this dictum of our own culture.

In addition careful consideration must go to the delimitation of localities compared. In the past some critics set up diffusionist "straw men" to destroy by strongly-worded but meaningless attacks. They often spoke of traits common in the "Old World" or "Asia" or of "American Indian civilization." Such culturally inexact terms are misleading for comparisons of the type we speak of in this thesis.

Environmental limitations or stimuli also become a factor to assess in attempting to judge diffusion possibilities. Rivers<sup>24</sup> has pointed out some probable cases of cultural loss due to these or other causes.<sup>25</sup>

---

<sup>24</sup>W. H. R. Rivers, "The Disappearance of Useful Arts," Source Book in Anthropology, ed. by A. L. Kroeber and T. T. Waterman (New York, 1931), pp. 524-35.

<sup>25</sup>See also Kroeber, op. cit., p. 760.



Another error commonly met with in criticisms of diffusionist materials is the failure to distinguish the level of abstraction of each of the traits compared. Barnett<sup>26</sup> has pointed out one such inconsistency on Dixon's part in demanding parallels even down to details in the handful of examples he "criticized" in 1933.<sup>27</sup> At the very least some distinction should be made by advocates and critics alike when they speak of such differing theoretical levels as are involved in, for example, the concept of the umbrella as a symbol of royalty, on the one hand, and the shape of the handle of the umbrella on the other. One may be as valid an evidence of diffusion as the other in certain circumstances. The factor of time duration since contact, suggests itself as a factor to be considered in this connection.

A final caution is that the relative incompleteness of the sources must necessarily limit the scope of our conclusions. Hiroa<sup>28</sup> showed in devastating fashion the weakness, due to incompleteness, of much of Linton's ambitious comparative material published in his 1923 Marquesan publication.<sup>29</sup> On such grounds the inclusion of some apparently weak points

---

<sup>26</sup>H. G. Barnett, "Culture Processes," American Anthropologist, n.s., XLII (1940), 21-22.

<sup>27</sup>R. B. Dixon, "Contacts with America across the South Pacific," The American Aborigines, ed. by D. Jenness (Toronto, 1933), pp. 315-53.

<sup>28</sup>P. H. Buck (Te Rangi Hiroa), Samoan Material Culture ("Bulletins, B. P. Bishop Museum," No. 75 [Honolulu, 1930]).

<sup>29</sup>R. Linton, The Material Culture of the Marquesas Islands ("Memoirs, B. P. Bishop Museum," Vol. VIII, No. 5 [Honolulu, 1923]).

in the following pages may be justified. Were our recorded information exhaustive and could it all be mastered, some points that now appear weak might then become strong.

None of these criteria with their accompanying cautions (and others could be added) ought fairly to be left out of the presentation and criticism of the case for transpacific diffusion.

While we have spoken so far of the criteria of diffusion, the same rules hold for actual migration. The only important added factor is that there must also be evidence of ethnic (somatic and genetic) relationship as well as the strictly cultural relationship which would indicate diffusion.

The scope and arrangement of the thesis. Our main purpose is twofold. First, we shall attempt to recapitulate what seems to us the most important evidence cited by others showing possible contacts between the two areas concerned. Second, evidence from original research will be used to supplement the first body of evidence. Finally, but incidentally, an attempt will be made to interpret the evidence in terms of historical movements of peoples.

No attempt will be made to be exhaustive in citing past work. The general rule to be followed is that unless a correspondence seems to have particular importance, or unless we have some additional data to expand previous treatments of the subject, no mention will be made of the correspondence. Actually but few points will go unmentioned. Criticism of previous suggestions will often be given, but to criticize all

of them would seem to involve an unjustifiable presumption of authority.

The correspondences given are chiefly cultural. The Human Relations Area File classification has been used as a general guide for organization. Thus such valuable comparative material as genetic and somatic characteristics, flora, and fauna have been compared as well as strictly cultural ones. Certain areas of culture have been purposely neglected because they were felt to lend themselves less well to clear trait comparison and also because of limitations of time. This refers particularly to such categories as interpersonal relations, kinship, and native ideas. Other areas have been neglected unintentionally, usually from lack of sources or lack of mastery of those available.

Negative evidence has not been explicitly included. As mentioned above, our sources for both Oceania and the Americas are too incomplete to allow great confidence in results based on negatives alone. As a matter of fact there has been considerable inconsistency in treatments of this phase of comparison by authorities in the field. Kroeber, for instance, lectured some anthropologists for neglecting negatives,<sup>30</sup> yet excused the absence of important traits in Mesoamerica or Peru with little comment when stating his belief in the cultural connection of those two areas.<sup>31</sup> Not, of course, that

---

<sup>30</sup>Kroeber, op. cit., p. 552.

<sup>31</sup>Kroeber, "Cultural Relations between North and South America," Proceedings of the XXIIIrd International Congress of Americanists, New York, 1928 (New York, 1930), p. 20.

negatives are unimportant, but we hold that they are indecisive. We recommend that future work consider the significance of negative evidence for Polynesian-American contacts, after this, the positive approach, is completed.

Our linguistic comparisons are offered modestly, as the result of rather unsystematic searching. Wild guesses have not purposely been included, but suggestions of possible future value have been incorporated for what use they may be to linguistic specialists in future analyses.

Our "Polynesia" stands as geographically defined by others. We accept this as a culture area of sufficient homogeneity to justify considering it as a whole in comparisons. In the Americas our emphasis has been on the Pacific coastal or western continental portions of both North and South America from 30° North latitude to 30° South. Other regions have been considered, but to a lesser extent. Abundance of convenient source material has naturally given more emphasis to the high agricultural civilizations than to others. The coverage of Northwest Coast and California cultures is purposely limited. Preliminary study indicated that this important, varied area with its large literature would require separate treatment to do it justice. We suggest some other student undertake such a study on lines similar to this.

Throughout the study a conscious effort has been made to be objective about directions of movement. The general lack of concrete chronology for many traits compared often leaves uncertain the region of earliest occurrence. Hence,

until suitable chronologies are available, many indicated parallels could be taken as evidence for either eastward or westward movement in our area of concern.

After all these limitations placed on the scope of the work, some may wonder why a more restricted subject was not chosen--for instance, a detailed examination of particular geographical areas or some particular trait complex. The concept underlying this work is that historical reconstruction, in our present state of knowledge, requires a synthetic, not analytic, approach. That to attempt such a task today is ambitious is not denied, and only modest results are expected. The last few decades have produced so many ethnographic descriptions and analyses of cultural minutiae that broad syntheses of history or culture are rare in recent literature. That the trend may in part be reversing is indicated by such phenomena as the recent rash of "developmental" sequences in Americanist studies and the important discussions of method by Rouse,<sup>32</sup> Taylor,<sup>33</sup> and others.

Many of the important works on Polynesian culture have been consulted. Emphasis was placed on one or two standard works for each island group of importance (in the interest of time). No claim to exhaustiveness is made, but it is felt that the sources used were representative.

---

<sup>32</sup>B. I. Rouse, Prehistory in Haiti, a Study in Method ("Yale University Publications in Anthropology," No. 21 [New Haven, 1939]).

<sup>33</sup>W. W. Taylor, A Study of Archeology ("Memoirs, American Anthropological Association," No. 69 [Menasha, 1948]).

For the Americas a few standard sources were emphasized. These were supplemented by selective readings in other (often primary) sources. Nearly all the original contributions to Polynesian-American diffusionist studies were consulted and a large number of minor writings on the subject in addition.

Unfortunately the Human Relations Area File was not available for consultation in preparation of the thesis. However, the work has been arranged (see the next section) so that in the future it may be checked or expanded by convenient reference to that file.

The comparative material has been cast in a form based on the Outline of Cultural Materials, Third Revised Edition.<sup>34</sup> Liberal rearrangement of the contents of the Outline has been made. A footnote for each chapter will indicate the HRAF category numbers included in that chapter.

Taylor's stimulating study<sup>35</sup> expressed pointedly a growing desire among archaeologists for more of integrated information ("associations") and less of simple trait cataloging (yes-or-no trait lists). Similar motives have led us to present our material in such fashion as to emphasize the association of one correspondence with another. The past belief that parallels between Oceania and the Americas are disassociated,

<sup>34</sup>G. P. Murdock et al, Outline of Cultural Materials, 3d rev. ed. ("Behavior Science Outlines," Vol. I /New Haven, 1950/).

<sup>35</sup>Taylor, op. cit.

unintegrated coincidences has done much to hold back study of the problem. For this same reason the lexical comparisons of which we feel some assurance have been entered in conjunction with the traits of culture to which the words refer as well as in a separate vocabulary section. Cultural plus lexical similarity is recognized as almost irrefutable proof of the historical contact of peoples.

The final section of the thesis consists of a summary and conclusions.

## CHAPTER II

### LANGUAGE AND COMMUNICATION<sup>1</sup>

Vocabulary. An attempt has been made here to supplement simple lexical comparisons with substantiating cultural material showing contact between the users of the languages. We emphasize that such contact need not have been direct in recent times. Examination of terms in the listing below such as ka, kapu, kumete, and koti show that rather involved relationships exist among some of the languages cited.

Throughout the comparative sections that follow constant reference will be made to words in the list below which seem to add force to or explain the non-linguistic comparisons.

Our purpose in offering these lexical likenesses is not to make dogmatic claim of genetic relationship. It is rather to draw to the attention of competent linguists a large body of possible evidence of inter-cultural contact. It is to be expected that not all the comparisons listed are valid. Some likenesses that seem not too convincing even to us have still been listed merely for the record and their possible value in future studies. Others might have been added.

Polynesian words have been written using the following orthography: a, e, ng, h, f, s, i, k, m, n, o, p, r, t, u, w.

---

<sup>1</sup>Includes HRAF category numbers 19, 20, and 21.



The letter w is taken as interchangeable with v, r replaces l, p replaces Tongan b, and f replaces Maori wh. The relationship of f, h, and s is not clear. Emory<sup>2</sup> places s first (for Polynesian) in an evolutionary sequence, but the obviously late increase in use of f in and around Tahiti, the widespread, almost exclusive use of h in marginal Polynesia, and the restricted area of usage of s makes such a simple explanation doubtful. Therefore, we point out that h, f, and s may be quite freely interchanged in the following lists. However, we have distinguished h=s words from h=f words where able. Usually more dialects by far will use h than either s or f. The alphabetical listing of words is according to the orthography outlined above. Supplementary examples, after the basic entry, are in local orthographies. Where no geographical indication is made, the word occurs without major variations in at least three (usually widely-separated) islands or groups. An abbreviation for the name of a dialect indicates that all succeeding examples are from that group until another abbreviation is met.

For the American words no change in the orthography of the source from which they were taken has been made. It is believed that qualified critics will have no difficulty in clear interpretation of the forms for words in their areas. Detailed author, work, and page references, omitted here for the sake of brevity, are available in the writer's notes.

---

<sup>2</sup>K. P. Emory, "Eastern Polynesia, Its Cultural Relationships" (Unpublished Ph.D. dissertation, Dept. of Anthropology, Yale University, 1946).

The sources for Polynesian are listed in their approximate order of importance in footnote 3. The sources for the Americas are listed in the next footnote.<sup>4</sup> Abbreviations are

---

<sup>3</sup>E. Tregear, Maori-Polynesian Comparative Dictionary (Wellington, 1891); E. Andrews and I. G. D. Andrews, Comparative Dictionary of the Tahitian Language; Tahitian-English with an English-Tahitian Finding List ("Chicago Academy of Sciences Special Publication," No. 6 /Chicago, 1944/); C. W. Thomas, "Comparative List of Central American and Polynesian Words; also Correspondence, Miscellaneous," Bureau of American Ethnology MS 3717, 1894; Emory, Eastern Polynesia; F. W. Christian, "On the Evidence of Malay, Javanese, Arabian and Persian Admixture in the Inca or Keshua Language of Peru, amongst the Aymara Language of the Peasant Class," Journal, Transactions of the Victoria Institute, Vol. XL (1908); Rivet, "Les Malayo-Polynesiens," op. cit.; E. Palavecino, "Elementos Linguisticos de Oceania en el Quechua," La Esfinge Indiana, Imbelloni. Rarotongan from personal knowledge.

<sup>4</sup>W. E. Gates, A Grammar of Maya ("Maya Society Publications," No. 13 /Baltimore, 1940/); J. M. B. Farfán, "La Clave del Lenguaje Quechua del Cusco," Revista del Museo Nacional, XI (1942), 248-266; L. Douay, Etudes Etymologiques sur L'antiquite Americaine (Paris, 1891); Douay, Nouvelles Recherches Philologiques sur L'antiquite Americaine (Paris, 1900); C. R. Markham, Contributions towards a Grammar and Dictionary of Quichua, the Language of the Yncas of Peru (London, 1864); J. P. Harrington, "Hokan Discovered in South America," Journal, Washington Academy of Sciences, XXXIII (1943), 334-344; Rivet, "Les Malayo-Polynesiens," op. cit.; Christian, op. cit.; Thomas, op. cit.; B. Tavera-Acosta, "Nuevos Vocabularios de Dialectos Indigenas de Venezuela," Journal, Society of Americanists of Paris, XIII-XIV (1921-22), 217-232, 65-82; J. P. Perez, Diccionario de la Lengua Maya (Merida, 1866-77); A. M. Garibay K., Llave del Nahuatl (Otumba, Mexico, 1940); J. E. S. Thompson, Maya Hieroglyphic Writing: Introduction ("Carnegie Institution of Washington," Publication 589 /Washington, 1950/); Z. Nuttall, The Fundamental Principles of Old and New World Civilization ("Peabody Museum of American Archaeology and Ethnology Papers," II /Cambridge, 1901/); D. de Torres Rubio, Arte y Vocabulario de la Lengua Quichua General de los Indios de el Peru (Lima 1754, reprinting edition of 1619); F. Pimentel, Cuadro Descriptivo y Comparativo de las Lenguas Indigenas de Mexico (3 vols.; Mexico, 1874-75); R. Shafer, "Athapaskan and Sino-Tibetan," International Journal of American Linguistics, XVIII (1952), 12-19; G. de Crequi-Montfort and P. Rivet, "La Langue Uru ou Pukina," Journal, Society of Americanists of Paris, XVII-XIX (1925-27), 57-116, 211-244, 111-139; J. Zevallos Quinones, "Un Diccionario Yunga,"

in footnote 5.

An honest attempt has been made to eliminate any comparisons based on atypical Polynesian spellings, such as the Hawaiian shift from t to k. Neither have similarities based on metathesis been entered even though that process is not unusual in Polynesian. In reporting likenesses previously given by others we have ignored all but the most interesting. Of Rivet's Hokan comparisons we have used virtually none. They should be consulted separately. Most, but not all, the secondary listings have been checked against primary sources.

---

Revista del Museo Nacional, XV (1946), 163-188; G. Rouget, "La Conque comme Signe des Migrations Océaniques en Amérique," Proceedings of the XXVIIIth International Congress of Americanists, Paris, 1947 (Paris, 1948), 297-305; A. Metraux, Ethnology of Easter Island ("B. P. Bishop Museum Bulletin," No. 160 /Honolulu, 1940/); G. Hernández de Alba, "The Highland Tribes of Southern Colombia," Handbook of South American Indians, ed. by J. H. Steward ("Bureau of American Ethnology Bulletin," No. 143 /Washington, 1947/), II, 915-960; R. Girard, Los Chortis ante el Problema Maya (Mexico, 1949), Vol. I; G. Vaillant, The Aztecs of Mexico (Penguin Books ed.; Harmondsworth, Middlesex, 1950); J. H. Rowe, "Inca Culture at the Time of the Spanish Conquest," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 /Washington, 1947/), II, 183-320; J. Zevallos Quiñones, "Primitivas Lenguas de la Costa," Revista del Museo Nacional, XVII (1948), 114-19; A. Febres, Arte de la Lengua General del Reyno de Chile con un Dialogo Chileno ... y por Fin un Vocabulario Hispano y un Calepino Chileno-Hispano ... (Lima, 1765); R. C. Weitlaner, "Relaciones Genéticas Entre Los Grupos Lingüísticos," Mexico Prehispánico (Mexico, 1946), pp. 34-35.

<sup>5</sup>Nah.-Nahuatl; Quech.-Quechua; Raro.-Rarotongan; To.-Tongan; Sam.-Samoan; N.Z.-New Zealand Maori; Mgrv.-Mangareva; Mq.-Marquesas; Tua.-Tuamotu; Tah.-Tahitian; Pau.-Paumotu; Ea.-Easter Island.

## A

ai, to procreate; Raro. ai, particle showing plurality, used only with terms of kinship; Sam. aiga, family. Quech. ayllu, lineage, tribe, family.

angaana, to work, work. Quech. llankay, business, work.

akā- (Raro.), much, big, many; Mgrv. akariki, supreme ariki or king. Quech. askha, many, much.

ako, to teach, instruct, warn. Quech. yachachiy, to teach; yachay, to learn.

akuaku (Ea.), demon. Maya ku, god, divinity.

anu, cold. Yunga tschaan or shane, cold.

apikepike, weak. Maya p'ip'icnac bac, tired and weak.

arai, curtain, screen, to interpose. Quech. arapa, lattice of reeds as a door protection, curtain; arariwa, guard.

areoj, an organization of entertainers, celebrants (occurs under this name in Tah. only). Chiriguane (Tupi) arete, feast day; Chorotega areito, dance; Haitian areiti, dance, historical chant; Quech. harahui, a song, elegy; harahuec, a singer, bard.

ariki, ruler, king. Yunga alek, piñ aloec, chief (cacique).

atu, away from, beyond (comparative); Raro. atura, atu, then, after that (in narrative). Maya tun, then, after that (the most frequent meaning in the texts according to Roys<sup>6</sup>); Quech. hatun, great.

ae, woe!, to cry, weep. Maya auat, to cry out.

aute, paper mulberry tree (varies widely, e.g. ute, eute, oute, wauke, Ea. maute or mahute.)<sup>7</sup> Nah. amatl, Ficus tree and the barkcloth or paper made from its bark.

## Ng

ngata (Sam.), snake. Salinan (Hokan) ck'ot, snake, worm, grub.

<sup>6</sup>Thompson, op. cit., p. 47.

<sup>7</sup>Emory, Eastern Polynesia, p. 68.

ngau, to gnaw. Maya nap, bite, close the teeth on; nach, seize with the teeth; nex, to gnaw; (cf. also nol, not, ne, nak, nap, etc.); Yana (Hokan) -gal, to bite; Pomo g a-, with the teeth; (cf. also Poly. kati, to bite).

## H

heu, to open, expose. Maya he, open, as a door; heu, untie, open.

hopara (N.Z.), abdomen. Maya hobnel, the abdomen.

## F

faka-, causative prefix. Quech. kachiy, to cause.

fare, house. Quiche ha, house; Mam, ha, house.

fata, platform, bench, shelf, bier. Quech. pata, an elevation or bench built against the wall; Huasteca ata, house; Maya pa, stone house; Chaima ata, house; Kumanagoto patar, house. (Cf. also pa, patu, below.)

fatu, a stone, fruit pit. Maya tun, a stone, stony pit of plums. (Cf. atu, above.)

fero, red or yellow; To., Sam. felofelo, yellow; Haw. helo, red; Wallis kelo, yellow, orange-colored. Quech. kellu, qgellu, yellow.

fine, girl, female. Hokan (various languages) sin, siin, sein, etc. Maya xnuc, female, old woman. (Cf. also sina.)

fiti, to rise, as sun, moon, stars. Matlatzinca hiti, itiy, heavens; Quech. intisuyu, east (fitinga is frequently "east" in Poly.).

foanga, grindstone. Maya ho, to grind.

fora, to open out, spread out. Maya holaan, open, clear; holbe, open road.

fua, seed, fruit, egg, descendants; fuanga seed, descent; N.Z. hua, full moon. Maya hue, egg; u or uh, moon; ual, children; vuich, fruit; Huasteca vuali, fruit; Pokomchi vuach, fruit; Quech. huahua, child, grandchild; "Chileno" hua, maize.

fui, to collect, be in a bunch. Quech. huñuy, collect.

furi, to turn round, overturn. Maya hel, change, exchange, different.

furu, hair, feather. Yunga, purr, feather; Quech. puhura or phuru, feather; puhullu, fringe, tassel; Tarascan pungari, feather; Pomo (Hokan) he-le, hair.

## S

saka, to dance, a dance. Quech. guacon (wakon), a dance restricted to men; Maya okot, dance; Tzotzil acot, a dance.

sapai, to carry. Quech. apay, apani, to carry; Maya paay, pull, haul.

sau (Sam., To., Tah.) Maya ahau, lord, chief, ruler.

sau, wet, damp. Maya hâa, water; Yunga ja, water. (The Polynesian and Maya roots have many derivatives each.)

siapo, bark cloth (only in Mq., Sam.); (Maori hiako, bark, rind.) Maya, copo, xcopo, name of various species of Ficus sp. from which barkcloth was made.

sina, the moon-woman, shining. Yunga si, moon; Si, the moon-god; Uru isis, chisi, hisi, moon; Chipaya his, moon.

susu, su, the female breast, nipple, milk. Chipewyan (Athapaskan) t'eu, breast, milk; Montagnais (Athapaskan) t'eu, breast; Mattole (Athapaskan) t'so., breast, milk. su, moist. Uru hualxa, rain; Lenca hual, gua, guare, guas, river; Xinca huot di, river.

## I

Iho, Io, Kiho, the supreme god of one cult. Haitian Io, Iovana, Iocahuna, names for god.

ika, fish. Maya cai, fish; Pomo (Hokan) ca, fish.

iti, small. Uru uchi, small; Chimariko (Hokan) tcite, child; Yunga kitzi, insignificant; Choctaw (Hokan) uci, child; Subtiaba (Hokan) tci.tci, small.

## K

ka, kaka, to burn, glow. Quech. kkanchay, illuminate; kkanchaq-ppuku, lantern; ccanani, to set on fire; kanay, to burn; Yunga kosk, a glowing coal; Maya kak, fire; Chimariko (Hokan) kôwa, coals; Navaho (Athapaskan) -kâ. (and other Athapaskan); (cf. Sanscrit ka, fire splendor, light; kaka, shining, brilliant).

kanakana (Tah., Pau.), bright, shining; kanaku, fire;

kanapa, kanapu, bright, shining (all N.Z.). Aymara kanakana, shining, brilliant; Quech. kanay, to set on fire; Kukish (Hokan) ka.ŋ, to burn; (cf. Sanscrit kan, kank, to shine).

kahaka, karaha, kiaka, pahaka, koaka (N.Z.), calabash. Quiche akam, calabash; Huasteca kalem, calabash.

kai, food, to eat. Maya koyem, ground maize, symbolic of all food (in burials);<sup>8</sup> Mixe kaik, food; Yunga kais, to feed; Comecrudo kai, eat; Chinanteca kau, eat. Cf. kamu, below.

kake, to ascend, to excel; kaka (To.), to climb; ake, upwards; kahu (N.Z.), a hawk, a boy's kite, the surface, a covering, to spring up. Maya caan, caanal, canal, sky or heavens, to mount, ascend, be high, up; Kato (Athapaskan ka-, motion up; -ka, surface; Tlingit ka, on.

kaki, neck. Quech. kun-ka, neck, throat, voice; Chimariko (Hokan), -ki, neck.

kamu, to eat; Ea. kame, kami, to eat; N.Z. kame, kome, whakoma, tametame, to eat. Quech. khamuy, to chew; kaniy, to bite; Chimariko (Hokan) ma, ama, to eat; Salinan (Hokan) ama, to eat.

kapia (N.Z.), resin, gum. Maya kab, cab, honey, the sap or juice of plants.

kapu (N.Z., Mq.), cup, the hand; Tah. 'a'apu, to take up with the hand; kapurima, the palm of the hand. Maya kab, the hand; Mam kop, hand, arm; Huasteca kub-ak, hand; Goajiro jabo, kabo, hand; Quech. ccapa, palm of the hand; k'apa, the span (a unit of measure); Santa Catalina (Hokan) sal-kūbi-té, thumb; Santa Isabella (Hokan) hasuth-kapa-tai, thumb. (Note? English cup; Hebrew kāph (קפ), the palm of the hand, the hand.

kapu, kapukapu (N.Z.), wavy, curly. Quech. kkupa, curly.

kawa, the intoxicating beverage made from the kawa root. Maya acan, wine, the god of wine; Quech. acca, fermented liquor; "Chile" kawan, liquor.  
kawa, bitter, acid. Quech. ppusqo, acid; Maya kaa, bile; ka, bitter.

kere, black. Chimariko (Hokan) tcělě-i, black; Araucanian karu, black.

---

<sup>8</sup>A. M. Tozzer, Landa's Relacion de las Cosas de Yucatan ("Peabody Museum of American Archaeology and Ethnology Papers," XVIII [New Haven, 1941]), 130.

ki, to reply. Mam chi, to say; Huasteca ol-chial, to say.

kiko, flesh, meat. Yunga aerquic, human flesh; Maya kik, blood; cúcut, the physical body.

kiri, bark, skin. Quech. gara, bark, skin.

ko, to dig, stab, pierce, the digging-stick. Nah. coa, the digging-stick; Maya co, tooth; koy, to dig out or clean cavities; Quech. goray, to weed; gorana, the hoe; qgoya, mines.

koa, joy, gladness. Quech. qgochu, joy.

kofanga, a nest; Moriori kuwhanga, a nest. Maya kuu, a bird's nest.

koki (N.Z.), corner, angle; kokonga, corner; Mgrv. koki, crooked, etc. Quech. ccuchu, corner, angle; Quech. huk'i, inner corner; Pomo -uk, corner; Maya huk, joint; yuk, union, meeting of two things.

kope (N.Z.), to bind in flax; N.Z. kopekope, to fold up; kopi, doubled together, like a hinge; Haw. opeope, to tie and hang up against the side of a house for preservation. Quech. kipuy, to bind; kipu, knot.

kopu, the belly, the womb. Quech. kuku-pi, liver; Subtiaba (Hokan) gi-ko, liver; Maya ko, belly. kopu, belly. Quech. pu, pupu, navel; Mixe putzn, navel.

kore, kaua, kauaka, kauraka, kahore (N.Z.), kao, no, not, negation. Totonac kan, no; Mixe, ka-tii, no; Zoque, ka-tzi, no; Zapotec yaka, aka, no; Yana (Hokan) k'u-, not; Pomo (Hokan) kui, not; Salinan (Hokan) ko-, not; Quech. qgaruy, to destroy.

koro (To., Sam.), a fortress; Raro., an enclosure, a field; Tah. ko, a field, a planting. Maya coloche (che, wood), a stockade, stakes to wall in a house; Quech. cora-cora, a pasture, field.

koti, to cut, cut up. Maya kuptal, cut; xot, to cut off, etc.; koz-, to clip, shear, cut irregularly; cootzol, to cut a rope; kuxah, to cut with the teeth; Quech. kutcuy, to chop, cut; cuchini, to cut; Quiche kux, cut; Arekuna, akoti á, to cut; Choctaw (Hokan) katce-li, to cut. (Note? also English cut; Hebrew qēts (קֶצֶט), qatsah (קֶצֶה), qatsāts (קֶצֶטֶט), qatsār (קֶצֶר), etc., to cut.)

kotore (N.Z.), white clay, sometimes eaten. Quech. tturu, clay.

kui, kuia, woman, old woman, etc. Maya colél, cool-e, coolebil, lady, mistress; Quech. colla, queen.



kuku, a pigeon or dove; kukupá, a pigeon, a dove. Maya ix cucut cip or cucut ci, a pigeon; Quech. kunku, small green dove; kokotuai, wild pigeon; Paressi (Arawak) kukui, the harpie; Hipurina (Arawak) kokoi, falcon; Mandauaka (Arawak) kokoui, hawk.

kumara, the sweet potato. "Peru, Colombia, Ecuador" kumar, the sweet potato; (cf. Nah. camote, sweet potato).

kumete, bowl, dish, or trough of wood. Maya cum, pot, receptacle; Nah. comitl, earthen vessel; Tonto (Hokan) a-kuamata, pot; Mohave (Hokan) a-khmata, calabash.

kumi, beard. Yunga comoen, beard.

kupa (N.Z.), belch. Maya ceeb, belch.

kura, sacred, feather, red, divine. Chorti ku, root with the connotation sacred, applied especially to designate a mythological bird;<sup>9</sup> Maya kul, divine, holy; kukum, kuk, feather; Huasteca kuklek, feather; Quech. kulli, dark red; kori, kuri, gold; Araucanian kari, red; Yunga kuj, kul, red.

kuri, quadruped, dog; kiore, rat. Quech. gowi, guinea pigs; alqo, dogs; "Colombia" curi or ciy, guinea pig (the only domesticated animal in that region); Yunga col, horse.

kurupei (N.Z.), a clod, lump of earth. Quech. kkurpa, lump.

kutu, louse. Quech. khuyay, louse.

## M

ma, and, with. Tunica ma, and; Otomi ma, and.

mahi, work, to work. Maya meihul, labor, work; mayah, to work, serve.

mafa, large, many, much; Tah. mau, large, many, much; Haw. maua, large, many. Matlatzinca mahyee, great, much. ma'ata (Raro.), many, large. Pomo (Hokan) m-atō, large.

maika (N.Z.), an edible root ("Orthocerum strictum").<sup>10</sup> Quech. maca, an edible root resembling the potato; Maya macal, component word in the names of several food-plants, particularly roots.<sup>11</sup>

<sup>9</sup>Girard, op. cit., I, 170-71.

<sup>10</sup>Palavecino, op. cit., p. 343.

<sup>11</sup>Tozzer, op. cit., p. 196.

Makemake (Ea.), the most important Easter Island god. Yunga Macyaec, an idol, a huaca, a god. (Makemake is found nowhere else in Polynesia.)

maki, sick, sickness. Quech. mukiy, to be suffocated; malqui, a mummy; Maya mach', to be taken down with some complaint; Salinan (Hokan) (i)móklop, to drown (plural); Lengua de Colan (Piura Valley) masic, ache, affliction.

makuku (N.Z.), indolent, inactive; Haw. ma'a, loitering, loafing; Tah. ma'ama'a, foolish, vain, useless. Maya makol, lazy, indolent, slothful.

mamae, pain. Quech. nanay, pain.

manu, bird, creature. Zapotec mani, animal; mani-ri-papa, bird; mani-peo, parrot.

mata, unripe, raw. Subtiaba (Hokan) ma.ca, raw.

mata, face, eye. Quech. ma-t'i, forehead.

matau, to know, to be accustomed, to be skilled. Quech. hamautta, wise.

mataku, fear. Quech. manchakuy, fear.

matua, metua, father, parent, elderly, old. Quech. machu, old, of a man.

minamina, to desire, crave. Quech. munay, wish.

moana, ocean. Lengua de Catacaos (Piura Valley) amaun, the sea.

moko, lizard, mythical reptilian creatures. Maya mech or moch, lizard; (cf. Imox or Imix, the day sign).

mou, mau, to hold, grasp, to be firm. Chimariko (Hokan) imu, to hold; Yana (Hokan) to reach, to hold; Pomo (Hokan) mi-, ma-, with the hand; ma-, to hold; Subtiaba (Hokan) me.'n, hand. Cf. rima and words there listed.

mu, silent, to whisper, make a low noise; amuamu, to grumble, mutter; mumu, to hum. Quech. amuamu, dumb, silent; amullayacuni simicta, to mutter to oneself; Maya muculthan, to whisper, speak in secret; Yana (Hokan) 'ému, to stop crying.

muku (N.Z.), to rub, wipe. Quech. makana, massage; Aymara makhana, massage.

mura, glow, red. Lengua de Sechura morot, fire.

## N

nene, pleasure; N.Z. to jest, to sport; sexual pleasure; Sam. name of a game; Haw. ne, to tease, etc. Yunga ñeñ, ñeñeiñ, play.

neva, silly, giddy. Maya naual, to walk like a drunken man.

niu, a coconut (half a coconut shell was regularly used as a cup). Quech. puyñu, a small cup.

nohi (Pau.), eye; N.Z. kanohi, konoki, eye; Haw. onohi, the center of the eye. Quech. ñawi, eye.

noke (N.Z., Mq.), worm. Maya nok, worm.

nui, great, large. Maya num, much, overmuch (in comparison); noh, great, large; nuc, grown large, great.

## O

ori, oriori, to move about, to shake, quake. Nah. ollin, movement, earthquake.

## P

papa, father, uncle, a title of respect to chiefs; fakapapa, to give genealogy. Quech. ipa, uncle; Maya ba, father, ancestor; Haitian ba, baba, father; Galibi (Guianas) baba, father; Kampa (Arawak) apa, father (other Arawak terms are similar).

pa, barren, of women or land; N.Z. pakoko, barren. Quech. ccallpa, sterile, barren.

pa, wall, line, inclosure, fortification. Maya, pak, wall; pa, fortress, inclosure, wall, stone building.

patu, to build; Mq. patu, to form, shape. Maya pat, form, give shape to.

pa, to strike. Maya bah, hammer; bax, to strike, tear down; paa, break up; Quech. ppanay, strike.

pahu, a drum, etc. Maya pax, drum, to play an instrument.

paki, to slap; pakipaki, to clap the hands. Quech.

ppakiy, to break; Maya papaklah, a slap, buffet or blow with the open hand, to clap the hands.

patu, to strike or beat; N.Z. patu, a weapon, generally a club. Maya baat, axe, hatchet.

papa, anything flat, a slab, a board. Quech. pampa, a plain; Maya tanpopien, flat, plain; Yana (Hokan)

-pal-, to be flat; Pomo (Hokan) pai, a flat.

pai (N.Z.), good. Maya baybe, good, very good.

paka, scorched, red or brown. Quech. puka, red; pacco, red; Maya poc, bake in the oven or pots; puk, melt.

pakira (N.Z.), bald; Moriori pakiri, bald. Quech. ppaqla-uma, bald.

pakusiwi, pokosiwi (siwi, bone) the shoulder. Maya pach, back, shoulders; puuch, the upper back.

pani, to color, dye, besmear. Maya bon, to tint, to tan; bonil, a tint, color.

papaka (N.Z.), crab. Maya bab, baab, crab.

parahi (Tah.), to sit; Raro. to sit on a nest. Maya paclahi, to lie over something.

parau (N.Z.), slave. Maya pal, pa'al, palal, palil, child, boy, servant.

parirau, pererau, wing of bird. Quech. pharpa, raphra, wing.

paroro, a sea worm which appears seasonally (Eunice viridis), one of the seasons. Nah. papalotl, butterfly; Quech. pillpintu, butterfly; Atsugewi palala, butterfly; Washoe (Hokan) palolo; Pomo (Hokan) lilawa, butterfly. Cf. pepe, below.

patoto (N.Z.), to bite. Quech. ppatay, bite.

pepe, pepepe, butterfly; Mq. pepe, moth; pu'ehua, butterfly; Haw. pulelehua, moth. Maya pepen, butterfly; Tzotzil pejpen, butterfly; Chol pehpen, butterfly; Quekchi papem, butterfly; Zapotec peapee, butterfly; Nah. papalotl, butterfly; Quech. pillpintu, butterfly.

peru (To.), drinking cup made from a banana leaf. Maya bilac, a drinking cup.

pihi (N.Z.), to spring up, begin to grow; pi, green, unripe. Quech. pihi-huy, firstborn; Nah. pil-conetl, infant son.

piko, crooked, zigzag. Maya bikchalac, etc., a thing that moves snake-fashion, side to side, zigzag, etc.

pipiko (To.), lazy, indolent. Maya bibik, to wander about, a vagrant.

piri, to cleave to. Quech. puriysiy, accompany.

piti (Tah. only), two. Quech. pitu, two.

po, night, darkness, sheol. Quech. ppoyuu, abyss; punyuy, to sleep; Chimariko (Hokan) po-, to sleep; Subtiaba (Hokan) -apo, to sleep; Pokoman po, moon; Quekchi po, moon; Mixe poo, moon; Zoque poya, moon; Zapotec beo, moon; Quech. paxsa, moon; Maya box, black; Matlatzinca botaa, boo, black. pongi, morning, dawn; apopo, tomorrow. Quech. ppunchay, day; Mixe opom, tomorrow.

poke, a food prepared by mixing coconut oil with various vegetables or fruits; N.Z. pokepoke, to mix up with water. Maya bok, mix beat.

poko, pokorua, popokorua (N.Z.), the ant. Maya boo, a kind of ant.

pononga (N.Z.), slave. Maya p'en, captive, slave.

pooipooi [sic] (To.), a curtain, screen. Maya booy, a shade, parasol, protection.

popo (Haw.), a ball for games; poka, round, rolling; poala, to roll up as a ball; N.Z. pokai, rolled in a ball, to encircle; poi, a ball; poro, anything round; (cf. many other derivatives in all Polynesian dialects). Maya bol, round, that which rolls or turns; pok, ball game, ball; bak, embrace, surround; Quech. pakay, cover.

poki, etc., to cover up, over. Quech. pakay, cover; Maya bak, embrace, surround.

poko, upoko, the head. Cf. Maya pok, ball, etc., above.

pora (N.Z.), a kind of mat; Sam. pola, a plaited coconut leaf; Haw. pola, the high seat between the canoes of a double canoe; farepora, a small thatched house aboard the large double canoes of the Paumotus; To. pola, plaited coconut leaf; Mgrv. pora, a general name for mats, a chief's seat on a raft. Maya pop, mat (a symbol of authority since chiefs sat on special ones);<sup>12</sup> pot, ahuipil, a woman's woven garment; Pokomchi poh, to sew something.

poua (N.Z.), an old person; Tah. papa'aha, old wise. Quech. paya, old, of women.

pu, lord, head, center. Totonac pulana, captain; Quech. apu, chief, lord; Haitian abo, master, chief, superior; Mangue apome, high; Chiapanec apa, apao, high, great; Bribri boru, chief; Tiribi pu-ru, chief; Goajiro kaapu, great, large; Atacameño capu, high, great; Araucanian apo, governor; Quech. apu, master, chief, lord; "Patagon" apo, chief.

---

<sup>12</sup>Thompson, op. cit., pp. 47-48.

pu, to blow, to explode. Maya pub, blowgun; p'uc, rinse mouth; buy, cloud; Yana (Hokan) p'ô-, to blow, Pomo (Hokan) pu-cul-, to blow; Quech. phuyu, cloud, phu-, to blow.  
pu, a shell trumpet; N.Z. putatara, shell trumpet; Mq. putoka, shell trumpet. Quech. putoto, shell trumpet; Tarascan pũuagũa, shell trumpet; Aymara phusaña cchulu, shell trumpet.  
pupu, to boil. Chimariko (Hokan) -potpot, to boil; Salinan (k) o'potot'na, to boil.

puaka, pig, any hoofed quadruped (modern). Maya ac, wild hog; pek, dog; Quech. paqo, alpaca.

pueto (N.Z.), swamp rail (bird); Haw. pueo, an owl. Maya puhuy, a bird resembling a woodcock.

puhara (N.Z.), a tower in a fortification. Quech. pukara, a fortress.

puku (N.Z.), secretly. Quech. paka, secret.

putu, a heap, pile; puke, a hill, mound; pu, a swell, rise, bump. Maya puuc, hill; p'ul, any bulge; Quech. punki, to swell; poccpu, a blister; uspun, paunch; pata, hill; Arekuna uip, uipui, mound, mountain; Chaima tipue, mound or mountain; Kumanagoto hipue, hipur, mound or mountain.

## R

ra, an adverb denoting distance in time or space. Maya lah, end, terminus.

raki (N.Z.), green leaves on which food is laid in an oven; rahurahu, a fern. Quech. raki-raki, fern.

rako (N.Z.), an albino; Ea. clear, white; N.Z. korako, an albino. Quech. raku, snow.

raku, to scratch, to scrape. Maya laach, scrape, scratch.

rama, light, torch, flash; marama, light. Maya lem, to shine; lamba, lamba, a flash, a flame.

rapa, flash, lightning. Quech. illapa, lightning; rupani, to burn; rupay, heat, the sun; Zapotec ape, lightning.

reo, voice, language. Chinanteca, Coahuilteca le, to speak.

reira, that time or place previously mentioned. Maya lailo, demonstrative, this.

riki, small; tamariki, children. Quech. irge, boy, girl.

rima, hand. Maya ma, hand; Nah. maitl, hand; Quech. maki, arm, hand; Yunga moecha, macha, matzan, hand.

rupe, a pigeon. Quech. urpi, dove.

ruru, shake, tremble; riri, angry; makariri, cold. Maya lil, to shake.

## T

ta, to strike; tao, spear; ta or tatatau, to tatto; etc. Maya ta, lancet; ta, master, proprietor; tah, split wood; t'ah, valiant, spirited; Quech. tacani, to hammer.

ta-, prefix, to do, to make; causative prefix much like faka-, but usually indicating more direct physical action, often with some instrument. Maya hetzmek tah, to make hetzmek; tah as a particle gives the signification of action with violence, brusqueness, force; Salinan (Hokan) ti', to do; Subtiaba (Hokan) -da, to make; Navaho (Athapaskan) tá', completely.

ta (Tah.), father, a term of respect; tane, man, male, husband; tama, boy, son, child, tangata, man; tara, penis. Aymara -tata, father; Arawak (general) tata, father; Otomi ta, expresses masculine gender, chief of family; Paya ta, chief of family; Mixteca ta, man; Rama tata, father; Quiche and Pokoman tat, father; Chorti tata, father; Quech. tayta, father; Kato and Hupa (Athapaskan) -ta', father; Chipewyan (Athapaskan) -tá, father; (cf. most other Athapaskan).

tangi, to make a noise, sing. Quech. taki, song; Chimariko (Hokan) tak-, to sing.

tai, sea, seashore. Uru tari, the sea; Pomo (Hokan) ta, sand; Kato (Athapaskan) sai, sand; Navaho (Athapaskan) sái, sand; Chipewyan (Athapaskan) ədi, sand; Montagnais (Athapaskan) əay, əa, sand.

taka, to turn, roll, set off apart, make a group, a group, (N.Z.) a pile. Quech. ttaqa, group, gang; tauqa, pile.

take, origin, foundation, root, cause, (Mq.) name of the Polynesian people. Cf. the -tec, -teca, of Aztec, Mixtec, Zapotec, etc., people of; Shoshone taka, man; Quech. teqsi, foundation, origin.

tapa, bark-cloth (which was usually painted, either free-hand or stencil). Nah. tlapallis, paint, picture; tlapana or tlapan, to adorn; tlapapalli, multicolor; Uru and Chipaya tapa, paint.

tapi (N.Z.), to patch, mend; Tah. tapepe, patch, tape, a fragment of cloth; Haw. to put to, as one thing to another. Quech. ratapa, patch.

tapu, to restrict; Raro. tāpu, to restrain, hold back. Maya tab, tie.

tari, to tarry, wait for. Maya thal, thalal, to rest, be still, keep quiet.

taringa, ear. Quech. rincri, ear.

tau, season, year. Quech. wata, year. Cf. wa, below.

taumaha (Raro.), curse; (elsewhere, sacrifice or weighty). Maya tamay-chiitah, curse.

teia, tera, tena, demonstratives, here, there. Quech. tcay, that by you; Pomo (Hokan) te-, that; Subtiaba (Hokan) ta-, that.

tete, tremble. Maya, tit, shake.

tika, true, straight. Quech. checa, true. Cf. tira, below.

tinā, tinana, a mother, usually of animals. Quech. china-, feminine.

tira, upright, straight. Mattole (Athapaskan) di-, (to stand) perpendicular; Kukish (Athapaskan) di.r, to stand, be upright.

to, sugarcane, to plant. Maya too, broad-leaved plant.

toa, brave, warrior, etc. Maya thaah, valiant, brave.

tohu, etc., to point out, direct. Quech. ttoqwi, to direct.

toka, stone, rock. Maya tok, flint; tokil, very hard, flinty; Tarascan tzacapu, stone; Quech. qaga, rock; Chimariko (Hokan) qā'a, stone; Seri (Hokan) ah-s-teka-koj, rock; Salinan (Hokan) (t)cxa', stone; Washo (Hokan) dék, ee'k, stone.

toki, adze, axe or any similar tool. Quech. toqui, axe; Araucanian toqui, toquitum, to chop; Patagonia toqui, to chop.

toto, blood, to ooze, to trickle; Mgrv. akatotohi, to run drop by drop with pain and difficulty. Maya t'oh, pour liquid in drops; tok, to bleed.

to, (Sam.) to fall drop by drop as rain or dew; To. toi, to drop; Mq. totitititi, to fall drop by drop.



Quiche Toh (the day sign), shower.  
topatopa (N.Z.), a bird; topa, to fall; tau, to alight.  
 Maya toh, a bird.

tufa (N.Z.), to spit; Tah. ufa, to belch; Haw. uha, to belch.  
 Maya tub, saliva.

tui, to sew. Maya chuy, to sew, work with a needle.

tuku, to put. Quech. tcurray, to put.

tumu, foundation, base. Maya tem, altar, bench.

tuoi (N.Z.), thin; Tah. tuovi, thin, lean of flesh. Quech.  
tullu, lean.

tupa (Ea.), stone towers of unknown function; cf. tapu, sacred, prohibited. Quech. thopa, royal; chullpa, a tower, often for burial; Chibcha tupa, a divine name, a divine thing; Pipil (?) teupa, priest, temple (?);<sup>13</sup> cf. Pali (India) thupa, stupa, a burial or memorial tower.

tupu, to grow. Maya toopol, topol, budding, germinating, putting forth shoots.

туру, brace, to support. Quech. waqtan-tullu, rib; Maya tulum, fortress.

tutae, excrement; tae, exudation from trees; Sa., To. tae, excrement. Maya taa, excrement; tu, smell, stink; taan, waste matter; Chorti ta, a classificatory word applied to all classes of excretions;<sup>14</sup> Quech. t-axya, ball excrement of the llama.

## U

uira, lightning. Quech. wi-ra, fat, lava; wira-p'uku, lantern.  
 Cf. rapa, above.

uku, ukui (N.Z.), white clay. Quech. aqo, sand; tc-'aqo, white clay; Chimariko (Hokan) ama-yāqa, sand.

uma, breast. Maya im, uim, udder, teat. Cf. susu, above.

unu, to drink; Ea. water. Quech. unu, water; ununayani, to be thirsty.

<sup>13</sup>D. G. de Palacio, Carta Dirigida al Rey de España ("Collection of Rare and Original Documents and Relations Concerning the Discovery and Conquest of America," [New York, 1860]), p. 73.

<sup>14</sup>Girard, op. cit., I, 136.

upoko, poko, head, head man. Mixe kobaak, kobakek, head; Zoque kobaak, kobakek, head; Chinchay Quech. pe-ga, head, chief; Pomo (Hokan) ba-, with the head; Maya pol, head. Cf. pokai, pu, above.

uri, tender shoot. Maya ool, tender shoot.

uru, the head. Maya hool, the head.

utu, to pay, reward. Maya túlul, pay, reward.

## W

wa, space; (N.Z.), region, interval (this root occurs in very many terms). Quech. wa, root meaning place, location, space, land.

waho, out, outside. Quech. hawa, out.

vao (Tah., Mangaian) valley. Quech. queswa, valley.

wahi, to split, break, cleave. Maya uauaka, to burst, break in pieces, split, break into apertures.

waka, canoe. Nah. akalli, canoe; Cuchan akal-hor, canoe.

waka, the medium of a god; Fiji wangga, the shrine of a god. Huastec huaka, saint; Darien guaca, "devil"; Dakota wakan, holy, sacred; Quech. huaca, any shrine or sacred place.

wi (Haw.), destitute, suffering, starving, starvation, famine; wiwi, lean, meager; Tah. veve, poor, destitute, lean. Maya uih, uiih, hunger, scantiness, famine.

One particular group of terms deserves special mention at this point. Many writers have discussed the numerical classifiers employed in Maya. These terms are used to indicate what class of objects is being enumerated.

Polynesian offers a parallel to this usage. Polynesian forms its plurals by use of a particle preceding the substantive. A number of different particles are used, each appropriate only to a restricted class of objects. For example, in Rarotongan, pa is the plural particle only for things in a line or group, such as mountains or islands. ai can be used only with terms referring to kinship. Other terms are such

as nga, puke, au, and ui in Rarotongan, and mau, tau, hui, nau, and pa in Tahitian. The Polynesian classifiers are fewer in number, so, of course, less restrictive than the Maya, but the concept seems identical.

Stylistics. Thompson discussed recently his idea of an important feature of Maya. He believes that even the hieroglyphics, calendrical inscriptions exhibit this feature. It is the use of varied repetition in poetic form. That is, a play on words is made in which there is minor variation of repeated lines. Emerson gives as typical an example from Hawaiian poetry that is very similar to examples from the Maya and the Hebrew (Psalms) offered as parallel in form by Thompson.<sup>15, 16</sup>

Writing. The characters on the Easter Island tablets are still explained by most students as a local development, mere mnemonic aids, in no sense true writing. Numerous evidences indicate the contrary to us. Of all the islands of Polynesia the student of culture would least expect to find local development of such an involved "mnemonic" system in poor, culturally barren Easter Island. The traditions (as doubtful as they are) indicate that the characters were imported with the Hoatumatua group, obviously from elsewhere in Polynesia. Some other Polynesian evidence may support the idea that some

---

<sup>15</sup>N. B. Emerson, Unwritten Literature of Hawaii ("Bureau of American Ethnology Bulletin," No. 38 [Washington, 1909]), p. 53.

<sup>16</sup>Thompson, op. cit., pp. 61-62.

such writing system was once more widespread.

Hohepa Te Rake purports to describe several recording systems, involving wooden tablets among other media, in use among the Maori priests, but so much of his material seems completely fanciful that perhaps nothing he reports can be relied on.<sup>17</sup> However, it is of interest to note that some most unusual, "patently modern markings" which McKern found in Tonga can be matched by some of Te Rake's "writing."<sup>18</sup> When "patently modern" inscriptions are found, one cannot help but think of Behistun Rock in Iran which was thought by many to be quite modern until deciphered by Rawlinson and others a century ago. Yet, McKern may be right in suggesting that modern shorthand characters were what he found. If this is so, it could explain the similarity in Te Rake's signs.

Also, one wonders what was the nature of the "symbolic representation," on pieces of wood, of the legend of Fai which Handy recorded in the Marquesas.<sup>19</sup>

The idea that some tattooing designs were a decadent form of writing was held even by such a student as Tregear.<sup>20</sup> Te Rake claims semantic sense for tattooing also.

The fact that some Easter Islanders used glyphs as

<sup>17</sup>E. A. Rout, Maori Symbolism (New York, 1926), pp. 140-165.

<sup>18</sup>W. C. McKern, Archaeology of Tonga ("B. P. Bishop Museum Bulletin," No. 60 [Honolulu, 1929]), p. 16, fig. 5.

<sup>19</sup>E. S. C. Handy, Marquesan Legends ("B. P. Bishop Museum Bulletin," No. 69 [Honolulu, 1930]), p. 103.

<sup>20</sup>Tregear, The Maori Race (Wanganui, 1904), p. 269.

personal identification in historic times (as did the ancient Maya with theirs<sup>21</sup>) suggests that the glyphs may once have been more than mere mnemonic aids to recitation.

In view of the amount and degree of other evidence of contacts with America presented in the rest of this study, it is possible that at least stimulus diffusion might have caused some Polynesian writing system to arise. Any such stimulus would have had to come from Mesoamerica, apparently, as the rest of the New World seems to have been without writing. The Maya, Aztec, Pipil and related systems offer suitable sources for such idea (or other) diffusion.

The quipu. The use of knotted strings to record statistics, years, etc., is most famous in Peru, but was also used, in more rudimentary form, in Colombia, Panama, Amazonia, Central America, Mesoamerica, the western United States and up into highland British Columbia.<sup>22</sup> American uses included recording statistics and aiding in recitation of genealogies, liturgies, narrative verse, and historical material.<sup>23</sup> In some areas of Peru painted sticks were used mnemonically in place of or supplementary to the quipu.<sup>24</sup> It is to be assumed that sticks of various sorts were so used over a wide area of

<sup>21</sup>Thompson, op. cit., p. 50.

<sup>22</sup>H. S. Gladwin, Excavations at Snaketown, II: Comparisons and Theories ("Medallion Papers," No. 26 /Globe, Arizona, 1937/), p. 144; Nordenskiöld, op. cit., p. 263.

<sup>23</sup>Rowe, op. cit., p. 326.

<sup>24</sup>Ibid., pp. 326-27.

the New World.

The use of knotted string records is well known in Polynesia. Heyerdahl citing Friederici gives the name of the device as kipona.<sup>25</sup> Te Rake claims the use of a "stranded sash" called a kupu by the Maori to keep all sorts of statistical material on record.<sup>26</sup> Lack of reliable information on the Polynesian device prevents a clear judgment as to the similarity of details to those of the American device; however, there can be no doubt of the common possession by Polynesia and the western areas of the Americas of the concept of keeping records by knotting strings.

The Maori also used a notched, carved, highly-decorated stick as a memory aid in reciting genealogies.<sup>27</sup>

Other communication systems. The Maoris used both fire and smoke signals, if we can believe Te Rake.<sup>28</sup> The Inca empire had set up a system of signalling by fire.<sup>29</sup> Smoke signals were known in western North America at least.

Te Rake also claims that the Maori had a system of sound signals using an inverted canoe (or, probably, the gong).<sup>30</sup> The widespread ritual use of the gong in Polynesia

<sup>25</sup>Heyerdahl, op. cit., p. 34.

<sup>26</sup>Rout, op. cit., p. 84.

<sup>27</sup>Tregear, The Maori Race, p. 384.

<sup>28</sup>Rout, op. cit., p. 144.      <sup>29</sup>Rowe, op. cit., p. 232.

<sup>30</sup>Rout, op. cit., pp. 144-45.

makes this seem logical.<sup>31</sup> The smaller forms are used even today for signal purposes in some islands.

Signal drums or gongs were in common use among the Indians of northwestern South America on the arrival of the Spanish conquerors there.<sup>32</sup> Rivet also reports their use in Haiti, Mexico, Yucatan, Guatemala, and Panama.<sup>33</sup>

---

<sup>31</sup>E. G. Burrows, "Western Polynesia, a Study in Cultural Differentiation," Etnologiska Studier, 1938, No. 7, p. 50.

<sup>32</sup>Nordenskiöld, op. cit., p. 263.

<sup>33</sup>Rivet, "Les Eléments Constitutifs des Civilisations du Nord-Ouest et de l'Ouest Sud-Américain," Proceedings of the XXIst International Congress of Americanists, Göteborg, 1924 (Göteborg, 1925), p. 6.

## CHAPTER III

### FOOD ACQUISITION AND USE

Agricultural tools. The only specifically similar tool was the digging stick. This served as the basic implement of all American and Polynesian cultivation. In Peru (Inca Period) and in New Zealand the digging stick had an attached "step" near the bottom which allowed foot pressure to be applied to the task of breaking up the soil. Both implements were similar in often having a flattened blade at the digging end.<sup>1</sup> See ko in Chapter II for parallels in the names of this implement.

Methods of cultivation. The Maori practice of annually burning, with ceremony, areas where fern-root was collected recalls vaguely the milpa or slash-and-burn technique so common in much of Middle America and northern South America. More closely similar was the practice of changing areas in which dry taro had been cultivated--due to soil exhaustion--every three years. After the bush had again covered the abandoned field it was burned off to fertilize the soil with ash

---

<sup>1</sup>W. C. Bennett, "The Andean Highlands: an Introduction," Handbook of South American Indians, ed. by J. H. Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1947]), II, 21; Tregear, The Maori Race, p. 321.



and allow replanting.<sup>2</sup> The smaller islands no doubt lacked space for such a practice even if the people did have knowledge of it.

As America used plants that grew in mounds or hillocks, for instance maize, instead of strewn-out like Old World grains, thus requiring hand cultivation with hoes, so too Polynesian cultivation was based on hillock planting and use of the hoe. This is in contrast to the usual Asiatic pattern.

Fertilizer had a widespread use in America, but its use was never intensive. Kepelino claimed that the Hawaiians used organic material (leaves) for fertilizer, and that they distinguished values and degrees in what they used.<sup>3</sup> Tregear reports the use of gravel manuring for the kumara fields of New Zealand, as well as a Maori belief in the efficacy of ash fertilizer.<sup>4</sup>

Terracing belongs to the areas of highest agricultural development in the Americas. Terraces were probably in use in British Honduras in the Classic Maya Period (300-900 A.D.)<sup>5</sup> They also are found near Monte Albán, Oaxaca, and could be even earlier there if the present C-14 dates are at all indica-

<sup>2</sup>Tregear, The Maori Race, pp. 94, 96.

<sup>3</sup>M. W. Beckwith, Kepelino's Traditions of Hawaii ("B. P. Bishop Museum Bulletin," No. 95 [Honolulu, 1932/]), pp. 152-54.

<sup>4</sup>Tregear, The Maori Race, p. 104.

<sup>5</sup>P. Armillas, "A Sequence of Cultural Development in Meso-America," A Reappraisal of Peruvian Archaeology ("Society for American Archaeology Memoir," No. 4 [Menasha, 1948/]), p. 106.

tive. In the Andes they were in use by the Middle Periods (ca. 900-1200 A.D.).<sup>6</sup>

Hawaii and the Marquesas have elaborate terrace systems and possibly they are rather old for Polynesia.<sup>7</sup> In many islands lack of population pressure probably explains the absence of terraces.

Irrigation was used in the Early Periods of coastal Peru, that is, perhaps as early as the time of Christ.<sup>6</sup> While late constructions were often of the finest stone masonry, all terracing was not so. Rowe says most ditches were only banked with dirt.<sup>8</sup> The Hohokam of Arizona had irrigation systems after about 500 A.D. They did not use cut stone at all in their systems. In western Mesoamerica the practice may have been at least as early as in Arizona.<sup>5</sup> Other areas with the trait are Colombia, Panama, and the West Indies.<sup>9</sup> Hawaii and the Marquesas had developed irrigation systems. Occasional prolonged dry spells in those groups no doubt encouraged artificial watering. On Oahu McAllister reports a ditch made of earth and stone 1.3 miles long.<sup>10</sup> Bennett also reports fine

<sup>6</sup>Bennett, op. cit.

<sup>7</sup>R. Linton, Ethnology of Polynesia and Micronesia ("Field Museum of Natural History, Department of Anthropology Guide," Part 6 [Chicago, 1926]), p. 35.

<sup>8</sup>Rowe, op. cit., p. 211.

<sup>9</sup>Nordenskiöld, op. cit., p. 262.

<sup>10</sup>J. G. McAllister, Archaeology of Oahu ("B. P. Bishop Museum Bulletin," No. 104 [Honolulu, 1933]), p. 28.

channel work from Hawaii as does Linton for the Marquesas.<sup>11</sup> Some irrigation may also have been practiced in Tahiti and Rapa.<sup>12</sup> There seems to be no particular difference between Polynesian irrigation and that practiced in all but the best Inca cultivations.

On the atolls of Polynesia it was necessary for the natives to excavate large pits down to water-level so wet taro could be cultivated. Latham says the same practice of excavation for moist planting was carried out on Peru's north coast.<sup>13</sup>

Attitudes and beliefs on agriculture. The Peruvians annoyed their Spanish conquerors by their stubborn insistence on cultivating the fields regardless of other work to be done. They would leave more profitable business to work the fields whenever the need arose.<sup>14</sup> The devotion of the Mesoamerican peoples to the soil is indicated by the fertility-agricultural nature of much of their worship as well as by the essential continuity of their basically farming culture for several millennia despite tremendous social and other pressures. Of the Hawaiians Kepelino claims that the old men wept when they

---

<sup>11</sup>Bennett, Archaeology of Kauai ("B. P. Bishop Museum Bulletin," No. 80 [Honolulu, 1931/]), pp. 95, 105; Linton, Archaeology of the Marquesas Islands ("B. P. Bishop Museum Bulletin," No. 23 [Honolulu, 1925/]), p. 102.

<sup>12</sup>Emory, "Oceanian Influence on American Indian Culture: Nordenskiöld's View," Journal, Polynesian Society, LI (1942), 130.

<sup>13</sup>R. E. Latham, La Agricultura Precolombiana en Chile y los Países Vecinos (Santiago, 1936).

<sup>14</sup>Rowe, op. cit., p. 216.

could no longer work, because they loved their plants.<sup>15</sup> That attitude is general for most of Polynesia. Indicative of this viewpoint is the fact that flesh food is always considered kinaki, "relish," to be eaten along with the basic root crops; it never replaces vegetable food as the main part of the diet.

Flora. One of the most convincing evidences of migration or diffusion has always been identity of elements of the flora of two regions. In our consideration the botanical data overwhelmingly favors contact between the areas examined.

Cotton (Gossypium sp.) has proved a most valuable key in the hands of ethnobotanists for solving problems of New World culture history. Sauer's recent summary includes the latest information on the reconstructed genetic history of American cottons.<sup>16</sup> It is now quite certain that American cultivated cotton--with 26 chromosomes--developed by the crossing of an Old World 13-chromosome type with some wild 13-chromosome American type, probably in northern Peru. The resulting species later developed into G. barbadense, characteristic of most of South America, and G. hirsutum, the usual species in Middle and North America and down into Peru. The presence of cotton in preceramic levels of Huaca Prieta, Peru, and the occurrence of G. hirsutum in the Southwest dated by tree-rings

---

<sup>15</sup>Beckwith, op. cit., p. 154.

<sup>16</sup>c. O. Sauer, "Cultivated Plants of South and Central America," Handbook of South American Indians, ed. by J. H. Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1950]), VI, 487-543.

as early as ca. 700 A.D., indicates the early spread of this fundamental plant of ancient American culture.<sup>17</sup>

The only tetraploid cottons of the genus are the American and Polynesian species. This irrevocably links the genetic history of G. tomentosum of Hawaii, the Galapagos variety of G. barbadense, and the G. taitense of Tahiti, the Marquesas, and Fiji to America, not Asia. Further, Sauer thinks the G. tomentosum may represent an offshoot from the very early American species before the differentiation of barbadense and hirsutum.

Also significant is the fact that G. taitense of Polynesia and a Caribbean punctatum variety of hirsutum are indistinguishable. The inescapable conclusion is that this variety entered Polynesia from America sometime after its differentiation from Middle American hirsutum, which in turn had derived from a very old species native to South America. Yet the plant's entry in Polynesia was in time to allow its spread as far west as Fiji, then subsequently to be lost from domestication. That it must have been a cultigen, in practical use by Polynesian immigrants, seems certain from Sauer's arguments on the unlikelihood of its spread by nature.

The radical chronological conclusions suggested to the culture historian by such ethnobotanical data as this remind one forcefully of Carter's "radical" reconstruction of North

---

<sup>17</sup>G. F. Carter, "Plant Evidence for Early Contacts with America," Southwestern Journal of Anthropology, VI (1950), 167-71.

American ethnobotanical chronology which has been confirmed so strikingly by C-14 dating.<sup>18</sup>

The sweet potato (*Ipomoea batata*) has long been known to be common to the Americas and Polynesia. It had not spread extensively to the west of Polynesia by historic times. It is native to the Caribbean area.<sup>19</sup> The name, kumara (cumar) suggests a relationship to Nahuatl camote for the same plant. Refer to the word list of Chapter II under kumara for comparisons. The occurrence of somewhat similar names for root plants of southeast Asia is of uncertain significance. Evidence is abundant that the plant is not recent in the islands. New Zealand tradition ascribes its cultivation to the ancient Maori homeland, Hawaiki. This could refer to the Society Islands or may mean an earlier homeland. Sauer suggests that the starchy, coarse-fibered nature of New Zealand kumara indicates its derivation from an older American form, now almost extinguished.

Lagenaria siceraria is in common use for manufacture of household utensils in most of agricultural America and Polynesia as well as in Eurasia. It dates to the Old Kingdom of Egypt on the one hand and preceramic Peru (Huaca Prieta) on the other.<sup>20</sup> Whitaker reports its presence in Paracas and

---

<sup>18</sup>Carter, Plant Geography and Culture History in the American Southwest ("Viking Fund Publications in Anthropology," No. 5 [New York, 1945]).

<sup>19</sup>Sauer, op. cit., pp. 509-10.

<sup>20</sup>I. Kelly, "The Bottle Gourd and Old World Contacts," Homenaje al Dr. Alfonso Caso (Mexico, 1951), pp. 207-14.

Nazca, Pueblo III, and the Aztatlan period of Sinaloa (1000 A.D.?). He also cites Dodge to the effect that Lagenaria is extensively used in eastern Polynesia but drops off to relative unimportance in the west.<sup>21</sup> This supports the idea of an American point of distribution of the plant as found in Polynesia. The arguments for ocean-current transport are weak.

The presence of the plantain (Musa paradisiaca normalis), a native of Asia, in precolumbian America is not universally admitted; however, there is much evidence in favor of such a belief. The strong arguments are from historical accounts, distribution, varietal proliferation, name variation, and place in the native economy.<sup>22</sup> Steward admits the plant as common to the flora of both hemispheres in precolumbian times.<sup>23</sup>

Emory's discussion of names of the plantain and banana is interesting. He finds the Indonesian name for the banana (futi; Tahitian fe'i) applied to the plantain in eastern Polynesia while the banana there is called maika, meika, a word without Indonesian counterpart.<sup>24</sup> The fact that one name for the Musaceae is left over in the east could be taken as evi-

<sup>21</sup>T. W. Whitaker, "Lagenaria: a Pre-Columbian Cultivated Plant in the Americas," Southwestern Journal of Anthropology, IV (1948), 49-68.

<sup>22</sup>Sauer, op. cit., pp. 526-27.

<sup>23</sup>Steward, "South American Cultures: an Interpretive Summary," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 744.

<sup>24</sup>Emory, Eastern Polynesia, p. 268.

dence for importation of the plantain from America instead of Asia. Compare the words listed under maika in Chapter II; also the information on Heliconia bihai below.

Origin of the coconut (Cocos nucifera) is not yet clear. Sauer admits that Cook's case for an American origin followed by westward diffusion to Asia is not without strength. Actually any argument against Cook's proposal is based on culture, not botany. Bruman's argument for ocean-current spread of the nut into America would be more convincing had not the Kon-Tiki expedition's test of the viability of nuts been negative.<sup>25</sup> The problem must remain unsettled for the present.

Pachyrhizus sp. is an edible cultigen represented in Mesoamerica and Peru (in Nazca art and "prehistoric graves") and Tonga, Fiji and westward.<sup>26</sup> The difference in species in the two regions is insignificant according to Sauer.

The widespread fiber-yielding plant, Hibiscus tiliaceus, had the name maho or mahagua in parts of tropical America where it was a common source of cordage. Polynesian names include mao, mau, au, hau, fau, moanua (Ea. Island), etc.<sup>27</sup> The plant could have been carried by sea, but if the name correspondence is valid, it would indicate human agency in its transport.

<sup>25</sup>H. J. Bruman, "Some Observations on the Early History of the Coconut in the New World," Acta Americana, II (1944), 220-243.

<sup>26</sup>O. F. Cook, "Food Plants of Ancient America," Annual Report, Smithsonian Institution, 1903, p. 483.

<sup>27</sup>Carter, Plant Contacts, pp. 164-65.



Dioscorea alata is another plant of uncertain prehistoric distribution. Its use is claimed for the Caribbean<sup>28</sup> and Colombia<sup>29</sup> and suggested for Yucatan.<sup>30</sup> There may have been confusion with some indigenous species of Dioscorea, of which there were several. Steward credits the Tropical Forest agriculturalists with cultivating "a species of yam."<sup>31</sup> Rivet gives a list of names purportedly for D. alata with which he compares Oceanic terms.<sup>32</sup> The historical data available fail to inspire confidence in this effort.

Cook says that Heliconia bihai, an American native resembling the banana, minus fruit, spread to Polynesia--especially Samoa and westward--before Europeans arrived.<sup>33</sup> This plant is said to have had its root used for food and its leaves made into hats in both areas.<sup>34</sup>

Argemone alba var. glauca is said by Carter to have yielded sap and seed oil for similar medicinal purposes in both Hawaii and North America or the West Indies. The species is indigenous to Mexico.<sup>35</sup>

<sup>28</sup>Ibid., pp. 165-66.

<sup>29</sup>Hernández de Alba, op. cit., p. 918.

<sup>30</sup>Tozzer, op. cit., p. 196.

<sup>31</sup>Steward, Interpretive Summary, p. 698.

<sup>32</sup>Rivet, Los Origenes, p. 180.

<sup>33</sup>Cook, op. cit., p. 490.

<sup>34</sup>Heyerdahl, The Voyage of the Raft Kon-Tiki, p. 32.

<sup>35</sup>Carter, Plant Contacts, p. 172.

Carter also lists some other minor plants of American origin which were pre-European in Polynesia. We may add to these a further list which should be studied carefully in order to shed new light from ethnobotany on the problem of American cultural origins. Each of these genera has been or now is suggested to bear on the problem: Dolichos, Phaseolus, Amaranthus, Spondias, Fuchsia, Vitis, Cucurbita, Canavalia, Arachis, Tephrosia (see below on fish poisoning), and Sonchus oleraceus.

The following words should be consulted in Chapter II: fua, kahaka, kapia, maika, raki, to, au.

Fauna. Emphasis on domestication of birds characterizes many American cultures as well as Polynesia. A major purpose of the birds was to supply feathers for the extensive work in that material. The Mayas, Aztecs, and Pueblos are definitely credited with birds for this purpose.

Birds domesticated for food are also characteristic although the types are dissimilar in the two regions. America had the Muscovy duck in its southward extent and the turkey in the north which occupied the same niche in the dietary as the chicken did in Polynesia. Mutual exclusion of these birds does not rule out contact. Despite extensive travel to and from the rest of Polynesia the New Zealanders still lacked the chicken.<sup>36</sup>

---

<sup>36</sup>A. Metraux, Ethnology of Easter Island ("B. P. Bishop Museum Bulletin," No. 160 [Honolulu, 1940/]), p. 19.

Dogs were used for food in Polynesia and were specially fed and fattened. Those of Hawaii were described as small, virtually non-barking, and often hairless "from mange" (?).<sup>37</sup> Mute dogs are reported from the Antilles, the coast of northern South America, Peru, and Mexico. They represented several breeds and were probably not truly mute.<sup>38</sup> Wissler reports eating of the flesh of dogs as sporadic in America, especially common in Mexico and the West Indies but less usual north of Mexico.<sup>39</sup> A hairless breed of dogs was known, especially concentrated in Mexico.

A most unusual Maori tradition claims that at one time when their ancestors dwelt in the homeland of Waerota, an island (region ?), they knew and ate large animals, there being at that time no cannibalism nor human sacrifice among them.<sup>40</sup>

The following linguistic comparisons should be examined in connection with this material: ngata, kuku, kuri, kutu, manu, moko, noke, papaka, paroro, pepe, poko, puaka, pueto, rupe, tina.

Fishing. The peculiar Oceanic hooks of wide distribu-

---

<sup>37</sup>McAllister, op. cit., p. 23.

<sup>38</sup>R. M. Gilmore, "Fauna and Ethnozoology of South America," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1950]), VI, 425.

<sup>39</sup>C. Wissler, The American Indian (New York, 1922), p. 36.

<sup>40</sup>Tregear, The Maori Race, p. 354.

tion in America have caused frequent comment in the past. Heizer gives the most comparative information on them. The form with sharply recurved point and narrow opening is reported from the preceramic shell middens of northern Chile, generally in Polynesia, and in three sections of California, south-central coast and islands, Central Valley, and northwestern coast and into Oregon. The southernmost of these three yields the most exact likenesses to the hooks of Polynesia. Other hooks not greatly different come from Archaic and Mississippian levels in the eastern United States.<sup>41</sup> Bushnell pictures some examples from Ecuador which seem to belong to the same general series.<sup>42</sup>

Burrows reports simple fishhooks to be characteristically absent from western Polynesia.<sup>43</sup> The California hooks are in bone or shell, as are some Polynesian ones. The only stone hooks in Polynesia were on Easter Island. Stone was used for the similar form in northern Chile, almost directly opposite Easter Island.

Also Chilean were thorns used as hooks. Pandanus thorns were used in the Marquesas for the same purpose.<sup>44</sup>

Ekholm illustrates closely comparable composite hooks

<sup>41</sup>R. F. Heizer, "Curved Single-piece Fishhooks of Shell and Bone in California," American Antiquity, XV (1949), 89-97.

<sup>42</sup>G. H. S. Bushnell, The Archaeology of the Santa Elena Peninsula in Southwest Ecuador (Cambridge, 1951), fig. 24, t-v.

<sup>43</sup>Burrows, op. cit., p. 10.

<sup>44</sup>Linton, Ethnology of Polynesia and Micronesia, p. 26.

from Tahiti and from excavation in northern Chile.<sup>45</sup>

Dixon admits that the principle of the ruvettus hook is the same as that of the halibut hooks of the Northwest Coast, but demands physical details be similar before he will accept diffusion as an explanation.<sup>46</sup> The ruvettus hook is common in central, but rare in marginal, Polynesia.

The following words in Chapter II should be checked:  
moana, tai, ika.

Fish poisoning. Heizer concludes that the use of piscicides originated in South America and spread to include much of North America as well. Some plants used as fish poisons are found only in habitation sites and seem to have been cultivated for so very long as to now be entirely dependent on cultivation for survival. One of these, the most widespread in South America, is Tephrosia toxicaria.<sup>47</sup> Lévi-Strauss gives the names haiari and heri for this plant from the Guianas. Hiroa reports use of Tephrosia piscatoria in Samoa as a piscicide. One native name for it there is fora (hora elsewhere).<sup>48</sup> The ethnobotany of this genus obviously needs detailed study.

<sup>45</sup>G. F. Ekholm, "Is American Indian Culture Asiatic?," Natural History, LIX (1950), 350.

<sup>46</sup>Dixon, op. cit., pp. 328-30.

<sup>47</sup>Heizer, "Fish Poisons," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 277-81.

<sup>48</sup>P. H. Buck (Te Rangi Hiroa), Samoan Material Culture ("B. P. Bishop Museum Bulletin," No. 75 [Honolulu, 1930]), p. 444.

Food preparation. A most unusual type of implement used in food preparation is from Kauai, Hawaii. These are grinding stones. Bennett says they had no evolutionary development in the group and no analogies elsewhere (in Oceania). They were grinders as against the pounder used everywhere else in Polynesia for food preparation. Bennett was also puzzled by what he considers the aberrant culture of Kauai, and of the related ruins of abandoned Nihoa and Necker Islands. One might postulate an association of the grinding trait (imported?) with the atypical (early?) Polynesian culture of Nihoa-Necker-Kauai.<sup>49</sup>

Stokes also refers to the stirrup or flat-iron type of poi pounder. He claims that there is evidence of an evolutionary series of this pounding form from an earlier grinding tool. These implements were formerly used on flat or concave stones; whereas, wooden slabs are otherwise used on which to prepare the food. He also says it is "well known" that a remarkable similarity in form exists between these Hawaiian forms and "corn grinders" found in Mexico and Central America.<sup>50</sup>

It is of comparative interest to note that the coast of California, from San Francisco Bay to Oregon, used a pounding slab.<sup>51</sup> The grinding stone, metate, was the usual imple-

<sup>49</sup>Bennett, Archaeology of Kauai, pp. 7f.

<sup>50</sup>J. F. G. Stokes, "Spaniards and the Sweet Potato in Hawaii and Hawaiian-American Contacts," American Anthropologist, n.s., XXXIV (1932), 594-600.

<sup>51</sup>MacLeod, "On the Diffusion of Central American Culture to Coastal British Columbia and Alaska," Anthropos, XXIV (1929), pp. 424-25.

ment for America.

The presence of a fundamentally American trait, grinding, in Hawaii, and the discovery of the pounding slab, a fundamentally Polynesian trait for treating root crops, in California is suggestive of communication between the two areas.

Other traits reported by Bennett from Kauai which need checking in connection with the above are double-grooved stone club heads for hafting with a handle, found predominantly on Kauai; cylindrical stone mortars; and the oil press (for expressing oil from the candlenut).<sup>52</sup>

Kroeber has noted a close similarity between the "pear-shaped wedge maul" of northwestern California and the "taro pounder" of Hawaii.<sup>53</sup>

Cooking. The typical Polynesian cooking method is use of the earth oven. This feature was also present in South America among marginal peoples, in the eastern and southern portions and also in the Orinoco Valley. It was also known in the Southwest. Those acquainted with the virtues of Polynesian cookery will not doubt that retention of the oven method even when pottery was available (as in Fiji) was an act of choice.<sup>54</sup>

<sup>52</sup>Bennett, Archaeology of Kauai, p. 95.

<sup>53</sup>A. L. Kroeber, "American Culture and the Northwest Coast," American Anthropologist, n.s., XXV (1923), p. 18.

<sup>54</sup>cf. C. S. Ford, "A Sample Comparative Analysis of Material Culture," Studies in the Science of Society, ed. by G. P. Murdock (New Haven, 1937), pp. 225-246.

Vessels. Chapter II revealed virtual identity of some terms for "container" or "vessel" in widely scattered locations. The Polynesian "kumete" is a wooden bowl, round or oval with pointed ends and usually with lug handles and flaring rim. One frequently found type has four legs. This is the most common legged bowl. A bowl with six legs is distributed over the same area.<sup>55</sup> One leg-form is carved tapering, round or elliptical in cross-section and rather long, being attached near the rim. Another form is carved short and farther down on the bowl so that the curved bottom of the vessel is level with the stubby legs.<sup>56</sup> Emphasis on different shapes varies in the several Polynesian groups but all shapes have a rather wide extent. Occasionally attempts were made to decorate the surface of the rim, probably even in pre-European times.

Nordenskiöld lists four-footed wooden trays for Colombia and Panama. The wooden bowls of the Chocó are said to have an "Oceanian look."<sup>57</sup> Kroeber reports well-made, ornamented wooden bowls from the lower Columbia River.<sup>58</sup>

The tetrapod in American ceramics is rare enough that a distributional study yields information of great interest. The main center of development of this type of support was the

<sup>55</sup>Burrows, op. cit., pp. 5f.

<sup>56</sup>Buck (Hiroa), op. cit., p. 107, fig. 67d, p. 148.

<sup>57</sup>Nordenskiöld, op. cit., pp. 262, 273.

<sup>58</sup>A. L. Kroeber, Handbook of the Indians of California ("Bureau of American Ethnology Bulletin," No. 78 [Washington, 1925]), p. 208.



highland portion of Guatemala, Chiapas, El Salvador, and Honduras. In a rather short period (probably) in the Late Pre-Classic of that region (especially Arenal and Santa Clara subphases of Miraflores, 150-300 A.D. ?) the tetrapod support became the dominant form of support. Its occurrence in Mexico north of Tehuantepec or in lowland Mesoamerica is unusual. Soon after the beginning of the Early Classic, tetrapods pass almost completely out of the artifact picture in Middle America. Colombia has tetrapods only in the Quimbaya and Tairona cultures. Rare vessels of this type occur in Venezuela, Amazonia (Santarem), and eastern Bolivia, but provisional datings here indicate no very early date. Apparently the only place in the hemisphere where use of more than four legs became important is coastal Ecuador. Bushnell's relatively early (locally) Guangala culture yielded five- and six-legged vessels. The Tchefuncte-Marksville periods of Louisiana saw tetrapodal support as the key feature of the ceramic art. Other scattered occurrences belonging to roughly the same time are along the Florida Gulf Coast, in Mississippi, Alabama, Tennessee, in the Adena culture of the Ohio valley (rare), and in the Hohokam of Arizona. These finds are dated slightly later than the Mesoamerican peak of tetrapod use, probably from 400-800 A.D. Probably all these cases are linked.<sup>59</sup>

Elsewhere in the world tetrapodal support is rather rare. It would seem, then, to be anything but a "natural"

---

<sup>59</sup>J. L. Sorenson, "The Distribution of Tetrapod Pottery in the New World," Unpublished MS, in possession of the author, 1951.

base for vessels. In such a case its independent invention in several areas is unlikely. Especially in view of the unmistakable identity of names involved, it seems the obvious thing to search for sources, if these are in America, in the periods mentioned above.

The low, "nubbin" kumete leg-form is specifically reminiscent of the vessels of Chukumuk I, Guatemala.<sup>60</sup> The longer legs appear in the same general period, but more frequently slightly later. Flaring, decorated (by incision, as in Samoa) rims are also a Late Pre-Classic trait.

A final similarity is in the incipient spouts or rudimentary channelled beaks on Polynesian vessels.<sup>61</sup> One might legitimately expect difficulty to be encountered in successfully transferring a ceramic spout form to wood. This may explain the undeveloped nature of the Polynesian spout. The spout is a well-developed form in Peru from the Chavin Periods on (ca. 700 B.C.?). In Middle America it occurs occasionally throughout Wauchope's "Village Formative" (300 B.C.-200 A.D.?) and rarely later on.

Admittedly all the above are not ideal indicators of diffusion. The lexical identities are. The large number of similarities to American vessels taken with the distributional and typological evidence of a high degree of conservativeness in the Polynesian trait join with the name identities to make

<sup>60</sup>S. K. Lothrop, Atitlan: An Archaeological Study of Ancient Remains on the Borders of Lake Atitlan ("Carnegie Institution of Washington Publication," No. 444 / Washington, 1933/7).

<sup>61</sup>Burrows, op. cit., p. 5.

diffusion a reasonable, almost necessary, source of the likenesses.

Storage. Underground pits for storage of fermented breadfruit (ma) were common in the villages of many island groups. This ma was kept as a food reserve for upwards of fifty years. Tozzer suggests that the carefully-made pits of the Maya area, chultuns, might have been for food storage as there seems no other logical function to be assigned some of them.<sup>62</sup>

Kava. The decoction made throughout Polynesia from the root of Piper methysticum was more or less associated in the native view with oracular utterance and divine possession by the ancestral gods.<sup>63</sup> Its exhilaration was viewed as a gift from the gods.<sup>64</sup>

In America, particularly the western portion of the southern continent, this idea was back of the great elaboration in the use of stimulants and narcotics. However, the hedonistic function met with in the Americas had not developed in Polynesia (kava is not genuinely intoxicating).

The social function of kava, as served in councils and for visitors, was most highly developed in western Polynesia, but had its place throughout the island area. The drink also had an important place in Polynesian ritual as an offering.

<sup>62</sup>Tozzer, op. cit., p. 96.

<sup>63</sup>Burrows, op. cit., pp. 108-109.

<sup>64</sup>Emerson, op. cit., p. 45.

In the Andean region fermented beverages were offered to the dead and to the supernatural beings also. Other occasions for its offering were found in Amazonia, Panama, and the Montaña.<sup>65</sup> It served a social function also in South America, being served to visitors and in council gatherings. Information for Middle and North America is somewhat less complete, but the essential difference seems to lie only in the degree of elaboration, not in basic concepts or functions.

American liquors were made of grains, roots, and fruits. All were fermented. The starchy sources were treated specially to speed fermentation. The method used was to masticate the grain or root, which mixed ptyalin from the saliva with the plant starch causing it to become sugar. The fermenting yeasts then acted relatively quickly on the sugar. This practice extended from Chile and Argentina to the Great Basin where the well-known peyote was so treated in general.<sup>66</sup>

It is important to note that mastication of Polynesian kava serves no essential purpose as the decoction is drunk immediately without even attempting fermentation. Quite obviously Polynesian mastication is a mere nonfunctional relic of the old, culturally ancestral, stimulant complex of America.

Further, American peoples often chose special groups to do the masticating, sometimes boys or girls, young women,

---

<sup>65</sup>J. M. Cooper, "Stimulants and Narcotics," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 543-58.

<sup>66</sup>MacLeod, "On the Diffusion of Central American Culture," op. cit., p. 419.

or old women. Polynesian mastication was also by chosen people, such as the "village virgin" in Samoa.

In the list of Chapter II see: kawa, unu, newa.

## CHAPTER IV

### CLOTHING AND ADORNMENT

Clothing. The tiputa of Polynesia (Society and Cook Islands) seems parallel in concept and form to the poncho used in western South America. Montell claimed that the South American poncho was not precolumbian, but the evidence he presented was negative only.<sup>1</sup> Others accept this as a real parallel.

The most usual basic Polynesian costume for men included breechclout, often long and elaborate; cloak; and sandals for specialized work where protection of the feet was important. Each of these elements could be referred to the Americas, over a wide area, for their origin. This same combination of elements occurs frequently on the continents.

The feather cloaks of Hawaii and New Zealand have frequently been compared with those of America. Hiroa points out the three different methods used for attaching the feathers to the garment.<sup>2</sup> These variations seem minor compared to the obviously uniform desire to have feather cloaks as symbols of status. The variations in technique are no greater than can

---

<sup>1</sup>G. Montell, "Le Vrai Poncho; Son Origine Post-Colombienne," Journal, Society of Americanists of Paris, XVII (1925), pp. 173-83.

<sup>2</sup>Buck (Hiroa), op. cit., pp. 668-69.

be found in adjacent valleys in Peru in various periods in textile techniques. The Marquesan practice of gluing feathers on the base garment reminds one of the intricate mosaic work in feathers (glued on) which reached its peak in Aztec Mexico. Willoughby describes feather mantles of California and the Great Basin that he thought of equal quality with those of Peru, New Zealand, or Hawaii. The technique as described could have been like the New Zealand or the Hawaiian.<sup>3</sup> In Mexico feather mosaic work was in use by Vaillant's Upper Middle (Pre-Classic) Period.<sup>4</sup> Feather-work was also developed in the Nazca culture of Peru (100-500 A.D.).<sup>5</sup>

Headdresses. The great elaboration of headdresses for social purposes is characteristic of both the Polynesian and American cultures, particularly the higher ones. The bewildering array of distinctive headgear on the figurines of the early Valley of Mexico remains shows the turban to be the most prominent single type. This shape was most popular in early times, but continued in occasional use down into the Classic. Descriptions of turbans for Polynesia are common.<sup>6</sup> These often were in many folds. Turbans were worn to distinguish rank or

---

<sup>3</sup>C. C. Willoughby, "Feather Mantles of California," American Anthropologist, n.s., XXIV (1922), 432.

<sup>4</sup>Vaillant, The Aztecs of Mexico, p. 146.

<sup>5</sup>P. A. Means, Ancient Civilizations of the Andes (New York, 1936), p. 105.

<sup>6</sup>E.g. W. Ellis, op. cit., I, 298; Linton, Ethnology of Polynesia and Micronesia, p. 64.

office among the Early Period Mochicas of northern Peru.<sup>7</sup>

Another form of headdress deserving of further comparative study is the feather-decorated type built up on a wooden or cane frame in imposing fashion above a chief's or warrior's head. This is reported from the Maya area,<sup>8</sup> Mexico,<sup>9</sup> the Mochica,<sup>10</sup> Hawaii, Society Islands,<sup>11</sup> Austral Islands,<sup>11</sup> and Samoa.<sup>12</sup> Probably other groups also used it.

The usual life of both American Indian and Polynesian called for no headdress at all. When these, and other special ones, were worn, they had less of a sense of decoration or protection than of symbolizing rank, office, or profession. In fact this was often their sole function.

Gladwin reports the presence of "fezzes" in Polynesia and Peru.<sup>10</sup> The meaning of this term in relation to Polynesian headdresses is not clear.

The wearing of simple feathers in the hair is also not uncommon, particularly among the Maoris. The association of this with scalping (see a later section) reminds one of North America and southern South America.

<sup>7</sup>R. Larco Hoyle, "A Culture Sequence for the North Coast of Peru," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1947]), II, 165.

<sup>8</sup>Tozzer, op. cit., p. 122.

<sup>9</sup>Vaillant, The Aztecs of Mexico, p. 211.

<sup>10</sup>Gladwin, op. cit., p. 270.

<sup>11</sup>Ellis, op. cit., I, 298.

<sup>12</sup>Buck (Hiroa), op. cit., p. 615.



The bleached hair of the Samoans and Tongans (and some Ecuadoreans) may have a parallel in the figurines recently excavated at Tlatilco in central Mexico. Covarrubias interprets the hair of some of the figures, which is painted red, as having been bleached.<sup>13</sup>

Ornaments. Emory admits that bracelets were in use in Hawaii and America, but discounts the significance because of the lone Polynesian occurrence.<sup>14</sup> However, Tregear reports tattooing in New Zealand that was made to look like bracelets.<sup>15</sup> The Marquesas had wrist ornaments of human hair fastened to bands of coconut fiber.<sup>16</sup> The Maoris and Marquesans both used ankle-band ornaments also.

American ear plugs found archaeologically are of several distinct shapes in hard material such as stone or wood. How much use was made in America of such substances as feathers and bark-cloth we cannot say since they would not have been preserved. Wood, whale teeth, nephrite, coconut shells, human bone, flowers, curled-up leaves, and strips of tapa cloth were used to decorate ear perforations in Polynesia. For the distribution see below under mutilation. The American use is greatest in the highest cultures. Archaeological remains of

<sup>13</sup>M. Covarrubias, "Tlatilco: El Arte y la Cultura Preclásica del Valle de México," Cuadernos Americanos, LI (1950), 157.

<sup>14</sup>Emory, op. cit., p. 131.

<sup>15</sup>Tregear, The Maori Race, p. 241.

<sup>16</sup>Linton, Ethnology of Polynesia and Micronesia, p. 70.

plugs go back to the earliest agricultural levels, soon after 2000 B.C.

Accessories. The composite comb is an admitted parallel with America. It belongs to Colombia, Panama, the Central Andes, Amazonia, the Gran Chaco, and the Aleutian Islands.<sup>17</sup>

The plaited fan is found in Colombia, Panama, Middle America, Amazonia, and Eastern Brazil.<sup>18</sup> This was used as a noblewoman's emblem of rank in the Society Islands and elsewhere.<sup>19</sup>

The concept of the umbrella or parasol, so common in the Asiatic world, even in Assyrian times, appears in the Maya (Quiche) area and perhaps elsewhere in America. The fare-oa, or small portable shelter mounted on poles, with which the ariki was sheltered in all his movements, is compared by Handy to the Buddhist parasol.<sup>20</sup> An early drawing by Choris shows the Hawaiian queen with her daughter at Tiutauta Bay on the island of Hawaii. A servant walking behind the pair shelters the queen with an umbrella that does not look particularly European. However, the occurrence is late enough to have been under some European influence.<sup>21</sup> The word tupa, in Chapter II,

<sup>17</sup>Nordenskiöld, op. cit., p. 263.

<sup>18</sup>Ibid., p. 262.

<sup>19</sup>Linton, Ethnology of Polynesia and Micronesia, p. 71.

<sup>20</sup>Ibid., p. 39.

<sup>21</sup>W. Naumann, "Bark Cloth in the Reports of the First Explorers of the South Seas," Ciba Review, XXXIII (1940), 1179.

should be consulted in connection with this concept. The umbrella was an integral motif of the design of the Asiatic stupa.

Body painting. Body painting was not usual in Polynesia, but was not unknown either. Easter Island seems particularly to have used several colors on many occasions. Metraux reports a rain-making ceremony in which the presiding priest was painted red on one side and black on the other.<sup>22</sup> Covarrubias reports that some of the Tlatilco figurines are unusual in having one side painted red, the other side appearing unpainted. These figurines probably had some ceremonial significance.

Mutilation. Head deformation in Polynesia was general. It was there considered necessary for beauty. There does not seem any clear indication of ethnic stratification in relation to the practice. The ideal head form was a long sloping forehead. Various wooden or stone devices were used in an attempt to shape the infant's head, but frequently only massaging was tried. In the Americas the areas with which contact is possible include the centers based in Peru and Ecuador, Colombia and Venezuela, the Maya area, the Southwest, and the Northwest Coast. Deformation begins archaeologically in the Southwest around the middle of the first millennium A.D. It appears on the earliest Mesoamerican sculptures, and in Peru is characteristic of the remains of Paracas and of the Cupisnique culture,

---

<sup>22</sup>Covarrubias, op. cit., p. 158.

ca. 700-1 B.C., and continues uninterruptedly thereafter. According to Imbelloni, the Americas and the Pacific islands were the only two places in the world practising cranial deformation in modern times.<sup>23</sup> Detailed study of the methods used in Oceania might produce vital chronological and geographical data on American contacts.

Tattooed designs varied so much within Polynesia that it appears that no comparative value can be attached to them for studies on American contacts. However, tattooing was practised in many regions of America including the Northwest Coast, Mesoamerica, the Caribbean, and the Andean area (coast). Classic Maya art appears to reveal use of tattooing, Probably it is early in all parts of the hemisphere. Nowhere does the process seem to have reached such an artistic plane as among the New Zealanders and Marquesans. See Chapter II under ta.

The only scarification in Polynesia is in Samoa where arms or the chest were burnt in ornamental patterns.<sup>24</sup> The Maori tattooing process approaches scarification since the instrument used was knife-like and actually produced a scar. Women scarified themselves in the nearby Fiji and Gilbert Islands.<sup>25</sup> The Maya tattooing process resembled the Maori in that the marks were made by delicate cutting into which the

---

<sup>23</sup>Imbelloni, op. cit., p. 296.

<sup>24</sup>Buck (Hiroa), op. cit., p. 658.

<sup>25</sup>Linton, Ethnology of Polynesia and Micronesia, p. 59.

coloring ran.<sup>26</sup> Both tattooing and scarification were viewed by Americans and Polynesians as tests of bravery. Those without tattooing were usually looked down upon or considered not yet adults.

Ear perforation usually had ritual connotations. The islanders usually made the hole while the child was young and kept it distended by some means to allow for later insertion of ornaments. Easter Island natives had ear lobes that hung all the way to their shoulders. A coil of leaf was inserted in their perforations to expand them. Other evidence of ear-lobe piercing comes from the Marquesas, Cooks, and Tonga. The ears of the Cook Islanders were stretched much as in Easter Island.<sup>27</sup>

The Incas were notable for the class among them (the ruling Incas) called Orejones by the Spaniards. Their ears were greatly distended and ornaments representing the sun were worn. The Marquesans wore large whitened wood disks in their ears.<sup>28</sup> Quechua ccollasca rincricri means bored ears. Maori has taringa, ear, and kaiahiko, wounded. Markham derives ccollasca from ccalla (ll = ly), wounded.<sup>28</sup>

---

<sup>26</sup>Tozzer, op. cit., p. 91.

<sup>27</sup>Linton, Ethnology of Polynesia and Micronesia, p. 60.

<sup>28</sup>C. Markham, The Incas of Peru (New York, 1912), p.67.

## CHAPTER V

### EXPLOITIVE ACTIVITIES AND MANUFACTURING

Textiles. Bark-cloth was the only universally important textile in use in Polynesia. The trees from which it was manufactured included some from the genus Ficus, the universal source also of bark-cloth in the Americas.<sup>1</sup> Rivet also claims that Morus papyrifera was used in Polynesia and Morus niger in Mexico for bark-cloth.<sup>2</sup> The ethnobotanical significance of these likenesses on the generic level, for evidence of contact with America, remains to be studied carefully.

Nordenskiöld lists the occurrence of bark-cloth making in Colombia, Panama, Central America, North America (North West coast?), and Amazonia.<sup>3</sup> Archaeologically it appears to extend backward in time to the earliest agricultural civilization of Mexico (2000 B.C.).<sup>4</sup> Ancient Maya priests wore bark-cloth tunics, sometimes decorated with symbols.<sup>5</sup>

Certain beaters for preparing the bark have been found

---

<sup>1</sup>W. Naumann, "The Use of Bark Cloth," Ciba Review, XXXIII (1940), 1197.

<sup>2</sup>Rivet, "Les Elements Constitutifs," op. cit., p. 144.

<sup>3</sup>Nordenskiöld, op. cit., p. 263.

<sup>4</sup>Vaillant, op. cit., p. 49.

<sup>5</sup>V. W. Von Hagen, The Aztec and Maya Papermakers (New York, 1944), p. 53.

virtually identical in Mexico, Polynesia, and the Northwest Coast (Tlingits).<sup>6</sup> Gladwin adds South America to the list.<sup>7</sup> Especially notable are the raised lines on the surfaces of the beaters which "watermark" the cloth. Von Hagen claims that the process of manufacture is not merely similar in Aztec Mexico and Polynesia but "identical."<sup>8</sup>

At least in the Society Islands bark-cloth was made into large bales. The number of these a chief had stored away was a measure of his wealth. This use of textiles as a wealth symbol recalls the similar function of "mantles," mantas, among the Maya. The emphasis on textiles of the Peruvian cultures is also brought to mind.

In view of the marvelous quality of Polynesian tapa, one is not surprised to know that domesticated cotton could fall into disuse and be forgotten, particularly in view of the probability that small population groups (immigrants?) would have demanded but scant, unelaborated clothing early in their cultural history. Related to the known fact that domesticated cotton reached Polynesia from America by what was quite surely human agency (see Chapter III), is the question of weaving. No true loom existed in Polynesia, but the suspended warp-twined weft system of the Maoris seems to have American counterparts. Olson lists many Northwest Coast tribes with a similar

<sup>6</sup>Ibid., p. 52.

<sup>7</sup>Gladwin, op. cit., p. 269.

<sup>8</sup>Von Hagen, op. cit., p. 48.

system.<sup>9</sup> Wissler shows the suspended warp process to be characteristic of the Northwest Coast, among the Aleuts, and in most of the eastern United States.<sup>10</sup> Burrows lists twining (in kilts) with two-strand weft for Rarotonga, the Tuamotus, and Rapa. This central Polynesian distribution may be significant in relation to the history of Gossypium taitense. Actually little more than the association of twining with garments may have diffused across Polynesia from the east. There are strong reasons for association of the Marori "weaving" complex with that of the Maya. This will be discussed under Religion, below.

Coiled basketry is rather rare in Polynesia. Burrows lists it for Samoa, Tonga, Niue, Uvea, and perhaps Futuna. There is some doubt of its antiquity in Samoa and Niue.<sup>11</sup> The main American area of coiling was the western portion of North America. It occurred sporadically also in South America also. The Choco and Cuna used coiling occasionally.<sup>12</sup> Wissler gives as the chief area where twining was emphasized, the Northwest Coast.<sup>13</sup> It was used rather generally throughout western North America. This distribution accords with the extensive use of

---

<sup>9</sup>R. L. Olson, "The Possible Middle American Origin of Northwest Coast Weaving," American Anthropologist, n.s., XXXI (1929), 115.

<sup>10</sup>Wissler, op. cit., pp. 53-55.

<sup>11</sup>Burrows, op. cit., p. 24.

<sup>12</sup>L. M. O'Neale, "Basketry," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 77.

<sup>13</sup>Wissler, op. cit., p. 51, fig. 14.



twining on the suspended warp "loom" mentioned above. Polynesian twined basketry was most highly developed in Hawaii, and also used in New Zealand. Samoa also had a coarse twining technique for making fish-traps.<sup>14</sup>

In connection with twining and its distribution on the Northwest Coast, it is noted that Hawaiians and New Zealanders used fine roots for twining.<sup>15</sup> Kroeber reports use of split roots as weft in twining for northwestern California, southwestern Oregon, and Puget Sound.<sup>16</sup> O'Neale notes the use of roots among the Cayapa and Cuna also, but not in association with twining.<sup>17</sup> The Americans sometimes split the roots to make them finer.

In the vocabulary of Chapter II see the words pora, furu, aute, siapo.

Stone industry. The quality of stone work in construction has caused comment many times among students of Polynesian culture. Linton summarizes the evidence for an importation of rectangular slab stone working into Polynesia as a developed art.<sup>18</sup> Among these evidences is the fact that stone working appears suddenly in highly developed form with no particular

<sup>14</sup>Linton, op. cit., p. 83.

<sup>15</sup>Ibid., pp. 84-85.

<sup>16</sup>Kroeber, Handbook of the Indians of California, p.907.

<sup>17</sup>O'Neale, op. cit., p. 72.

<sup>18</sup>Linton, Archaeology of the Marquesas Islands ("B. P. Bishop Museum Bulletin," No. 23 /Honolulu, 1925/), p. 18.

prototypes to the west. Another feature is the uniformity of the technique over a wide area. For instance carefully cut L-shaped corner stones were made in Tonga, Fanning Island, Easter Island, and the Windward Islands (Society Group).<sup>19</sup> In the latter group it is particularly the inland moraes (thought to be the earlier type) with this feature. Linton admits also that the use of cut stone in the Marquesas could not conceivably have developed from the tremendously inferior uncut work also found in that group. It is admitted that the absolute standard reached is not as high as in some parts of the world; however, what one looks in vain for is any significant evidence of evolutionary development of the art in eastern Polynesia. Emory also notes that the use of a vertical row of slabs along with horizontally laid pieces is in use in both the Society Islands and Peru.<sup>20</sup> A further feat of masonry is the laying of artificially-shaped stones such as in the "Menehune" ditch of Kauai Island; at Meetia, near Tahiti; on Easter Island; and at Kailua, Hawaii.<sup>21</sup> At these sites, especially at the extensive Kauai ditch, blocks were shaped, corners jogged to fit, and the whole laid with unique care. Even true coursing was used. For parallels one obviously thinks of Peru in the Tiahuanaco and Inca Periods. The small number of

---

<sup>19</sup>Ibid.; Emory, Stone Remains in the Society Islands ("B. P. Bishop Museum Bulletin," No. 116 [Honolulu, 1933], p. 12.

<sup>20</sup>Ibid., p. 6. (Emory, that is.)

<sup>21</sup>A. Metraux, "Easter Island Sanctuaries," Etnologiska Studier, V (1935), 127.

Oceanic instances adds to the case for diffusion (or rather migration) since such work could not possibly have been done strictly by native genius without preparatory training--evidence for which we definitely do not find. Still another parallel was noted by Emory in Tahiti. "The Tahitian facings of a first course of curbs and upper, perfectly even courses of round-faced stones squared in cross section, not to be seen anywhere else in Polynesia, are presumably a local development influenced by the facings of squared blocks and growing out of the use of water-worn stones. But this remarkable facing is closely paralleled by Inca facings. . . ." <sup>22</sup> Emory believes that this particular trait may have had a Peruvian origin. Further detailed parallelism in the technique adds to the certainty. In both areas the fancy facing was only on the outside. The inside shaping of the stones was tapering, requiring use of dirt or stone-chip fill behind, in many cases, to hold into the facade. Masonry of comparable quality may occur in Middle America also.

It should be noted, as a possible aid to the dating of the introduction of cotton, that no flaking technique is known anywhere in Polynesia. This lack may, but not necessarily, suggest some period of time which included the preceramic stages at Huaca Prieta, Peru, during which South American tetraploid cotton may have been brought into the islands. There was no flaking at that site.

---

<sup>22</sup>Emory, Stone Remains in the Society Islands, pp. 48-49.

The frequently atypical culture of Kauai, discussed by Bennett, reveals the presence of stone balls of unknown function ranging from one foot to one inch in diameter. All were not well-rounded, but all had been artificially shaped.<sup>23</sup> One is reminded of the enigmatical giant stones of Central America which Stone has discussed.<sup>24</sup> Another possible parallel lies in the stone and clay balls of the early Valley of Mexico cultures.<sup>25</sup>

Under the vocabulary in Chapter II see toka and foanga.

Metals. Several writers have noted among Polynesians what seem to be weapon forms derived from metallic prototypes.<sup>26</sup> Linton describes the favorite Cook Islands spearhead as long, broad, and diamond-shaped with longitudinal rib and no barbs.<sup>27</sup> A low ridge was left around the shaft at the base of the head and about a foot above the butt. Similar heads were used in the Society Islands and among the Urewera tribe of New Zealand. We note that the Jivaro of Ecuador used a

<sup>23</sup>Bennett, Archaeology of Kauai, p. 77.

<sup>24</sup>D. Stone, "The Basic Cultures of Central America," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1948]), IV, 174, 177, 181, 183, 185.

<sup>25</sup>Vaillant, Excavations at Zacatenco ("Anthropological Papers of the American Museum of Natural History," Vol. XXXII, Part 1 [New York, 1930]), pp. 47-48.

<sup>26</sup>E.g. Linton, Ethnology of Polynesia and Micronesia, p. 118.

<sup>27</sup>Ibid., pp. 112, 118.

spearhead "diamond shaped with a low ridge running down the center of each side. . . ." <sup>28</sup> It must be admitted, however, that metal spearheads are not common until very late in America. Yet in view of the early date and development of the Chavin-Cupisnique cultures, which had metallurgy, and such rare finds as Cummings' piece of copper from Cuicuilco <sup>29</sup> and the "iron oxide offerings" from graves at Uaxactun, <sup>30</sup> one must agree with Kroeber that the whole story of Mesoamerican American metallurgy may have to be rewritten when the data are fully at hand. <sup>31</sup>

Implements. The pumpdrill is said to have been universal in Polynesia. <sup>32</sup> In Wissler's listing of the drill in the Americas he eliminates all but one location from consideration as having had the pumpdrill in precolumbian times. This is the Northwest Coast. <sup>33</sup>

In Chapter II see toki.

<sup>28</sup>M. W. Stirling, Historical and Ethnological Material on the Jivaro Indians ("Bureau of American Ethnology Bulletin," No. 117 [Washington, 1938]), p. 86, quoted in A. Metraux, "Weapons," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 258.

<sup>29</sup>B. Cummings, Cuicuilco and the Archaic Culture of Mexico ("University of Arizona Bulletin," Vol. IV, No. 8 [Tucson, 1933]), p. 38.

<sup>30</sup>A. L. Smith, Uaxactun, Guatemala: Excavations of 1931-1937 ("Carnegie Institution of Washington," Publication No. 588 [Washington, 1950]), Table 6.

<sup>31</sup>Kroeber, "Conclusions: the Present Status of Americanistic Problems," The Maya and Their Neighbors (New York, 1940), pp. 479-80.

<sup>32</sup>Linton, Ethnology of Polynesia and Micronesia, p. 96.

<sup>33</sup>Wissler, op. cit., pp. 133-34.

## CHAPTER VI

### HOUSING AND CONSTRUCTION<sup>1</sup>

Domestic and civil. Aside from the general similarity of the materials of construction--frame with thatch--which needs comparative study, Polynesian houses have little of a very specific nature suitable for comparison. One unusual form was reported by Handy from Maupiti Island in the Society group, which he considers, rightfully, one of the most culturally isolated (hence conservative?) spots of the area. In pre-European times a round form of house was in use which had a central post from which radiated rafters which rested on the ground.<sup>2</sup> This needs comparison with the variety of house types somewhat similar in northern and western South America.

Dixon has criticized the New Zealand plank house as not at all comparable to the plank houses of the Northwest Coast.<sup>3</sup> We believe that much of his criticism is rendered invalid by criticizing on too detailed a level. The differences between the New Zealand house and some Northwest Coast

---

<sup>1</sup>The HRAF categories covered in Chapter III were 22, 23, 24, 25, 26, 27. Chapter IV - 29, 30. Chapter V - 28, 32, 40, 41. Chapter VI - 33, 34, 35.

<sup>2</sup>E. S. C. Handy, History and Culture in the Society Islands ("B. P. Bishop Museum Bulletin," No. 79 /Honolulu, 1930/), p. 103.

<sup>3</sup>Dixon, op. cit., pp. 318f.

houses are no greater than the differences among variant forms within the American area.

Some of the large buildings of Polynesia remind one vaguely of the Tropical Forest communal structures of South America. Ellis reports from the Society Islands that some buildings were capable of containing two or three thousand people.<sup>4</sup> Also worthy of comparison in this class are the fare farau, or canoe-sheds, some of which were dwellings.

Furnishings for houses which are common to the two areas include wooden pillows and wooden seats. The pillows are general in Polynesia, and in America are from Colombia, Panama, Central America, and Mexico. The Chocó use them still.<sup>5</sup> The wooden seat is cut from a solid piece and has four legs, at least in the Cook and Society Islands.<sup>6</sup> Nordenskiöld gives most areas of the Americas as having this trait ("wooden seat").<sup>7</sup>

Bennett notes the sliding, panel-type of door archaeologically from Chiripa, Bolivia.<sup>8</sup> Heyerdahl lists polished stone mirrors as a trait common to Peru and Tonga.<sup>9</sup>

Religious. The stupa, famous from Buddhist times in

---

<sup>4</sup>Ellis, op. cit., I, 175.

<sup>5</sup>Nordenskiöld, op. cit., p. 262.

<sup>6</sup>Buck (Hiroa), op. cit., p. 666.

<sup>7</sup>Nordenskiöld, op. cit., p. 262.

<sup>8</sup>Bennett, "The Archaeology of Central Andes," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1947]), II, 118.

<sup>9</sup>Heyerdahl, op. cit., p. 33.

the Far East, is actually much older than that period in its beginning, since Asoka is supposed to have built stupas. Its function was that of a mausoleum, or monument to some event in the life of Buddha or another saint. The usual form was a stone tower with a roof representing an umbrella. The Pali word, thūpa, generally applied to mounds or tumuli in India, probably is related to the name stupa.<sup>10</sup> In Easter Island are some rather elaborate stone towers, with no existing roofs, for which little convincing explanation has been given. These structures are called tupas. Natives say they are towers from which to watch for the arrival offshore of turtles! As Metraux has pointed out, this rationalization fails to convince on a number of counts.<sup>11</sup> At least one of the buildings has an elaborate inner chamber in a wing to the side of the tower. In addition the roof forms a crude corbeled vault. It may be noted, as Wolff has, that the association of the turtle with the structure suggests the cosmogonic importance of the turtle in India, and also in the Maya area.<sup>12</sup> The chullpa towers of the Andean area were sometimes used for burial, but in other cases are of unknown function. Their structural form is distinctly similar to that of the tupas despite superiority of masonry. Palacio reports from the Pipil area of Central

---

<sup>10</sup>J. Jolly, "Stupa," Encyclopaedia of Religion and Ethics, ed. by J. Hastings (New York, 1951), XI, 901.

<sup>11</sup>Metraux, Ethnology of Easter Island, pp. 189-90.

<sup>12</sup>W. Wolff, Island of Death: Easter Island (New York, 1949), p. 26.



America that the priests (perhaps also temples) were called teupas. See Chapter II under tupa. Also compare above, Chapter IV, on a possible link in the parasol concept between eastern Polynesia, the Maya area, and--via the Far East-- Assyria.

In the sacred enclosures or maraes of eastern Polynesia there are elements of construction and function with very close likenesses in America, particularly the Maya area. The most impressive marae, the late form surrounded by walls, appears to be a compromise between various elements of older structures. Both linguistic and structural data indicate that this represents a fusion of the old Oceanic dance plaza-council court with a pyramidal ahu most characteristic of an early period in eastern Polynesia. Fornander says the rectangular, four-walled marae entered Hawaii in the period of the last migration to Hawaii (from the South). Before then the people had used an open, truncated pyramidal structure, where all the people could hear and see the ceremonial.<sup>13</sup> The new form was an introduction of Pao, the Tahitian, in about the thirteenth century A.D.<sup>14</sup> The early type of structure is intimated from Raiavavae where Stokes reported the tradition that the first maraes were "stone heaps" which are now entirely destroyed.<sup>15</sup> The maraes of the Tuamotus, Mangareva, Marquesas, Easter

<sup>13</sup>Linton, Archaeology of the Marquesas Islands, p. 51.

<sup>14</sup>Emory, Stone Remains in the Society Islands, p. 51.

<sup>15</sup>Metraux, "Easter Island Sanctuaries," op. cit., p. 121.

Island, inland Society Islands, Necker Island, and Sydney Island of the Phoenix group all belong to this same sort.<sup>16</sup> The basic arrangement is a mound or platform facing a narrow unenclosed court on which stood an arrangement of stone uprights. The function seems to have been connected with communication with ancestral spirits.

The later, more elaborate, type appears likely to have been developed in the Society group much as Emory traced the change in the ruins.<sup>17</sup> These bore a set of three (usually) stone or wooden slabs along the back of the raised platform. In latest times these tended to disappear altogether. A wall was added to enclose the court. There was a tendency to raise and elaborate the mound until extensive pyramids of a sort resulted. It is likely, it seems to us, that this late development in the Society Islands coincides with the rise of the power of the ariki and the consequent exclusiveness of ritual and tapu associated with him. The limited distribution of the terms for and nature of this type of worship-center agree with the hypothesis of local development under political stimulus. We need not look, therefore, for any outside stimulus for the late pyramid structures. However, the ultimate idea may have existed incipiently in the older type of structure.

The earlier mounds, platforms, or pyramids have considerable interest. The features of exposure of the ceremonial

---

<sup>16</sup>Ibid., p. 120.

<sup>17</sup>Emory, Stone Remains in the Society Islands, pp. 50-51.

to the masses, elevated situation which sometimes bore a temple-building,<sup>18</sup> arrangement of three slabs or idols across the back of the mound,<sup>19</sup> occurrence of the maraes in groups or complexes,<sup>20</sup> a central stone representing the position of the priest-communicant, laying of the cornerstone of the marae with a human sacrifice beneath,<sup>21</sup> refuse pits for sacrifices (and for storage?),<sup>22</sup> burial of priests in the marae,<sup>23</sup> and other features can be largely paralleled in the case of Meso-american ceremonial centers. Some of these features may have been only incipient in early structures, becoming elaborated by processes brought about by the worship itself. Ruppert has pointed out a "special assemblage" of structures in the central Maya area. Some characteristics are: placement of usually three buildings on one low platform; usually (but in two cases not) a pyramid facing the platform, the pyramid having atop it a stela or building. Ruppert's belief is that from a spot on the pyramid (or some other marked spot as a substitute) astronomical sightings were made using the corners (?) of the three

---

<sup>18</sup>Linton, Ethnology of Polynesia and Micronesia, p.170.

<sup>19</sup>Emory, Stone Remains in the Society Islands, p. 17;  
Linton, Archaeology of the Marquesas Islands, pp. 33-34.

<sup>20</sup>Emory, Stone Remains in the Society Islands, p. 25.

<sup>21</sup>Ibid., p. 23.

<sup>22</sup>Ibid.; Linton, Archaeology of the Marquesas Islands, pp. 13-14.

<sup>23</sup>Emory, Stone Remains in the Society Islands, p. 23;  
Bennett, Archaeology of Kauai, p. 51.

structures on the platform as sighting points.<sup>24</sup> One has little difficulty in supposing that this highly important system will be discovered in diluted form in areas outlying from this center. Probably the astronomical function was not indispensable, outside the Maya centers at least. That the complex could logically be applied to ancestral spirit communication, as in Polynesia, is altogether feasible. As a matter of fact our knowledge of Maya astronomy would lead to the view that the real purpose of the observations was divinatory, essentially the same as the requests to the tiki on the marae. In conjunction with this see below under Religion where some interesting rites will be considered.

From Hawaii and the Marquesas are reported sacred oracle towers. These sometimes were atop mounds or platforms. They consisted of tapa-covered houses with obelisk-shaped roofs, up to thirty feet in height.<sup>25</sup> The unusual form is something like the steep-sided roofs of the Maya ceremonial structures, especially when embellished with a roof-comb.

The men's eating house, not uncommon in Polynesia, is similar to the men's house as it functioned in America. The segregation system was much less emphasized than among some American groups, but was nevertheless distinctly present. Tozzer reports that among the Chol a building was set aside as

<sup>24</sup>K. Ruppert, "A Special Assemblage of Maya Structures," The Maya and Their Neighbors (New York, 1940), pp. 224f.

<sup>25</sup>Linton, Archaeology of the Marquesas Islands, p. 32.

a combined temple and men's house.<sup>26</sup> McAllister intimates the same for Hawaii.<sup>27</sup> Something of the same sort was the practice in Samoa, where the marae complex did not penetrate. Also Landa reports that in each town there was a large house, open on all sides, where young men came together for their amusements. They played ball and a kind of game with beans, like dice, as well as many others.<sup>28</sup> From Tahiti Ellis wrote of houses constructed for each district, spacious and well built, with no sides, in which public entertainments were held.<sup>29</sup>

Military. If there is one typical form of Polynesian fortification it is the military refuge atop a mountain eminence. This defensive position is almost never a normal dwelling place, but rather a strong point to which flight might be made in cases of last resort. These palisaded sites are known from New Zealand (the only place where they were lived in), Tonga, Samoa, Cook Islands, Rapa, Marquesas, and perhaps others.<sup>30</sup> Stone walls were used in Samoa, Marquesas, New Zealand, Society Islands, Hawaii, Rapa, and the Australs.<sup>31</sup> Duff

<sup>26</sup>Tozzer, op. cit., pp. 109, 124.

<sup>27</sup>McAllister, op. cit., p. 16.

<sup>28</sup>Ibid., p. 124.

<sup>29</sup>Ellis, op. cit., I, 217.

<sup>30</sup>E.g. Linton, Ethnology of Polynesia and Micronesia, pp. 20, 22, 125; McKern, op. cit., pp. 80-81; Ellis, op. cit., I, 314.

<sup>31</sup>Handy, History and Culture in the Society Islands, p. 13.

notes that the Moa-hunters (early Polynesians) had no pa maori, which can probably be taken as an indication that before the late Maori development of a life of siege, the pre-heke folk followed the general Polynesian pattern of using separate fortifications as refuges.<sup>32</sup> Ridgetop fortifications were dug from which to roll stones down on attackers. Tops of hills on which the forts stood were terraced; moats were dug; counter palisades erected; towers and counter towers raised; multiple palisades planted; and there was even a version of the type of entrance built so as to expose an attacker's flank.<sup>33</sup> The basic idea of abandonment of the habitations with defense attempted only in the protected hilltop forts is that behind Andean fortification.<sup>34</sup> Most of the other details of Polynesian military construction also have Andean (and Colombian) parallels. Palisaded forts occur in Colombia, Panama, Central America, and Mexico.<sup>35</sup> Within the Andean palisades were emergency houses. Society Island and Hawaiian "cities of refuge" were sometimes protected by massive earth and stone walls (10 to 20 feet thick and up to 18 feet high), within which were springs, trees, maraes, and houses sufficient to withstand lengthy sieges.<sup>36</sup> Palisaded forts occur widely in North

---

<sup>32</sup>R. Duff, "Moas and Man," Antiquity, XXIV (1950), 74.

<sup>33</sup>Linton, Archaeology of the Marquesas Islands, pp. 21-22.

<sup>34</sup>Rowe, op. cit., p. 228.

<sup>35</sup>Nordenskiöld, op. cit., p. 262.

<sup>36</sup>Ellis, op. cit., I, 314; IV, 154.

America, especially among the Haidas and Tlingits, whose structures are comparable (in general) to those of Polynesia despite Dixon's valiant attempt to show otherwise.<sup>37</sup> In relation to this subject see in Chapter II pa, koro, and puhara.

---

<sup>37</sup>Dixon, op. cit., pp. 324-28.

## CHAPTER VII

### RELIGIOUS BELIEFS AND PRACTICES<sup>1</sup>

General nature of Polynesian religion. A dualism is noticeable in Polynesian religious thought, as Handy has discussed at some length.<sup>2</sup> Mesoamerican religion was full of this dualism. It produced matching pairs of young and old, male and female, benevolent and malign gods.<sup>3</sup> As material expression of this idea it is of interest to note the double-headed and three-eyed figurines found at early Tlatilco, Mexico, reported by Covarrubias.<sup>4</sup> Metraux illustrates a wooden pendant from Easter Island which bears on it two faces, back to back.<sup>5</sup>

Mesoamerican culture, for a very long period at least, was theocratically oriented. Yet, it was found at the time of the conquest that much of the worship was private, in the homes or in lineage groups.<sup>6</sup> Much of the data from Polynesia indi-

---

<sup>1</sup>HRAF category numbers are 77, 78, 79 and part of 76.

<sup>2</sup>Handy, Polynesian Religion ("B. P. Bishop Museum Bulletin," No. 34 [Honolulu, 1927]), especially pp. 54f.

<sup>3</sup>Thompson, op. cit., p. 83.

<sup>4</sup>Covarrubias, op. cit., p. 158.

<sup>5</sup>Metraux, Ethnology of Easter Island, p. 258, fig. 42a.

<sup>6</sup>Tozzer, op. cit., pp. 9, 108; Vaillant, The Aztecs of Mexico, pp. 75, 81.



cates the same state of affairs. In both cases an objection might be raised that the situation had been different in times past. In either case, however, a strong argument could be presented to show the essentially private nature of a large part of the worship in all periods. This is particularly true of the Hawaiian.

Gods. Hina (Sina), the personified form of the moon in Polynesia, was considered among the Maoris to be the patroness of the female sex and of all labors peculiar to women, such as weaving.<sup>7</sup> In Hawaii she was associated with bark-cloth beating (a substitute there for weaving).<sup>8</sup> She also presided over childbirth among the Maoris. The first tiki (jade amulet figure with fertility connotations) was made for Hine-te-iwaiwa (another name for Hina). The moon was said to go to bathe in "Te Wai Ora a Tane" (literally, "the living water of Tane," who was probably the Sun god). The moon thus revived itself each lunar month after its waning. This Water of Life was located in the fourth heaven.<sup>9</sup>

Thompson interprets the Maya glyph for "completion of the moon" as also referring to water. The connection of the moon with water is common in Mesoamerica. Jade has a logical connection in Maya thought to both of them. The symbol for

<sup>7</sup>E. Best, Astronomical Knowledge of the Maori ("Dominion Museum Memoir," No. 3 [Wellington, 1922/]), p. 17.

<sup>8</sup>M. Beckwith, Hawaiian Mythology (New Haven, 1940), p. 221.

<sup>9</sup>Tregear, The Maori Race, p. 441.

jade sometimes substituted for the usual Maya hand glyph which meant completion. The Cakchiquel of Panajachel, Guatemala, consider the moon goddess to be owner of Lake Atitlan and believe that she has a palace beneath its waters. Thompson thinks that the Yucatec Maya believed that the waning moon disappeared, going to the land of rain, the abode of the Chacs (rain "gods), or else entered through some well or cenote, perhaps connected in thought with the primal waters on which floats the earth monster (with water and growth connotations).<sup>10</sup> Further, the moon goddess was the Maya patroness of parturition, and also of weaving, as well as of crops and the earth (fertility).<sup>11</sup> Can this be psychic unity? (See also in Chapter II, pora, sina, hua, and po.)

When one considers the question of Polynesian contacts from America, an obvious question which raises itself is, where is any trace of the culture hero, Quetzalcoatl or Bochica or Viracocha, who is so widespread in American tradition? It seems that Hawaii is the one group in Polynesia with a comparable tradition. The Hawaiian god was Lono (Rongo), whose cult was humane, without human sacrifices being offered to him.<sup>12</sup> He was also a god of peace, fructification, fertility, clouds, rain, and rainbow. As the god of fertility his cult was celebrated in the Makahiki festival, held during the rainy season,

---

<sup>10</sup>Thompson, op. cit., p. 238.

<sup>11</sup>Ibid., pp. 133-34, 230-31.

<sup>12</sup>N. B. Emerson, Unwritten Literature of Hawaii ("Bureau of American Ethnology Bulletin," No. 38 [Washington, 1909]), p. 18.

during the four months of which regular ceremonial days were suspended and people left off ordinary occupations to practice games and sports. Just before the New Year a wooden post was partially carved to represent Lono. Finally, the original Lono departed in an odd boat, sailing away to a foreign land (Kahiki=Tahiti, or east?). Before his sailing he promised that he would return one day "on an island bearing coconut trees, and swine, and dogs."<sup>13</sup> Rongo's function in New Zealand also related to peace and fertility.<sup>14</sup> The god Lono even gets confused in Hawaiian legend with a later, semi-historical character of the same name.<sup>15</sup>

It is not difficult to see in the above statements about Lono, many parallels to Quetzalcoatl. He was associated with wind, rain, fertility, worship without human sacrifice, and prophecy about his returning. The original Quetzalcoatl became confused in legend with his later namesake, the priest Kukulcan. The Maya god Itzamna, an equivalent of Quetzalcoatl in many ways, was worshipped with the making of a statue in certain New Year's (Uayeb) rites. He was also a rain and fertility god.<sup>16</sup> Kukulcan, the later Yucatecan priest-representative of Quetzalcoatl, was worshiped at Chichen Itza in a large festival which included dramatic and dancing performances.<sup>17</sup>

---

<sup>13</sup>Beckwith, op. cit., pp. 31-40.

<sup>14</sup>Tregear, The Maori Race, p. 462.

<sup>15</sup>Beckwith, op. cit., p. 39.

<sup>16</sup>Tozzer, op. cit., pp. 142-46.      <sup>17</sup>Ibid., p. 158.

One would probably be correct in associating the ball-court of Mesoamerica with Itzamna and Quetzalcoatl worship in some form. Thus, sports were connected with these gods. The promise of Quetzalcoatl to return led to just the same welcome in Aztec Mexico for Cortez that Cook received upon his arrival in Hawaii. In association with these considerations refer in past chapters to material on the grinders of Kauai, stonework, and the following words in Chapter II: kura, popo, etc.

We find that the Aztecs (and probably their predecessors) and the Mayas, at least, in America, worshipped single, supreme creator gods. Thompson supposes that the reason we hear so little of them is that they were little known to most people, being remote from the practical concerns of everyday life.<sup>18</sup> The cult of Iho, Kiho, or Io in Polynesia came to light only in recent decades. This supreme, super-sacred god was known only to the intellectual elite. He was far above the usual gods. No sacrifices were made to him and no images of him shaped. Stimson discusses the distribution of the cult rather thoroughly.<sup>19</sup> See Iho under Chapter II.

A characteristic common to the gods of both Mesoamerica and Polynesia--particularly in the case of Kiho--was the series of abstractions and adjectives given in place of the god-name or attached to it. These attributes apparently

<sup>18</sup>Thompson, op. cit., p. 12.

<sup>19</sup>J. F. Stimson, Tuamotuan Religion ("B. P. Bishop Museum Bulletin," No. 103 /Honolulu, 1933/)

were not thought of as separate gods, nor as mere forces of nature; rather, as varying facets of the nature of the one god. This is certainly the source of some of the "polytheism" of both regions.

Guardian spirit. This subject, on which there is an extensive literature, has been studied intensively in its distributional aspects in North and Central America. It also occurs in the Andes, and perhaps elsewhere. The idea of an ancestral spirit who advises and protects his living relative is so common in Polynesia as to be said to be typical.<sup>20</sup> The extensive efforts of these same areas to preserve the body after death, along with the whole ancestral cult, is connected with the guardian concept.

Idols. The paina images<sup>21</sup> of Easter Island resemble somewhat in function, that is spirit communication, the famous image of which Tozzer quotes a description. This clay idol at Cozumel, which was famous in all southern Mesoamerica, was hollow. The priest would enter it from the rear and speak as if he were the idol itself, in giving answer to requests.<sup>22</sup> The paina worked somewhat similarly.

Religious beliefs about nature. The Polynesian moko usually refers to the lizard. Sometimes this reptilian

<sup>20</sup>E.g. Tregear, The Maori Race, pp. 486-87.

<sup>21</sup>Wolff, op. cit., p. 41.

<sup>22</sup>Tozzer, op. cit., p. 109.

creature appears in myth as a malignant monster, usually associated with bodies of water.<sup>23</sup> The same association of reptilians with water is prominent in Mesoamerica.<sup>24</sup> Compare moko with Imix or Imox (Pokomchi, M'ox), the Maya day sign, which has a related sense. The evidence from Polynesia is in conflict as to the benevolence or malignancy of the moko. Apparently both beliefs were current among different tribes and perhaps in different times. Mention should be made of a great earthen mound in New Zealand which was in the form of a wriggling lizard. Tradition dates its origin soon after the heke or great migration from Tahiti.<sup>25</sup>

Birds had a general connection with deity in Polynesia. They frequently were incarnations of deities.<sup>26</sup> In Tahiti the bird was the vehicle of approach to the marae used by the god. Upon arrival he would leave the bird to enter his image, from which he communicated with the priest.<sup>27</sup> The bird cult of Easter Island is especially well-known. In Mexico and the Maya area the eagle is frequently represented as bearing the hearts of sacrificed victims to the sun.<sup>28</sup> Also well known is the divine association of the quetzal bird. (Note that the Makahiki

<sup>23</sup>E.g. Beckwith, op. cit., p. 128; Tregear, The Maori Race, p. 428.

<sup>24</sup>Thompson, op. cit., pp. 75, 110-11, etc.

<sup>25</sup>Tregear, The Maori Race, p. 307.

<sup>26</sup>Ibid., p. 182.

<sup>27</sup>Ellis, op. cit., pp. 323, 329.

<sup>28</sup>Thompson, op. cit., p. 82.

image of Lono, mentioned above, was topped with a carving of a bird plus feather devices.)<sup>29</sup>

The Moan or Muan bird, connected with rain or mist among the Maya, reminds one of the generic term for fowl, moa, among the Polynesians. The moa bird of New Zealand does have a certain association with mist and the moist highlands, but this may not be a significant comparison.

From New Zealand is reported a belief that the speckled lizard brought forth the New Zealand cuckoo bird, or else that the bird loses its feather at the approach of winter, retires to a hole and becomes a lizard. As spring returns its tail drops off, feathers grow, and it becomes a bird again.<sup>30</sup> The feathered-serpent is, of course, one of the dominant motifs of Mesoamerican religion. See kura, kuku, ngata, etc.

The Hawaiian pulelehua, moth, represented a wandering spirit of the dead. In New Zealand also the moth was connected with the soul or spirits.<sup>31</sup> In Mexico the spirits of women who had died in childbirth, including Itzpapalotl, the Obsidian Butterfly (god), were believed to return to earth every 52 days to harm mankind. They were propitiated with corncake offerings in the shape of butterflies. Dead warriors descended to the earth at times in the guise of white butterflies. Other beliefs connecting the dead with insects are or were widespread

<sup>29</sup>Beckwith, op. cit., p. 34.

<sup>30</sup>Tregear, The Maori Race, p. 182.

<sup>31</sup>Beckwith, op. cit., p. 190; Tregear, The Maori-Polynesian Comparative Dictionary, pp. 333, 377.

in Mesoamerica.<sup>32</sup> See palolo, pepe.

In view of the widespread belief in Polynesia in shark deities, it is of interest to note that Roys finds a "red or great demon shark" spoken of in the Tizimin manuscript, which Tozzer believes may have been a Maya god.<sup>33</sup>

The Tree of Life symbol in Mesoamerica has only recently been thoroughly studied.<sup>34</sup> It was found to be associated with the concepts of food (maize) and fertility in most cases. The deity most closely connected with it is Itzamna, under varying names. The Tree of Life also appears in Polynesia. Tregear reports that various trees were believed to produce conception in barren women, indicating a fertility association. Also the Ngati-Ruanui tribe considered a highly ornamental food storehouse (on posts) to be a conventional form of the sacred tree, Rakau Tapu.<sup>35</sup>

In the Book of Chilam Balam of Chumayel there is mention of the yaxcheel cab, "the first tree of the world," from which the first man of the world ate (according to the Itza of Tayasal). The Mopan Maya say that after the creation man first obtained all the produce of cultivated plants by cutting down

<sup>32</sup>Thompson, op. cit., pp. 85-86.

<sup>33</sup>Tozzer, op. cit., p. 156.

<sup>34</sup>I. M. Briggs, "The Tree of Life Symbol; Its Significance in Ancient American Religion," Unpublished Master's Thesis in the Department of Archaeology, Brigham Young University, 1950.

<sup>35</sup>Tregear, The Maori Race, pp. 484-85.



a mamey tree.<sup>36</sup> The Hawaiian creation legends mention the sacred tree in the "garden" where the first man and woman were placed.<sup>37</sup> The Marquesans also mention a Tree of Life in "paradise."<sup>38</sup> Wolff mentions one for Samoa and Tonga.<sup>39</sup>

"In Yucatan there exists a belief that a giant ceiba tree, growing in the exact center of the earth, rears its branches through the successive heavens or layers of heaven to the highest. The spirits of the dead ascend by it to that highest heaven."<sup>40</sup> There is a widespread belief in Polynesia, in Hawaii, Rarotonga, Mangaia, and the Tuamotus, that the dead travel to the other world by means of a tree.<sup>41</sup> Kepelino says, "Perhaps the Hawaiians were mistaken. Perhaps a tree is not the roadway down into Po. Perhaps these were words handed down from our first ancestors, but lost because of the length of time gone by."<sup>42</sup>

Eschatology. Although not usually developed to extreme lengths, there was some of the belief in Polynesian religion of the difficult journey to the final goal of spirits

<sup>36</sup>Thompson, op. cit., p. 71.

<sup>37</sup>Beckwith, op. cit., p. 43.

<sup>38</sup>Tregear, The Maori-Polynesian Comparative Dictionary, p. 58.

<sup>39</sup>Wolff, op. cit., p. 122.

<sup>40</sup>Thompson, op. cit., p. 71.

<sup>41</sup>Beckwith, op. cit., pp. 156f.

<sup>42</sup>Beckwith, Kepelino's Traditions of Hawaii, p. 52.

upon death.<sup>43</sup> Kirchoff lists this as one of the typical traits for Mesoamerica.<sup>44</sup>

Landa reports that the Maya land of the dead was one of abundance, where the souls of the dead rested in the shade of a giant tree. This abode seems to have been on or under the earth.<sup>45</sup> Some tribes of "Southern California" were supposed to believe that the dead returned to certain verdant isles in the sea.<sup>46</sup> In Polynesia, particularly the central part, there were believed to be lands called Purotu, Hawaiki or Sina to which the chiefs, usually, went after death.<sup>47</sup> Throughout the entire region there appears to have been confusion, at least in the minds of students of the cultures, as to whether these lands were above or below the earth. It is most likely that they were on or below the surface.

In both Mesoamerica and Polynesia there was no belief that moral goodness determined the nature of the future state. The criterion used for disposition of the soul was obedience to ritual (with few exceptions). If one took care of all the proper ceremonies, he would automatically be consigned to the proper place for him.

<sup>43</sup>Ellis, op. cit., I, 396; Tregear, The Maori Race, p. 411.

<sup>44</sup>P. Kirchoff, "Mesoamerica," Acta Americana, I (1943), 100.

<sup>45</sup>Thompson, op. cit., p. 71.

<sup>46</sup>S. Hagar, "Ancestor Worship (American)," Encyclopaedia /sic/ of Religion and Ethics, ed. by J. Hastings (New York, 1951), p. 435.

<sup>47</sup>J. A. MacCulloch, "Blest, Abode of the," Encyclopaedia of Religion and Ethics, ed. by J. Hastings (New York, 1951), p. 682.

Cosmology. The idea that the heavens, or realm of the spirits and gods, were divided into "layers" was highly developed in Mesoamerica<sup>48</sup> and Polynesia, as well as in parts of the Old World. Vaillant rightly says that the American (and Polynesian) "vertical arrangement of the heavens had rather more to do with rank and order than with a realization of natural phenomena."<sup>49</sup> The Middle American arrangement had either 13 levels in a stepped pattern, or else 7 layers with two compartments on 6 levels and a single compartment on top.<sup>50</sup> This appears closely related to the stepped arrangement of the temple pyramids, if we allow some freedom for the numbers to change. The number of Polynesian heavens varied widely, probably due to lack of any fixed figure such as the Maya thirteen of the calendar system, to limit variation. In Mangaia there were ten heavens;<sup>51</sup> in Samoa eight;<sup>52</sup> in New Zealand twelve, ten, twenty, or fourteen;<sup>53</sup> in the Tuamotus fourteen to sixteen.<sup>54</sup> The Polynesian system seems to be greatly elaborated due to lack of any control.

In Mexico the capital city was known as "the navel of

---

<sup>48</sup>Kirchoff, op. cit., p. 100.

<sup>49</sup>Vaillant, The Aztecs of Mexico, p. 172.

<sup>50</sup>Thompson, op. cit., p. 99.

<sup>51</sup>Stimson, op. cit., p. 90.

<sup>52</sup>Beckwith, Hawaiian Mythology, p. 210.

<sup>53</sup>Best, op. cit., p. 6; Tregear, The Maori Race, p.483.

<sup>54</sup>Stimson, op. cit., pp. 80-81.

the world."<sup>55</sup> It seems reasonably certain that the name for Easter Island, Te Pito te Henua, with the same meaning, was applied to that island in pre-European times. The same idea, if not the expression, applied to Cuzco, with its four dividing highways which divided the empire (the world) into four parts.<sup>56</sup>

Mortuary practices. Among the wide variety of burials in Polynesia we find the stone cist in use. They occur on Lanai;<sup>57</sup> Kauai;<sup>58</sup> in western Polynesia generally;<sup>59</sup> Easter Island;<sup>60</sup> and at least one unusual multiple burial from the Society group.<sup>61</sup> The Tongan cists, along with developed stoneworking were probably introduced from the east.<sup>62</sup> The Northern Andean area was a particularly important center of

<sup>55</sup>Wolff, op. cit., p. 111.

<sup>56</sup>For a general discussion of Old World concepts related to the omphalus belief see H. Nibley, "The Hierocentric State," Western Political Quarterly, IV (1951)

<sup>57</sup>Bennett, Archaeology of Kauai, p. 29.

<sup>58</sup>Ibid.

<sup>59</sup>Emory, Archaeology of the Pacific Equatorial Islands ("B. P. Bishop Museum Bulletin," No. 123 [Honolulu, 1934]), p. 14.

<sup>60</sup>Wolff, op. cit., p. 30.

<sup>61</sup>Emory, Stone Remains in the Society Islands, p. 99.

<sup>62</sup>A stone pounder from Fanning Island plus a tooth necklace from there also, support the idea that westward traveling Polynesians carried some traits from the Marquesas in the north and east to Tonga. See Emory, Archaeology of the Pacific Equatorial Islands, p. 14.

this type of burial.<sup>63</sup>

Use of canoes for burial, either the canoe being cast adrift, or a canoe-shaped coffin being used, had a widespread use but was nowhere dominant. Steinmann traces canoe-burial from India to the Northwest Coast, where it was very important.<sup>64</sup> If this distribution is due to genuine diffusion, the concept behind such a burial method could probably be compared with success.

Body preservation has been discussed frequently in the literature. It is sufficient to point out that there is a real community of practices in connection with ancestor worship which is common to much of the Americas and Oceania. Among these practices are mummification, or some attempt at it;<sup>65</sup> exposure;<sup>66</sup> retention of skulls, bones or corpses in some (usually dwelling) house;<sup>67</sup> exposure of the ancestral relics on special occasions, especially as fertility charms;<sup>68</sup> wrap-

<sup>63</sup>Bennett, "Architecture and Engineering," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 45-50.

<sup>64A</sup>. Steinmann, "The Ship as Represented in the Art of South East Asia," Ciba Review, No. 52 (1946), pp. 1876-83.

<sup>65</sup>Linton, Archaeology of the Marquesas Islands, pp. 54-69.

<sup>66</sup>Ibid.

<sup>67</sup>E.g. L. C. Green and M. W. Beckwith, "Hawaiian Customs and Beliefs Relating to Sickness and Death," American Anthropologist, n.s., XXVIII (1926), p. 191.

<sup>68</sup>E.g. Tregear, The Maori Race, p. 89.

ping of the corpse or bones in large bundles of textile;<sup>69</sup> and the making of offerings to the dead for their subsistence. Sporadic occurrence of cremation,<sup>70</sup> one case of purposefully broken burial offerings,<sup>71</sup> and exhumation and painting of the bones<sup>72</sup> are other parallels which also need detailed comparative study to establish their significance.

We wish to make special mention of the practice by the Maoris of the South Island of putting an upright coffin on a pole, then putting the embalmed corpse in through a door in the back.<sup>73</sup> The Mayas, one group at least, are reported to have made wooden statues for their fathers of which the back of the head was left hollow. They burned a part of the body and placed its ashes in there. They preserved these statues with veneration.<sup>74</sup>

The practice of slaying servants to accompany and serve their master in death was widespread in Polynesia. Linton reports it from New Zealand, the Marquesas, Hawaii and

<sup>69</sup>Linton, Archaeology of the Marquesas Islands, p. 57.

<sup>70</sup>S. Mendelsohn, "Cremation," Ciba Symposia, XI (1951), No. 8, pp. 1329-1331; Linton, Archaeology of the Marquesas Islands, p. 69; MacLeod, "On the Diffusion of Central American Culture," op. cit., p. 423.

<sup>71</sup>Linton, Archaeology of the Marquesas Islands, p. 61.

<sup>72</sup>Linton, Ethnology of Polynesia and Micronesia, p. 186; Tregear, The Maori Race, p. 395; C. Peabody, "Red Paint," Journal, Society of Americanists of Paris, XIX (1927), 209 (for the Bribri of Costa Rica).

<sup>73</sup>Tregear, The Maori Race, p. 397.

<sup>74</sup>Tozzer, op. cit., p. 131.

probably the Society Islands. Actual voluntary death of a man's wife upon her husband's death occurred in Fiji and New Zealand.<sup>75</sup> In America incipient or full suttee extended from the Northwest Coast all the way into Peru along the continental west coast.<sup>76</sup> McKern found a vault tomb in Tonga with indication that retainers had been slain to attend their master in death, as they were seated around the edge of the vault.<sup>77</sup> This is specifically duplicated in the famous graves of Kaminaljuyu and described by Ramon y Zamora for early highland Guatemala.<sup>78</sup>

It also may be of significance that the rongorongo men, or priests who "read" the wooden tablets on Easter Island, were sometimes buried with a wooden tablet in their grave.<sup>79</sup> Landa states that the Maya priests were buried with a codices, their divinatory books, in their graves. The statement is supported by what may be an archaeological find of remains of such a book actually in a grave.<sup>80</sup>

In connection with mortuary practices consult Chapter II for comparisons under the following terms: aue, fata, kai, kake, maki, putu, tupa, waka.

<sup>75</sup>Linton, Ethnology of Polynesia and Micronesia, p.182.

<sup>76</sup>MacLeod, "On the Diffusion of Central American Culture," op. cit., p. 424.

<sup>77</sup>W. C. McKern, Archaeology of Tonga ("B. P. Bishop Museum Bulletin," No. 60 [Honolulu, 1929]), p. 35.

<sup>78</sup>Tozzer, op. cit., pp. 129-30.

<sup>79</sup>Wolff, op. cit., p. 42.      <sup>80</sup>Tozzer, op.cit., p.130.

Ritual. The accuracy with which ritual formulas had to be recited was a vital concern to both Polynesians and some Americans. New Zealand priests who made errors in ceremonies or incantations were eaten.<sup>81</sup> Such offenders as were not immediately slain were expected to suffer the anger of the deities in some terrible manner later. Among the Lacandon Maya a drummer who missed a beat in a ceremony of human sacrifice was taken to replace the intended victim.<sup>82</sup> The same general principle applied in Aztec Mexico.<sup>83</sup>

Sacrifice. Among the offerings of Polynesians in sacrifice were human beings, fowls, birds, fish, eggs, pigs, dogs, flowers, kawa, prepared food, and salt. Animals were consecrated alive, or offered dead. Parts of the animals were used for food by priests and others.<sup>84</sup> As an example of the extensive sacrificial complex in the high cultures of America, the Maya sacrificed humans, game, boars, dogs, fowls, birds, foodstuff, drinks, incense, and precious stones.<sup>85</sup>

Human sacrifice reached a peak in Aztec Mexico, but in addition was characteristic of all the higher cultures of both Americas. Loeb lists its occurrence in Middle America, the

<sup>81</sup>Tregear, The Maori Race, pp. 513, 451.

<sup>82</sup>Tozzer, op. cit., p. 104.

<sup>83</sup>H. B. Alexander, "Communion with Deity," Encyclopaedia of Religion and Ethics, ed. by J. Hastings (New York, 1951), III, 742.

<sup>84</sup>E.g. Ellis, op. cit., I, 344.

<sup>85</sup>Tozzer, op. cit., p. 114; Thompson, op. cit., p. 13.



Antilles, Ecuador, Peru, Amazonia, Chile, and on the Northwest Coast. For Polynesia it was found in New Zealand, Tonga, Tahiti, Hawaii, Easter Island, and the Marquesas.<sup>86</sup> The heart was extracted (not necessarily human) in Rarotonga, Tahiti, Hawaii, all Middle America, Colombia, Ecuador, and Peru.<sup>87</sup>

Events requiring sacrifices were of two types: routine happenings such as regular ceremonials, dedications, events of the life cycle, and so on; and second, crisis rites for which special bribes to the gods were advisable, like appeals for rain, success in battle, recovery from sickness, etc. The same specific causes, in most cases, animated human sacrifice in both areas of consideration.

Foundations for sacred buildings were begun or corner-stones laid with, sometimes upon, a sacrificial victim, in Polynesia,<sup>88</sup> and America (Northwest Coast, Mesoamerica, Colombia).<sup>89</sup> In case of severe sickness substitutional human sacrifice was made in Guatemala, Peru, Tahiti, Tonga, and Hawaii.<sup>90</sup> Criminals or offenders against the ruler were vic-

<sup>86</sup>Loeb, op. cit.

<sup>87</sup>Friederici, "Zu den vorkolumbischen Verbindungen," op. cit., p. 454.

<sup>88</sup>Tregear, The Maori Race, p. 280; Ellis, op. cit., I, 346.

<sup>89</sup>E. S. Hartland, "Foundation, Foundation-rites," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), VI, 114; Vaillant, The Aztecs of Mexico, p. 76.

<sup>90A</sup>. E. Crawley, "Human Sacrifice (Introductory and Primitive)," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), VI, 843; McAllister, op. cit., p. 72.

tims in Mesoamerica and Tahiti, at least.<sup>91</sup> The peculiar sacrificial method of casting the victim from a height prevailed in Yucatan,<sup>92</sup> probably in the Mochica culture (to judge by scenes on the pottery), and in Hawaii.<sup>93</sup> Blood or a food offering was offered to the mouth of the image of the god in both Polynesia and the Americas.<sup>94</sup> The drum played a part in the rites in Mexico and in the Marquesas, Tahiti, and Hawaii.<sup>95</sup>

Incense for an offering and for censuring the idols was regularly used in Mesoamerica.<sup>96</sup> In Tahiti flowers were offered to the gods for their odor, and also images were anointed with scented oil.<sup>97</sup>

So far as we have evidence, human sacrifice appears even in the pre-Classic age in Guatemala. It seems to have been but little elaborated until the extensive migrations of militaristic Mexican groups within the present millennium.

Cannibalism. Inveterate cannibalism characterized the Marquesas, New Zealand, Easter Island, and the Cook Islands.

<sup>91</sup>Crawley, op. cit., p. 841.

<sup>92</sup>Tozzer, op. cit., p. 116.

<sup>93</sup>McAllister, op. cit.

<sup>94</sup>Tregear, The Maori Race, p. 488; Linton, Archaeology of the Marquesas, p. 86.

<sup>95</sup>Linton, Archaeology of the Marquesas Islands, p. 52; Handy, History and Culture in the Society Islands, p. 48.

<sup>96</sup>J. A. MacCulloch, "Incense," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), VII, pp. 205f.

<sup>97</sup>Ellis, op. cit., I, 338, 351.

In Samoa and Tonga it was limited; and in Hawaii and the Society Islands it was practiced in exceptional cases.<sup>98</sup> For America Loeb lists as cannibalistic the Kwakiutl and Nootka of the Northwest Coast and the peoples of Mexico, Yucatan, Guatemala, Nicaragua, the Caribbean, Colombia, Ecuador, Peru, Amazonia, and southern South America.<sup>99</sup> Cannibalism is shown archaeologically to have been at least as early as the end of the Mesoamerican Classic and probably much earlier.<sup>100</sup> Cannibalism was strictly ritualistic in all but a few cases in both areas.

Finger-sacrifice. Tonga was the sole Polynesian group to practice finger-sacrifice. It was also done on the Northwest Coast, the Plains, Lower California, and Paraguay.<sup>101</sup>

Circumcision. Simple insection was in use in Aztec Mexico, the Totonac Gulf Coast, the Maya area, Nicaragua, and among the Caribs. Similarly, simple insection was widely practised in Polynesia.<sup>102</sup>

Rain sacrifice. The association of women or girls with rainmaking ceremonies is to be noted in Aztec religion, where female sacrifices were offered at certain seasons.<sup>103</sup> Tautain

<sup>98</sup>Linton, Ethnology of Polynesia and Micronesia, pp. 129-31.

<sup>99</sup>Loeb, op. cit.

<sup>100</sup>Vaillant, The Aztecs of Mexico, p. 76.

<sup>101</sup>Loeb, op. cit.

<sup>102</sup>Ibid.

<sup>103</sup>Vaillant, The Aztecs of Mexico, pp. 192-93.

describes a ceremony for the Marquesas, apparently Nukuhiva, which was performed on a platform, "considerably elevated," in the top of which was a pit lined with cut stone. The ceremony held at the platform, which was roofed, was to obtain rain and an abundant breadfruit harvest. All the male members of the tribe except children attended the series of invocations, chants, and drum-beatings. A human victim, necessarily female, was sacrificed as a climax.<sup>104</sup> One wonders if the pit mentioned could be similar to those enigmatical ones in the tops of the Tongan langis.

"Turning the mat." There is a Maori rite, called hurihanga takapau, "the turning of the mat," which has application in varying circumstances. The main sense of the rite appears to be that of purification, or putting finality or a final seal on some previous act. The name has no logical connection with any part of the ritual, not to its religious function.<sup>105</sup> In the Maya Tizimin manuscript, the prophecy for the last tun ("year") of Katun 5 Ahau includes the sentence, ". . . 4 Cauac would be the turn of the fold of the katun, the time when he gives up his mat, his throne. There comes another mat, another throne, another reign."<sup>106</sup> The turning or changing of the mat here refers to a change in time periods, in ruling gods, in omens. The idea of purification is implicit

---

<sup>104</sup>Linton, Archaeology of the Marquesas Islands, p. 28.

<sup>105</sup>Tregear, The Maori Race, pp. 227, 380, 519.

<sup>106</sup>Thompson, op. cit., pp. 183, 189.

in such a change of calendrical divisions in Mesoamerica. To appreciate the full significance of this comparison it will be necessary to examine the word comparisons under pora in Chapter II.

In connection with the ending of time periods we note that on Easter Island the finding of the sought-for egg, the sign of life for the coming year, was signalled by the lighting of a fire atop Rano Rakao, the volcanic cone near the sacred place.<sup>107</sup> Associated with this rite was an annual rebuilding of the Haremoai, or house of the statues, in preparation for the new year or egg ceremony. To it were called the leaders of the clans for feasting and entertainment, including a cannibalistic rite. This sacred place was near the house of the rongorongo men, "readers" of the wooden tablets, who came there to recite and sing from their engravings.<sup>108</sup> One needs little suggestion to see several parallels here to the Aztec New Fire ceremony.

Childhood and puberty ceremonies. We are not acquainted with the ritual of hair-cutting described fully in the literature for eastern Polynesia. Tregear describes a puberty ceremony of hair-cutting performed by a priest.<sup>109</sup> However, in Rarotonga today a few conservative natives may still cut their children's hair for the first time at a feast to which relatives and friends are invited. Each relative brings a gift

---

<sup>107</sup>Wolff, op. cit., p. 36.      <sup>108</sup>Ibid., pp. 44-45.

<sup>109</sup>Tregear, The Maori Race, p. 38.

(now usually money) and in return cuts off a lock of the child's hair. There is every reason to believe this is an ancient custom.

In the Inca naming ceremony, when the child was two to three years of age, its hair was tied in bunches and each participant cut off a lock, leaving a gift for the child in return. The rite was distributed from Colombia to Chile.<sup>110</sup>

Baptism was an elaborated ceremony in the high American cultures. The Aztec ceremonially washed the child at birth and four days later. The second time a name was given. Later in life another baptism was performed and another name given.<sup>111</sup> The Maya ceremonial sequence varied only in details from this.<sup>112</sup> The Inca also baptized early in life, by immersion, and conferred a first name (later to be replaced) at the time of the rite.<sup>113</sup>

In Tahiti a child of high rank was immersed soon after birth, at the marae.<sup>114</sup> The Maoris sprinkled the child using

<sup>110</sup>Bennett, "The Andean Highlands: an Introduction," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1947]), II, 33.

<sup>111</sup>MacCulloch, "Baptism (Ethnic)," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), II, 370.

<sup>112</sup>Tozzer, op. cit., p. 129; M. W. Jakeman, ed., The "Historical Recollections" of Gaspar Antonio Chi ("Brigham Young University Publications in Archaeology and Early History," No. 3 [Provo, Utah, 1952]), p. 42.

<sup>113</sup>MacCulloch, op. cit., p. 370.

<sup>114</sup>Ellis, op. cit., I, pp. 258-59.

a branch of a sacred plant,<sup>115</sup> except that in the North Island immersion was sometimes used. In some cases at least the Maoris repeated the baptism three times between the time of birth and age eight.<sup>116</sup> Various names were used at different periods of the child's life, some of which were given in baptism ceremonies. Handy writes that the king's weapons were placed around the baptismal vessel in the Society Islands,<sup>117</sup> while the Aztecs, at the baptism four days after birth, placed weapons or tools in the infant's hands and guided them in use of the objects.<sup>118</sup>

Avoidance and taboo. In each Maori village there was a sacred place, wahitapu, on which such tapu objects as scraps of the chief's food and clothing or burials might be placed.<sup>119</sup> All leftover food of the Inca ruler was saved and stored with his clothes to be burned ceremonially once a year by a special official.<sup>120</sup> This idea of the chief's tapu extending to everything with which he came in contact was carried to the most extreme lengths in Hawaii and Tahiti. Protection against ex-

<sup>115</sup>Tregear, The Maori Race, p. 46.

<sup>116</sup>L. H. Gray, "Baptism (Polynesian)," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), II, 410.

<sup>117</sup>Handy, History and Culture in the Society Islands, p. 25.

<sup>118</sup>Vaillant, The Aztecs of Mexico, pp. 115-16.

<sup>119</sup>Tregear, The Maori Race, p. 198.

<sup>120</sup>Rowe, op. cit.

tension of this tapu to the land on which the ariki trod caused the Tahitians to bear the king on their shoulders, or on a litter (see a later section). This could be the explanation for litter transport of royalty in Guatemala, Peru, and elsewhere in America.

Separation of the sexes for eating was noted several times by Landa for the Yucatan Maya.<sup>121</sup> This was general in Polynesia; however, Hawaii was supposed to have been without the custom, according to tradition, until the "revolution of Wakea." This radical cultural change, occurring with the land "disturbed," might have been an actual introduction of outside culture elements.<sup>122</sup>

The putting of a virgin maiden in a separation building has been discussed by Friederici. He lists such a practice for Easter Island and various parts of South America, as well as the Northwest Coast.<sup>123</sup> Actually some form of virgin isolation occurred in New Zealand, Samoa, Tonga, Lau, and Tahiti. In some of these locations the isolation was continued throughout life with the idea that virginity increases power with the gods, hence brings success in foresight or sorcery.<sup>124</sup>

Confession. Handy, citing Clements, shows a limited

---

<sup>121</sup>Tozzer, op. cit., p. 91.

<sup>122</sup>Beckwith, Hawaiian Mythology, pp. 296-99.

<sup>123</sup>Friederici, op. cit., pp. 453-54.

<sup>124</sup>Beckwith, Hawaiian Mythology, p. 535.



number of places where the principle of breach of taboo causing illness reached prime importance in religious thought. Those regions were Polynesia, Mexico, Colombia, Peru, and the Near East.<sup>125</sup>

Upon this concept rests the practice of confession as a means of treatment of sickness. The distribution Clements found for this was even more limited: Polynesia, the advanced civilizations of Middle America and South America, and Asia Minor.<sup>126</sup> Kirchoff lists additionally the Southeast (of the United States) and the northwestern part of Amazonia as having a form of confession.<sup>127</sup>

Divination and astrology. The place of divining in Hawaii is described in Kepelino, who says that the knowledge of "lucky or fortuitous days for certain activities" was brought to Hawaii "over one thousand years . . . before the Protestants" arrived there.<sup>128</sup> This Hawaiian divination included actual horoscopes of a person's life. In New Zealand astrology determined certain occupations such as fishing and agriculture.<sup>129</sup> Mesoamericans felt themselves to be absolutely

<sup>125</sup>Handy, "Dreaming in Relation to Spirit Kindred and Sickness in Hawaii," Essays in Anthropology Presented to A. L. Kroeber (Berkeley, 1936), p. 127.

<sup>126</sup>Ibid.

<sup>127</sup>Kirchoff, op. cit., p. 106.

<sup>128</sup>Beckwith, Kepelino's Traditions of Hawaii, p. 98, etc.

<sup>129</sup>Tregear, The Maori Race, p. 382.

controlled by the horoscope obtained for them upon their birth.<sup>130</sup>

Divining by gazing into stones was a practice of the Maya.<sup>131</sup> The Maori kura stone was used for communication with their old homeland and as a medium of the gods.<sup>132</sup> In Tahiti the related practice of gazing into a water-filled hole to divine a thief was in use.<sup>133</sup>

Divining by counting a pile of objects to see if they come out odd or even was used among the Inca,<sup>134</sup> Hawaiians,<sup>135</sup> and probably the Maya.<sup>136</sup>

Divining was also done in Tahiti by observing the position or movements of some victim on the altar, or of the heart or liver of the animal offered.<sup>137</sup> The observation of the state of the internal organs of the sacrificial victim was also in use in Peru.<sup>138</sup>

Consult carefully the comparisons made under the words kura and waka in Chapter II.

<sup>130</sup>Vaillant, The Aztecs of Mexico, p. 115; Thompson, op. cit., p. 103.

<sup>131</sup>Tozzer, op. cit., p. 130.

<sup>132</sup>Tregear, The Maori Race, p. 492.

<sup>133</sup>Ellis, op. cit., II, 240.

<sup>134</sup>Rowe, op. cit., p. 303.

<sup>135</sup>Beckwith, Hawaiian Mythology, p. 89.

<sup>136</sup>Tozzer, op. cit., p. 124.

<sup>137</sup>Ellis, op. cit., I, 303.

<sup>138</sup>Rowe, op. cit., p. 303.

Fire-walking. Fire-walking was not rare in Meso-america, to judge by the number of mentions of it in the early writings. Its function seems to have been one of purification.<sup>139</sup> The same trait was found in New Zealand, Fiji, and particularly at the great ceremonial center (Hawaiki?) or Raiatea, Society Islands. The intention of the practice in Polynesia was also for purification, according to Handy.<sup>140</sup>

Priesthood. In Hawaii and the Society Islands the priesthood was organized in levels with specific functions allotted the different groups. In the Cook and Marquesas Islands the priests were at least partially organized. Elsewhere each priest performed all functions. Almost everywhere the priest's office was hereditary and in most cases was related to the chiefs, the chiefs being especially eligible to become priests, or actually functioning as leading priests. Everywhere the oracle-giving ecclesiastics were the most honored. One special group in the Society, Marquesas, and Hawaiian Islands was charged with memorizing the genealogies and myths.<sup>141</sup>

All these features were duplicated in the higher cultures of America. Among the Mayas the chilans, or prophets,

<sup>139</sup>Thompson, op. cit., pp. 100-101; Tozzer, op. cit., p. 148; Jakeman, ed., op. cit., p. 41.

<sup>140</sup>Handy, History and Culture in the Society Islands, p. 14; Tregear, The Maori Race, p. 508.

<sup>141</sup>Linton, Ethnology of Polynesia and Micronesia, pp. 167-68.

were the most respected of the priest class.<sup>142</sup> Genealogy-keeping was a priestly function in Peru and Mesoamerica particularly. Priesthood in the higher cultures was generally hereditary, and usually was controlled by the chiefly class, or else the chief himself was the priest. In some areas there were elaborate organizations of the priesthood. Of course shamans were common in Oceania and throughout the Americas.

---

<sup>142</sup>Tozzer, op. cit., p. 112.

## CHAPTER VIII

### LEISURE-TIME AND INTELLECTUAL ACTIVITIES

Games and sports. Some common sports or games include the following:

Stilts--New Zealand, Marquesas, Hawaii, Society Islands;<sup>1</sup> Middle America, North America, Amazonia, the Gran Chaco.<sup>2</sup>

Cat's cradle (string figures)--universal in Polynesia;<sup>3</sup> North America,<sup>4</sup> South America north of the Pampean area.<sup>5</sup>

Bull-roarer--New Zealand;<sup>6</sup> North America,<sup>7</sup> South America east of the Andes, Aymara, Choco.<sup>8</sup>

Tops--universal in Polynesia;<sup>9</sup> North America,<sup>10</sup> most

---

<sup>1</sup>Linton, Ethnology of Polynesia and Micronesia, p. 133.

<sup>2</sup>Nordenskiöld, op. cit., p. 263.

<sup>3</sup>Linton, Ethnology of Polynesia and Micronesia, p. 134.

<sup>4</sup>S. Culin, "Games of the North American Indians," Twenty-Fourth Annual Report, Bureau of American Ethnology, 1902-03 (Washington, 1907), pp. 36-44.

<sup>5</sup>J. M. Cooper, "Games and Gambling," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 505.

<sup>6</sup>Tregear, The Maori Race, pp. 55-56.

<sup>7</sup>Culin, op. cit.      <sup>8</sup>Cooper, op. cit., p. 505.

<sup>9</sup>Linton, Ethnology of Polynesia and Micronesia, p. 134.

<sup>10</sup>Culin, op. cit.

of South and Middle America.<sup>11</sup> (Some tops in both general areas are humming, others silent.)

Kites--New Zealand, Cook Islands, Marquesas;<sup>12</sup>  
Mosquito-Sumo (European?).<sup>13</sup>

Ball, football--Gilberts, Society Islands (ball of matted leaves, kicking, districts opposing each other, simple goal line);<sup>14</sup> also Society Islands (seizing the ball, hands only);<sup>15</sup> Middle America, Antilles, lowland South America (usually team games between tribes or villages, in a minority of instances using feet);<sup>16</sup> (only in Middle America and the Southwest were special sunken courts used); North America (football and hand-and-foot ball).<sup>17</sup>

Hockey, shinny--Society Islands (sometimes sticks had well-carved handles, curving ends);<sup>18</sup> North America,<sup>19</sup> South America except far south and Andes.<sup>20</sup>

"Checkers"--New Zealand, Hawaii, Society Islands;

<sup>11</sup>Cooper, op. cit., p. 505.

<sup>12</sup>Linton, Ethnology of Polynesia and Micronesia, p. 134.

<sup>13</sup>Cooper, op. cit., p. 511.

<sup>14</sup>Linton, Ethnology of Polynesia and Micronesia, p. 132.

<sup>15</sup>Ellis, op. cit., I, 214.

<sup>16</sup>Cooper, op. cit., pp. 505-506.

<sup>17</sup>Culin, op. cit.      <sup>18</sup>Ellis, op. cit., I, 213-14.

<sup>19</sup>Culin, op. cit.      <sup>20</sup>Cooper, op. cit., p. 505.

Araucanians.<sup>21</sup>

Wrestling--universal in Polynesia;<sup>22</sup> most of South America.<sup>23</sup>

Boxing--Hawaii, Tonga, Society Islands;<sup>24</sup> Chaco.<sup>25</sup>

Dart or snow-snake--universal in Polynesia;<sup>26</sup> North America,<sup>27</sup> much of South America.<sup>28</sup>

Juggling--universal in Polynesia;<sup>29</sup> Siusi' (Amazonia).<sup>30</sup>

Swinging--New Zealand,<sup>31</sup> Society Islands;<sup>32</sup> North America.<sup>33</sup>

Tipcat--western Polynesia (water game);<sup>34</sup> North America.<sup>35</sup>

Jackstraws--western Polynesia;<sup>36</sup> North America.<sup>37</sup>

<sup>21</sup>Tregear, The Maori-Polynesian Comparative Dictionary, p. 257; Ellis, op. cit., I, 119 mentions a "game of chess among the Araucanians" as a possible parallel with Polynesia (probably referring to konane).

<sup>22</sup>Linton, Ethnology of Polynesia and Micronesia, p. 132.

<sup>23</sup>Cooper, op. cit., p. 504.

<sup>24</sup>Linton, Ethnology of Polynesia and Micronesia, p. 132.

<sup>25</sup>Cooper, op. cit., p. 511.

<sup>26</sup>Burrows, op. cit., pp. 48-49.      <sup>27</sup>Culin, op. cit.

<sup>28</sup>Cooper, op. cit., pp. 505, 509.

<sup>29</sup>Linton, Ethnology of Polynesia and Micronesia, p. 134.

<sup>30</sup>Cooper, op. cit., p. 511.

<sup>31</sup>Tregear, The Maori Race, p. 52.

<sup>32</sup>Ellis, op. cit., I, p. 228.      <sup>33</sup>Culin, op. cit.

<sup>34</sup>Buck (Hiroa), op. cit., p. 677.      <sup>35</sup>Culin, op. cit.

<sup>36</sup>Buck (Hiroa), op. cit., p. 677.      <sup>37</sup>Culin, op. cit.

Hoop-rolling--New Zealand;<sup>38</sup> Chaco, Eastern Bolivia.<sup>39</sup>

Riddles--Hawaii;<sup>40</sup> Caribs of Dominica, Aymara,  
Araucanian.<sup>41</sup>

Archery--Society Islands;<sup>42</sup> North and South America.<sup>43</sup>

See on this subject nene and popo in Chapter II.

Gambling. Western North America is most noted for the intensity of its gambling, but all that continent and Meso-america as well was addicted to the practice. In South America chiefly only the highland zone gambled. Polynesia, in general, did not gamble.<sup>44</sup> However, in the Society and Hawaiian Islands large wagers were made on nearly all sports, especially cock fighting.<sup>45</sup> The Hawaiian riddling contests even led to betting the lives of the contestants.<sup>46</sup>

Decorative art. Stamping of designs on tapa cloth was highly developed in Polynesia. The process has been compared

<sup>38</sup>Tregear, The Maori Race, p. 54.

<sup>39</sup>Cooper, op. cit., p. 511.

<sup>40</sup>Beckwith, "Hawaiian Riddling," American Anthropologist, n.s., XXIV (1922), 311-331.

<sup>41</sup>Cooper, op. cit., p. 511.

<sup>42</sup>Linton, Ethnology of Polynesia and Micronesia, p. 132.

<sup>43</sup>Cooper, op. cit., p. 523.

<sup>44</sup>Kroeber, Anthropology, pp. 552-53.

<sup>45</sup>Linton, Ethnology of Polynesia and Micronesia, p. 134.

<sup>46</sup>Beckwith, "Hawaiian Riddling," op. cit.



by Ries to the design stamps distributed archaeologically throughout Middle and parts of North and South America. Of the major Polynesian groups all had some form of stamping except New Zealand and the Marquesas.<sup>47</sup> Fiji (non-Polynesian but nearby) even had a form of cylindrical stamp. This was a wooden cylinder carved with rings around it, or with cords wrapped about. This was dipped in dye and rolled on tapa, producing straight lines.<sup>48</sup>

The widespread distribution of negative painting or something related to it in America has been discussed a number of times. It covers the area of the agricultural civilizations of the New World but not in all periods. It was in use in Peru and Mesoamerica by late pre-Classic times. Thus it is of extreme interest for our subject to find that negative decoration of gourds was a characteristic peculiar to Hawaii in Oceania. As Bennett describes the process for Niihau Island, the outer skin of the gourd was scraped bare in the design desired. Then the fruit was buried in the staining mud of the taro patch until the exposed areas had darkened. A different process applied the dye by soaking, from the interior, after the design was scratched through from the inside.<sup>49</sup> Could it be that the Fijian use of stencils was a related process?<sup>50</sup>

<sup>47</sup>Linton, Ethnology of Polynesia and Micronesia, p. 140.

<sup>48</sup>Ibid., p. 52.

<sup>49</sup>Bennett, Archaeology of Kauai, pp. 84-85.

<sup>50</sup>Linton, Ethnology of Polynesia and Micronesia, p. 52.

Ellis reports that the Hawaiian designs used in calabash decoration were geometric--rhomboids, stars, circles, wavy and straight lines in separate sections or crossing at right angles. He adds that the vessels were baked after having been colored for three or four days.<sup>51</sup> There are here many of the features of negative decoration of American ceramics. Lothrop mentions the use of negative painting by the Pipils to adorn gourds.<sup>52</sup> Colombia was noted for gourd decoration.

Inlay was used to some extent in Polynesian art. Linton lists its occurrence in Tonga, Manihiki, Hawaii, and New Zealand.<sup>53</sup> Its use was not uncommon in the higher American cultures.

Representative art. Hernández de Alba describes an interesting anthropomorphic bead found in the Tierradentro territory of Colombia in 1936.<sup>54</sup> The material was sodalite, one of the sacred green-colored stones of the New World. The head was large, in the style of the San Agustín statues or Venezuelan figurines. Artifacts of sodalite had previously been found in Argentina, Bolivia, Peru (generally pre-Inca), and North America. In the Marquesas Islands similar small, carved beads representing human figures are not infrequent,

<sup>51</sup>Ellis, op. cit., IV, 372-73.

<sup>52</sup>Lothrop, op. cit., p. 51.

<sup>53</sup>Linton, Ethnology of Polynesia and Micronesia, pp. 139-40.

<sup>54</sup>G. Hernández de Alba, "Un Collar Precolombiano de Sodalita en Colombia," American Antiquity, IX (1943), 100-105.

under the name of ivi-poo. The Tierradentro bead was drilled doubly, that is from each direction, meeting in the center. The only regions where this type of drilling occur, according to Hernández de Alba, are Brazil and the Marquesas.

Petroglyphs are reported from Hawaii, Pitcairn, New Zealand, New Caledonia, the Austral Islands, and the Chatham Islands, but not from Micronesia.<sup>55</sup> Emory adds Tonga and Fiji to the list, though glyphs are rare there. He reports that the cross and Y markings found on the body of a unique turtle petroglyph in the Society Islands, are exactly paralleled on the body of a human petroglyph in Brazil.<sup>56</sup> According to Thomas Maunupau, an old Hawaiian, petroglyphs were made by the kahunas (priests) and to the initiated had some significance.<sup>57</sup> In that case one can but wish for such a kahuna to interpret the petroglyphs claimed to be on an elevated beach inland from the famous group at Keonelo, Kauai. These reportedly contain pictures of strange animals with bodies like cattle and heads and ears like pigs, but without horns, alongside canoes, fishes, birds, etc.<sup>58</sup>

Double-headed or double-faced figures from Easter Island and Mexico were mentioned above. Another such piece

<sup>55</sup>Linton, Archaeology of the Marquesas Islands, p. 99.

<sup>56</sup>Emory, Stone Remains in the Society Islands, p. 177, fig. 132.

<sup>57</sup>McAllister, op. cit., p. 22.

<sup>58</sup>Bennett, Archaeology of Kauai, p. 90.

is spoken of by Linton for the Marquesas.<sup>59</sup>

Some have claimed specific affinity in characteristic traits between sculptured human figures from cordilleran America and eastern Polynesia. The similarities, if present, seem to us obscured by the small number of examples of such sculptures available for comparisons. Perhaps more significant than detail is the fact that the distribution of human figures in sculpture is definitely eastern. Marquesas and Easter Islands were at peaks of development of this art. It is absent in western Polynesia.<sup>60</sup>

One interesting feature is common to Mesoamerican and Polynesian sculpture of human figures. That is the exaggerated eye-ring. In Mesoamerica this is the hallmark of Tlaloc (rain-god) worship. The Marquesas Islands are especially notable for this feature.<sup>61</sup>

Also unusual is the use of sculpture in architecture in the Marquesas. Some figures were only heads, attached to the wall by insertion of a rectangular tenon into the stone work.<sup>62</sup> Chavín de Huantar is the most famous site in Peru using this type of decoration. One large Marquesan head which had been prepared for architectural use (probably) weighed three tons!

<sup>59</sup>Linton, Archaeology of the Marquesas Islands, p. 74.

<sup>60</sup>Burrows, op. cit., p. 40.

<sup>61</sup>Linton, Archaeology of the Marquesas Islands, p. 77, fig. 1, plates 8-12.

<sup>62</sup>Ibid., pp. 74, 80, 81.

Music. Certain musical instruments are generally admitted to have been in common use in both the areas we are considering. The panpipe was present in Tonga and Samoa (although chiefly in Melanesia)<sup>63</sup> and in nearly all areas and periods of South America from Nazca on. Names for the shell-trumpet are compared under pu in Chapter II.<sup>64</sup> Large signal drums or gongs are also mentioned there as a parallel between Oceania and the Americas. Also the conventional drum, consisting of a skin head over a cylinder, usually of wood, was characteristic of central and marginal Polynesia, but not of the western area.<sup>65</sup> Some examples of the giant drums of central Polynesia look distinctly like the huehuetl drum of the Aztecs. They each have an association with temple ritual.

The mouth flute and nose flute are also genuine parallels in the two regions. Emory thinks especially significant the parallelism in form of the up-turned flutes of Peru and New Zealand.<sup>66</sup> He also states that the gourd-rattle is definitely pre-European in Hawaii, the only Polynesian location for that device.<sup>67</sup> The gourd-rattle has a wide American distribution, especially as a shaman's instrument. Trumpets of

<sup>63</sup>Burrows, op. cit., p. 50.

<sup>64</sup>Cf. Rouget, op. cit.

<sup>65</sup>Burrows, op. cit., p. 50.

<sup>66</sup>Emory, "Oceanian Influence on American Indian Culture: Nordenskiöld's View," op. cit., p. 132.

<sup>67</sup>Ibid., p. 131.

wood come from New Zealand and the Marquesas.<sup>68</sup> They were in use in the high culture centers of the New World, and are used extensively today among the Tropical Forest people.<sup>69</sup>

The use of any stringed instruments in America has been challenged;<sup>70</sup> however, some sort of bow instrument has been claimed so far for the "Lengua" of Paraguay, the "Amazon,"<sup>71</sup> "pre-Columbian Mexico,"<sup>72</sup> and over a wide area of California.<sup>73</sup> In Polynesia the musical bow was important only in Hawaii and the Marquesas. There are indications of its presence, in varying degrees of importance, in New Zealand, Tahiti, the Tuamotus and the Australs.<sup>74</sup>

A form of Jew's harp is mentioned by Hiroa for the Marquesas especially, although a simpler type appears in both eastern and western Polynesia.<sup>75</sup> MacCulloch gives as the only

<sup>68</sup>F. E. Clements, S. M. Schenck, and T. K. Brown, "A New Objective Method for Showing Special Relationships," American Anthropologist, n.s., XXVIII (1926), 588.

<sup>69</sup>Steward, "South American Cultures: an Interpretive Summary," op. cit., p. 710.

<sup>70</sup>F. Boas, "America and the Old World," Proceedings of the XXIst International Congress of Americanists, Göteborg, 1924 (Göteborg, 1925), p. 26.

<sup>71</sup>MacCulloch, "Music (Primitive and Savage)," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), IX, 8.

<sup>72</sup>H. B. Alexander, "Music (American)," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), IX, 10, citing Saville.

<sup>73</sup>Kroeber, Handbook of the Indians of California, p. 824.

<sup>74</sup>Burrows, op. cit., p. 50.

<sup>75</sup>Buck (Hiroa), op. cit., p. 678.

American occurrence of the same instrument the Araucanians.<sup>76</sup>

Metraux has discussed the distribution of the "baton de rythme," which includes much of South America and Polynesia.<sup>77</sup>

Dance and drama. These two activities are so closely related in the cultures we are speaking about that they cannot readily be separated.

The most notable dramatic performances in Polynesia belong to Tahiti where the areoi organization constituted a court-sponsored cult of libertines. They combined acting and dancing with instrumental and choral accompaniment. The theater appears to have been an open-sided house. Little dramas with plots were performed along with dances and pantomimes. Elaborate costumes were used. The men of the group did clowning and burlesquing dances, and provided the music too.<sup>78</sup> The actual organization seems not to have begun until a century or so before European discovery, but the activities must have been old. The Hawaiian drama and dance was by devotees of Laka, god of the dance. The type of performance was essentially the same as in Tahiti, but the organization was less elaborated. New Zealand had houses of amusement called

<sup>76</sup>MacCulloch, "Music (Primitive and Savage)," op. cit., p. 8.

<sup>77</sup>Metraux, "Le Baton de Rythme," Journal, Society of Americanists of Paris, XIX (1927), 117-122.

<sup>78</sup>Handy, History and Culture in the Society Islands, pp. 59-60.

whare karioi in which the young people danced.<sup>79</sup>

Inca dramatic pieces, probably too highly praised by the conquerors, were parts of public dances. At most, according to Rowe, they consisted of a narrative or a dialogue to be sung by one or two actors with a chorus to answer them.<sup>80</sup> Others claim better things for the Mayas. Landa refers to the presentation of "farces . . . and comedies for the pleasure of the public" which were performed on stages at Chichén Itzá in connection with the ceremonials of the Tzec month. The "comedians" went throughout the houses for the five days of the ceremonial playing their pieces and collecting gifts.<sup>81</sup> This recalls the areoi privilege of taking from the uninitiated what food and other things they required. Both mimetic dances and a higher sort of drama were in use among the Aztecs. The dances were largely of a fertility nature emphasizing phallicism.<sup>82</sup> Much of the dancing of the areois was of a similar nature.

The use of stilts in ceremonial dancing has been pointed out as common to Mexico and the Marquesas Islands.<sup>83</sup>

The Hawaiians used marionettes with movable joints in genuine entertainment performances. There is every reason to

<sup>79</sup>Tregear, The Maori Race, pp. 60-61.

<sup>80</sup>Rowe, op. cit., p. 322.

<sup>81</sup>Tozzer, op. cit., pp. 158, 179.

<sup>82</sup>L. H. Gray, "Drama (American)," Encyclopaedia of Religion and Ethics, ed. by Hastings (New York, 1951), IV, 872.

<sup>83</sup>Heyerdahl, op. cit., p. 33 cites several sources.



think the practice ancient.<sup>84</sup> Jointed jumping-jacks were made and manipulated by the New Zealanders also. The Hopi are said to have used marionettes of a sort.<sup>85</sup> One is certainly led to imagine that the jointed figurines found archaeologically in Mesoamerica (Miraflores, Teotihuacan III, Upper Tres Zapotes) were actually used in performances as marionettes.<sup>86</sup>

In Chapter II see the comparisons under saka and areoi.

Numbers. MacLeod has pointed out the comparative rarity of five as a sacred number in America. It is found around Puget Sound and southward into northern California along the coast. It also occurs in Jalisco (the Tepecano), the Witoto of Colombia, and the Toba and Chiriguano of the Gran Chaco.<sup>87</sup> The emphasis on the number on the Northwest Coast is of special significance in view of the fact that five was sacred in Hawaii, particularly in the worship of Ku.<sup>88</sup>

Another Hawaiian peculiarity of possible significance is in the numeration system. There was a use of the figures

<sup>84</sup>Emerson, op. cit., p. 91.

<sup>85</sup>Gray, "Drama (American)," op. cit., p. 872.

<sup>86</sup>S. F. De Borhegyi, A Group of Jointed Figurines in the Guatemala National Museum ("Carnegie Institution, Division of Historical Research, Notes on Middle American Archaeology and Ethnology," No. 100 [Washington, 1950]).

<sup>87</sup>MacLeod, "On the Diffusion of Central American Culture," op. cit., p. 422.

<sup>88</sup>Green and Beckwith, op. cit., p. 203.

4, 40, 400, 4000, etc., which is totally foreign to other Polynesian systems.<sup>89</sup> In general the Polynesian decimal system closely resembles Andean numeration.

The use of large counts in Polynesia is surprising unless we view them as reflections of some higher culture. For instance Ellis gives names for the main decimal divisions up to one million (iu) for the Society Islands.<sup>90</sup> The word rehu (lehu) meant 400,000 in Hawaii, or 100,000 in Tahiti. Quiche for 10 is lahuh. Hawaiian for 40,000 was kini, not the usual Polynesian one. Maya kin recurs in several numeration terms.<sup>91</sup>

Ordering of time. The Pleiades are the important chronological indicator in eastern Polynesia, as against the seasonal arrival of the palolo worm for the west.<sup>92</sup> The Pleiades were used as chronological markers among the Guianans, the Gê, the Tupinamba, and the Chimu.<sup>93</sup> The Pleiades were patrons of agriculture among the Chimu.<sup>94</sup> The first sweet potatoes were offered to the Pleiades by the Maoris.<sup>95</sup>

<sup>89</sup>Beckwith, Kepelino's Traditions of Hawaii, p. 112.

<sup>90</sup>Ellis, op. cit., I, 90.

<sup>91</sup>C. Thomas, "Numeral Systems of Mexico and Central America," Bureau of American Ethnology, 19th Annual Report, 1897-98, Part 2 (Washington, 1900), pp. 894f.

<sup>92</sup>Emory, "Eastern Polynesia, Its Cultural Differentiation," p. 265.

<sup>93</sup>Bennett, "Numbers, Measures, Weights, and Calendars," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 606.

<sup>94</sup>Rowe, op. cit., p. 328. <sup>95</sup>Best, Astronomical Knowledge of the Maori.

Some writers on the Inca claim that the thirty-day month was divided into ten-day periods.<sup>96</sup> Burrows found some information in the calendars of central-marginal Polynesia which could be interpreted as indication of an old division of the month into ten-day periods.<sup>97</sup>

Rock claimed the existence of a 260-day "compartment" within the Hawaiian year.<sup>98</sup> Actually this seems to have been only eight months in length, 240 days. During this time the regular tapu periods were suspended (see above in Chapter VII). Thompson notes that there is some evidence of a 260-day period within the Maya year with special characteristics of its own.<sup>99</sup> Also it is interesting to note that the Cakchiquel (and possibly the people of La Venta) had a straight 400-day calendar. In this way the 400-day and 260-day calendars coincided every thirteen years (an important sacred number).<sup>100</sup> To find a sort of ceremonial compartment within the regular lunar year, and also to have a numeration system based on fours and four hundreds seems to place Hawaii in a position much closer to Mesoamerica than the rest of Polynesia. The fact should also be considered that the Hawaiian year consisted of twelve 30-day months plus five special days at the end. In the same

---

<sup>96</sup>Rowe, op. cit., p. 328.

<sup>97</sup>Burrows, op. cit., p. 84.

<sup>98</sup>F. Rock, "Kalender, Stern Glaube und Weltbilder der Tolteken als Zeugen verschollener Kultur-beziehungen zur Alten Welt," Mitteilungen der Anthropologischen Gesellschaft in Wien, LII (1922).

<sup>99</sup>Thompson, op. cit., p. 99.

<sup>100</sup>Ibid., p. 151.

vein one may wonder if perhaps some significance might be attached to the Hawaiian division of the thirty days (nights) of the lunar month into two groups, one of seventeen, the other of thirteen days.<sup>101</sup> The thirteen day period was fundamental to Mesoamerican calendration.

Also specifically claimed for Hawaii is the fact that the only persons who had the right of reckoning of days, years, months and their names, were the kahunas (priests). It was necessary for those priests to know the character of "the four seasons and the signs for each month and the nature of each" in order to know when to perform their duties.<sup>102</sup>

Education. The use in Polynesia of a formal school for the training of noble youths in traditional history and religious beliefs and practices points to some antecedent higher culture as the source for this institution. Such schools were known in the Marquesas Islands, New Zealand, and the Tuamotus.<sup>103</sup> The actual curriculum of these schools was sometimes extensive, covering much more than mere lore and ritual. The Incas instructed their noble youths in use of arms, language, religion, history, and the use of the quipu.<sup>104</sup>

---

<sup>101</sup>Beckwith, Kepelino's Traditions of Hawaii, p. 80.

<sup>102</sup>Ibid., p. 84.

<sup>103</sup>Best, Astronomical Knowledge of the Maori, p. 24; Clements, Schenck, and Brown, op. cit., p. 592; Stimson, op. cit., pp. 44-45, 57.

<sup>104</sup>Rowe, op. cit., p. 282.

The Aztecs had schooling on two levels, one for standard training of the children of the clan, and a second for priestly training. Girls were trained in other schools.<sup>105</sup> Women also received instruction in the Marquesas.

---

<sup>105</sup>Vaillant, op. cit., p. 117.

## CHAPTER IX

### TRAVEL AND TRANSPORTATION

Water craft. The use of some form of buoyant raft was rather widespread in Polynesia and to all appearances very ancient. Rafts are reported from New Zealand (inland and sea-going), Chatham Islands (sea-going), Tahiti, the Tuamotus, Mangareva, and probably others.<sup>1</sup> Some of these were of large size, and even larger ones were spoken of in legend.<sup>2</sup> The marvelous balsa rafts of the Ecuadorean coast were not only precolumbian, but appear to go right back into the Early Periods.<sup>3</sup>

Dugout canoes of considerable size were in precolumbian use in the Caribbean, Central America, Ecuador, the Maya area, the Northwest Coast and parts of tropical South America.<sup>4</sup> One of these was met by Columbus on his fourth voyage, and was

---

<sup>1</sup>Heyerdahl, op. cit., p. 23; Ellis, op. cit., I, 139; Tregear, The Maori Race, pp. 121-22, 577-78; Rivers, op. cit., p. 526.

<sup>2</sup>Handy, Marquesan Legends, pp. 131, 137, cf. p. 74.

<sup>3</sup>Larco Hoyle, op. cit., p. 166.

<sup>4</sup>Lothrop, "Aboriginal Navigation off the West Coast of South America," Journal, Royal Anthropological Institute, LXII (1932), 229-56.

found to be eight feet wide, with twenty-five paddlers.<sup>5</sup>

The Maya carried on extensive trade with this type of vessel.

Nordenskiöld lists double-canoes for Peru, Central America and Polynesia.<sup>6</sup> Actually the double-canoes were not always the one considered best for travelling long distances by some Polynesians.<sup>7</sup> The form also occurred on the Northwest Coast, in Mexico, and in the Guianas.<sup>8</sup>

Reed or cane balsas are shown on Mochica pots, shaped in the general shape of a canoe with upturned end.<sup>9</sup> The same type of vessel has a distribution that includes California, the Titicaca basin, and southern South America. Canoe-shaped rafts of flax stems were used in New Zealand and the Chatham Islands.<sup>10</sup>

The plank (sewn) canoe occurred in the Marquesas, Hawaii, Samoa, Tonga, Society Islands, Easter Island, and undoubtedly in lesser groups or islands.<sup>11</sup> They are reported in America from Chile, and the Santa Barbara area of

<sup>5</sup>F. Blom, "Commerce, Trade and Monetary Units of the Maya," Middle American Research Series, Publication No. 4 (New Orleans, 1932), pp. 533, 548.

<sup>6</sup>Nordenskiöld, op. cit., p. 263.

<sup>7</sup>Ellis, op. cit., I, 160, 165.

<sup>8</sup>H. Gladwin, Men out of Asia (New York, 1947), p. 265.

<sup>9</sup>Means, op. cit., p. 76.

<sup>10</sup>Tregear, The Maori Race, pp. 121, 577-78.

<sup>11</sup>Metraux, Ethnology of Easter Island, pp. 204f; Clements, Schenck, and Brown, op. cit., p. 587.

California.<sup>12</sup> Lothrop fails to find any specific similarity in the American and Polynesian types. Vaillant also mentions a flat-bottomed, sewn boat (punt) for Aztec Mexico.<sup>13</sup>

The presence of square and triangular sails has been recorded by Nordenskiöld for Peru (Inca), Central America, and Polynesia.<sup>14</sup> The authenticity of some of the New World occurrences has been challenged.

In very brief summary of the indications from the comparative material on means of water transportation, we can say that there is not much specific evidence of cultural contact except in the case of the balsa raft and the reed raft. The boats in use in conquest times in the Americas were of sufficient size to have reached Polynesia without difficulty. At least this is true of those from Central America and the Northwest Coast and probably those from northern South America also. Of course it is now certain that balsa rafts from South America could have reached Polynesia. Polynesian vessels were capable of reaching America from the central and eastern marginal groups.

However, the state of American navigation in conquest times is no sure indicator of what it once might have been. There would be total unbelief of the extensive ancient Arab or Chinese navigation, were we to judge solely by the naviga-

<sup>12</sup>Lothrop, "Aboriginal Navigation," op. cit., pp. 249f.

<sup>13</sup>Vaillant, op. cit., p. 147.

<sup>14</sup>Nordenskiöld, op. cit., p. 263.



tion of those peoples in modern times. Even in Polynesia the people of Easter Island, Mangareva, and New Zealand lost the ability or desire to make large voyaging canoes such as those in which they had arrived in their islands. It takes no stretch of the imagination to see a dropping off in water transportation in America at the end of the rich Classic.

See in Chapter II waka, moana, tai.

Litters. This device was used extensively in Polynesia. In the Society Islands the king and queen were usually borne on the shoulders of specially chosen, sacred bearers who were exempted from other labors. The work of bearing the king was one of the most honorable positions possible.<sup>15</sup> In the coronation ceremony of the Society Islands ariki he was borne in a litter by four men.<sup>16</sup> Likewise the Makea king of Rarotonga was carried during his inauguration ceremony.<sup>17</sup> In New Zealand litters were often used for transportation of nobles, especially for ladies of high rank.<sup>18</sup> Relatives of the royal couple were also sometimes borne by this means in Tahiti.<sup>19</sup> Litters were also known in Samoa<sup>20</sup> and the Marquesas.<sup>21</sup>

<sup>15</sup>Ellis, op. cit., III, 102-103.      <sup>16</sup>Ibid., III, 112.

<sup>17</sup>Linton, Archaeology of the Marquesas Islands, p. 44.

<sup>18</sup>Tregear, The Maori Race, p. 145.

<sup>19</sup>Ellis, op. cit., III, 103.

<sup>20</sup>Tregear, The Maori-Polynesian Comparative Dictionary, p. 614, under whata.

<sup>21</sup>Ibid., p. 593.

Litters were used to carry royalty in Yucatan,<sup>22</sup> and were for the royal family and specially designated favorites in Inca Peru. The Mochica culture also featured magnificent litters.<sup>23</sup> The people of Yucatan also carried the Chilans (prophets) on their backs, out of respect to their function. The Nacom or chief war captain was so carried also.<sup>24</sup>

Carrying pole. The characteristic carrying pole of Polynesia was in use in the New World among the Cuna of Panama and the Seri of Mexico and probably others.<sup>25</sup>

Roadways. There was a surprising development of roads in Polynesia considering the fact that there were no vehicles, no animals of transport, and little or no trade. Square-bottomed, excavated roads are reported from Tonga;<sup>26</sup> a large causeway extending one mile in Oahu;<sup>27</sup> a twenty-mile road paved most of the way around the island of Rarotonga with lava and coral;<sup>28</sup> roads and stepping stones on Malden, Society and

<sup>22</sup>Tozzer, op. cit., p. 165.

<sup>23</sup>Larco Hoyle, op. cit., p. 168.

<sup>24</sup>Tozzer, op. cit., p. 112.

<sup>25</sup>Emory, "Oceanian Influence on American Indian Culture: Nordenskiöld's View," op. cit., p. 131.

<sup>26</sup>McKern, op. cit., p. 89.

<sup>27</sup>McAllister, op. cit., p. 75.

<sup>28</sup>Tregear, The Maori Race, p. 562.

Austral Islands;<sup>29</sup> and some roadmaking in Samoa.<sup>30</sup>

Great causeways or well-paved roads were built in the Maya area.<sup>31</sup> The Inca, and probably their predecessors, built fine roads in Peru. Other American roadmaking was in Dominica in the West Indies, Colombia (Tairona), and in Venezuela.<sup>32</sup>

---

<sup>29</sup>Emory, Archaeology of the Pacific Equatorial Islands, pp. 39-40.

<sup>30</sup>Buck (Hiroa), op. cit., p. 323.

<sup>31</sup>Blom, op. cit., pp. 547-48.

<sup>32</sup>Bennett, "Engineering," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1949]), V, 54.

## CHAPTER X

### HUMAN BIOLOGY

Somatology. When one considers the confused or at least varied state of racial classification based on somatic characteristics, it seems next to impossible to make anything but subjective linkages between Polynesia and possible historically related groups outside the area. In the realm of somatic comparisons we shall pause only long enough to point out some relationships that are possible, without making claims as to established connections.

Sullivan lists basic somatic data for many of the world's ethnic groups for the purpose of comparing them with the Polynesians.<sup>1</sup> A consideration of the figures given there for nose and face show close comparisons with some American groups. Particularly in massiveness of nose, Sullivan points out that few groups, and they include notably some American Indian ones, approach the Polynesian. Another feature of the nose, the "Armenoid hook," has previously been noted as centered in three great areas, the Near East, America, and Polynesia-Melanesia. This nose has particularly intrigued

---

<sup>1</sup>L. R. Sullivan, Marquesan Somatology, with Comparative Notes on Samoa and Tonga ("B. P. Bishop Museum Memoir," Vol. IX, No. 2 [Honolulu, 1923]), Tables LVII, LVIII, LIX.

Hooton who undoubtedly would call for an American-Polynesian connection were he to examine the problem more closely. It is worth noting the close correspondences of nearly all measurements on the Toba of South America, as given by Sullivan's Table LIX, and the Marquesan (Type I) figures.

We should call attention also to Sullivan's statement that, "Due no doubt to the absence of better data from Indonesia [?] some of the closest parallels [to his Type II] are in certain divergent American Indian groups with low faces and broad noses. The Bororo of South America and the Pomo of California are not very different in their anthropometric traits."<sup>2</sup>

Sullivan's Types I and II seem valid after having been confirmed by multiple checking in Samoa, Tonga, and the Marquesas. Type I, his "Polynesians," are the most widespread in Polynesia. They are long-headed, narrow-faced, narrow-nosed and with lighter skin, heavier beard, and more body hair than Type II. Type II ("Indonesian") emphasizes the reverse of these characteristics. A suggested Type III is probably Malayan. Others may be present. In all, Sullivan's summation considers the "Polynesian" element as dominantly Caucasoid. One is reminded of Imbelloni's "premongoloid" Planids and Pampids.<sup>3</sup> It is particularly among this group that close parallels are noted to the exceptional stature of

---

<sup>2</sup>Ibid., p. 229.

<sup>3</sup>Imbelloni, "The Peopling of America," Acta Americana, I (1943), p. 322.

Polynesians.

In view of the bimodalism Sullivan claimed for the Marquesas, it is of interest that Christian reports a tradition from that group to the effect that there were two distinct race-stocks comprising their tribes, the Ati-Panu, or dark-skinned people, and the Ati-Ku'a (Kura), or men of red or brown (or yellow) skin.<sup>4</sup> See kura in Chapter II.

Thus far there has been a reluctance on the part of anthropologists even to compare Polynesian measurements with American lest the taint of "diffusionism" be attached to their name. It is suggested that in view of the connections which genetics now makes certain, a serious classification be attempted which will reconcile the somatic data with the genetic in a rational, unprejudiced manner.

Genetics. Boyd's valuable volume which at last makes genetics meaningful<sup>5</sup> has led anthropologists to a point of decision, as Erik Reed sees it. In a review of Boyd he pointed out that "the blood-type evidence seems to suggest the classification of the Polynesians unquestionably with the American Indians." He chides Boyd for following "the ethnologist's dogma that the Polynesians came eastward into the Pacific from southeastern Asia." As he views Boyd's data "at least a major

<sup>4</sup>F. W. Christian, "Early Maori Migrations as Evidenced by Physical Geography and Language," Report, Sixteenth Meeting, Australasian Association for the Advancement of Science, Wellington, January, 1923 (Wellington, 1924), p. 525.

<sup>5</sup>Boyd, op. cit.

element of Polynesian population came from America . . . , probably mainly from the northwest coast. . . ."6

The figures Reed referred to show an unmistakable relationship between some Indian groups and the Polynesians. It remains to see what published information on more tribes in America will reveal before any conclusions can be drawn concerning places of departure or arrival. For instance the Polynesian percentages showing virtually no B blood type, but high A, are comparable with only certain tribes of Montana and Wyoming and the Eskimo. This certainly suggests a connection with the high-stature Plains Indians. Other figures yield interesting data on possible connections between Polynesia and the Northwest Coast.<sup>7</sup> In the percentages of subgroups of A and AB, Polynesian figures are either identical or of the same order as all North and South American Indians for whom figures are given.<sup>8</sup> Middle America is barely represented in the listing. The same order of similarity of percentages holds for presence of the various Rh types.<sup>9</sup> More detailed figures for America will be awaited with interest.

---

<sup>6</sup>E. K. Reed, Review of Boyd, op. cit., in American Antiquity, XVII (1951), p. 167.

<sup>7</sup>Boyd, op. cit., p. 223, Table 23.

<sup>8</sup>Ibid., p. 238, Table 27.

<sup>9</sup>Ibid., p. 245, Table 29.

## CHAPTER XI

### CONCLUSIONS

Chapters II to XI have presented a large number of similarities which we have suggested might be evidence of precolumbian contact between the Polynesian and American areas. We reiterate that not all this evidence is of equal value. Some of it may be of no value. But if there is a convincing amount of data that is of value, then we have shown that contact(s) actually took place. If voyages did span the eastern Pacific, the parallels of less convincing nature are bolstered as evidence. We believe that the number of parallels, their complex nature and interrelationships, and the unsatisfactory results obtained from other hypotheses, all combine to demonstrate that complex cultural and ethnic movements have taken place in the eastern Pacific basin in the last few millennia.

The major questions now facing us are, how important were the contacts, when did they take place, whence did they come, and where did they go? Some critics may demand that the method of the contacts be explained. We point out that once the fact is demonstrated that contact did occur, the mechanism by which it was accomplished becomes of secondary interest until the answers to the other questions are blocked out.<sup>1</sup>

---

<sup>1</sup>One may wonder how the Tasmanians reached their island, but since they did get there, other questions are of much greater importance.



Hypotheses could be multiplied to account for the parallels examined above. Instead of doing so we offer only one--though involved--hypothesis of historical reconstruction which appears to us to meet most of the requirements of the evidence. Supporting evidence will not be cited as it would require repeating much of the material of the preceding chapters.

We find two sets of parallels indicated by the evidence. The first consists of traits which appear to have originated or been elaborated to the greatest extent in America. From that source-area they must then have traveled to Polynesia. A good example of this class would be the technique of negative painting (or coloring) of gourds in Hawaii.

A second class of traits seems to be of greater Oceanic (and often Asiatic) distribution and were therefore carried from Polynesia to America. An example is the concept of the umbrella as a symbol of royalty or divinity in the Maya area.

Ethnobotanical evidence is particularly conclusive in distinguishing these two categories.

In reconstructing the voyages which caused the interchange of the parallel traits an important caution must be observed. The probable difficulties of transporting and successfully transplanting ethnic groups or cultural traits across a wide expanse of ocean, requires us to propose only a minimum of such ocean crossings, lest we exceed the bounds of logical possibility.

In applying this limitation we have sought to determine what areas of the New World and of Polynesia were most "cosmopolitan" in their culture. By this we mean that they possessed the greatest number of general and specific traits from many ancient American and Polynesian cultures. If such a point of emigration can be found, it no longer becomes necessary to suppose many migrations or diffusions involving many areas. We believe the most cosmopolitan area of the New World was Ecuador (perhaps with Colombia). There we find influences from the Andean highland centers to the south,<sup>2</sup> the Peruvian coastal valleys (via water travel), southern Central America (by community of culture and also by water travel),<sup>3</sup> Mexico,<sup>4</sup> the Tropical Forest and Marginal groupings, and the most important element, the Circum-Caribbean culture, itself a near model of a widespread "Formative" culture of centuries past.<sup>5</sup>

---

<sup>2</sup>R. d'Harcourt, "Archeologie de la province d'Esmeraldas, Equateur," Journal, Society of Americanists of Paris, XXXV (1942), pp. 61-200.

<sup>3</sup>E.g. Bushnell, op. cit.

<sup>4</sup>E.g. H. Lehmann, "Le Personnage Couche sur le Dos: Sujet Commun dans l'Archeologie du Mexique et de l'Equateur," The Civilizations of Ancient America, ed. by S. Tax (Chicago, 1951), pp. 291-98.

<sup>5</sup>Steward, "The Circum-Caribbean Tribes: an Introduction," Handbook of South American Indians, ed. by Steward ("Bureau of American Ethnology Bulletin," No. 143 [Washington, 1948]), pp. 2-11. Actually his extension of the culture of the Andean Early Periods as far north as Mexico seems unjustified. He seems to have minimized the differences between Mesoamerican (Pre-Classic) and Andean cultures beyond a justifiable limit. The early agricultural development now certain for the Valley of Mexico (and probably earlier still to the southward) throws his scheme considerably off, although it still will largely hold for the areas south of Mesoamerica.

From this one region (which was also the center of ocean travel by balsa) it is possible that highly diverse cultural influences could have traveled together into Oceania.<sup>6</sup>

Based on the view that diverse cultural influences would have reached Polynesia from a center such as Ecuador, we propose that actual voyages, perhaps concentrated in a short period of time, carried American physical types and culture elements to eastern Polynesia. There the "Polynesian" culture developed as a result of mixture between the new elements from America--many of which came from high cultures--and an old "basic Oceanic" population and culture.<sup>7</sup> In the aspects of subsistence and general adaptation to the island environment the cultural mixture favored Oceania. In the aspects of religion and the higher arts a sort of dilute American culture resulted. The differentiation between eastern and western Polynesia would perhaps be due to differing degrees and times of American admixture, plus consequent regional developments. Such a view of basic Polynesian origins makes the Polynesian-Melanesian boundary something of the same order as the Chibchan-

---

<sup>6</sup>If this principle is combined with those of convergence, independent invention, cultural loss (by degeneration or replacement), shipwrecks, and others, the wide geographical extent of Oceanic parallels in America can be made much less confusing than it has been made out to be in the past.

<sup>7</sup>We purposely avoid any premature use of the terminology of the East Asian Neolithic as used by H. Beyer in Philippine and East Asian Archaeology, and Its Relation to the Origin of the Pacific Islands Population ("National Research Council of the Philippines Bulletin," No. 29 /Quezon City, 1948/). Nevertheless, it is obvious that if our hypothesis is correct an identification of this "basic Oceanic" culture in Beyer's terms will eventually be made.

Mesoamerican border through Central America.<sup>8</sup>

At least one more voyage from America seems necessary to complete the picture. This must reach Hawaii from North America. Possible sources for this voyage are the Northwest Coast, south-central California, and the west coast of Mexico. We suggest that possibly some sort of coastwise traffic from Mexico northward might have led to a voyage of a culturally mixed group to Hawaii in much the same fashion as the Ecuadorean mixture of cultures. We believe such a movement brought distinctive elements of culture to the Hawaiian group constituting there the aberrant Necker-Nihoa-Kauai culture complex.

There is still a possibility that, besides the two movements suggested above, later voyages from the Americas touched in the islands, but with small effect on the now-formulated Polynesian culture.

There is in the above hypothesis nothing which rules out such a comparatively late eastward movement as represented by Hand's "Ariki" culture. This might have been little more than a local late effect caused by a specialized bent of cultural development in western Polynesia.

All the above fail completely to account for such traits as the blowgun or panpipe in America except by independent invention. This phase of the transpacific problem cannot be answered confidently without a study on Melanesian-

---

<sup>8</sup>But this in no sense implies that our "basic Oceanians" were Melanesian. Probably they were closer to the Micronesians, or perhaps the Ainu.

American similarities. Tentatively, however, since Polynesia is involved, we offer a conjecture on the nature of this relation.

The only acceptable solution, in the light of the number and complexity of the known parallels between western Oceania and America, seems to us to be that an early "basic Oceanic" culture extended right across the Pacific to South America, to which it contributed a significant cultural and racial element. Much in the Tropical Forest, Circum-Caribbean, and Andean cultures (and peoples) could have originated by this means. The effect on Mesoamerica seems to us later and of less importance. This obviously comes close to Imbelloni's position on Oceanic influence in South America.<sup>9</sup>

If this proposal is accepted it then becomes easier to see how later, high-culture traits from America could be successfully received by the Oceanic element in the composite Polynesian culture. Actually the culture patterns were already distant cousins with a measure of similarity.

In general support of this we claim that, if Steward's list of traits for his "Formative culture" of "Nuclear America" be examined carefully, upwards of 60 percent of these traits will be found in Polynesia, many of them characteristically.<sup>10</sup> A higher percentage will be found in Polynesia of the typical Circum-Caribbean traits, and many of the latter

<sup>9</sup>Imbelloni, "The Peopling of America," op. cit.

<sup>10</sup>Steward, "The Circum-Caribbean Tribes: an Introduction," op. cit.

will be specific also.

There were yet other possible connections of minor importance. The relationship of the Northwest Coast to Oceania as a whole is based on one such. The many similarities in certain South American tribes such as the Chocó may point to a late, insignificant movement out of Polynesia.

A legitimate question about this involved reconstruction involves genetics. How do these proposed migrations explain the obvious unity of Polynesian and American genetic types? It would seem that the "basic Oceanic" culture we have postulated was relatively small in numbers and perhaps not even agricultural. In that case the highly developed immigrants from America might have easily had the better of it in population increase. And if the "Menehune" traditions can be taken as an indication of the meeting of the two cultures, we need not suppose that the "basic Oceanians" survived in large numbers in the later population.<sup>11</sup>

---

<sup>11</sup>The repeated denials of historicity to the "Menehunes" reminds one of the stubbornness of the students of Homer in failing for years to admit the presence of what we now know as the Mycenaean and Minoan civilizations. It seems significant to us that in Hawaii and the Society Islands the manahune (menehune) was the lower class of people, the laborers. In addition the Menehune people of Hawaii were renowned for their exotic masonry construction and were supposed to be either dwarfs or giants. The name seems to be related to the Polynesian manuhiri (Hawaiian manuhili), "stranger, foreigner, or, sometimes, guest." In Aztec (and probably earlier) Mexico the common tribesman was a macehuale, which name also referred to the earliest inhabitants of Mexico, a race of renowned giants who had had barely-mentioned dealings with the later Tultecas. This parallel usage of similar-sounding terms appears to indicate a similar ethnic stratification in both areas. One also wonders who were the Nawao people of Hawaii, a semi-mythical group associated with the Menehune. Nahua makes a striking parallel in sound to match the macehuale-manuhili pair of names.

In attempting to set dates for these movements we have little concrete information to go on. It has been regularly claimed by most students of the subject that the "Polynesian migrations" occurred about the period of the European Middle Ages. Actually the only concrete data on which to judge the matter comes from genealogies.<sup>12</sup> These of course are the genealogies of the surviving, or immigrant peoples, not the "basic Oceanians," and as such cannot be expected to go back into the earlier period of the settlement of the islands. That there was such an earlier settlement seems certain.<sup>13</sup> Emory has attempted to use linguistic changes as a key to chronology, but his whole system is based on the assumption (for which the linguistic evidence is not convincing) that Polynesian culture developed its fundamental configuration in western Polynesia. But even using assumptions he comes out with 500 B.C. for the arrival of the Polynesians in western Polynesia.

In part basing our conclusion on ethnobotany, we believe the "basic Oceanic" groups must have made contact with

---

<sup>12</sup>The single carbon-14 date from Hawaii of "the earliest culture in Hawaii" is of no more significance than the one of 600 A.D. for a Pueblito site in Mexico. In both cases either the equation of "early" with "simple" is wrong, or else, more probably, the dating method is at fault. See F. Johnson, Radiocarbon Dating ("Society for American Archaeology Memoir," No. 8 /Salt Lake City, 1951/).

<sup>13</sup>Cf. the certainly early artifacts spoken of by Fornander, cited by Carter, "Plant Contacts," op. cit.

<sup>14</sup>Emory, "Eastern Polynesia, Its Cultural Relationships," op. cit.

South America no later than 1000 B.C. The postulated migration from Ecuador westward seems on several counts to belong to the period from 300 and 700 A.D. The North American voyaging to Hawaii is almost impossible to place, but does seem earlier than the development of the typical Polynesian culture. We might then assign a range of 1 to 400 A.D. for this movement.

It will be seen that many "if's" enter our conclusions. It is to be hoped that the questions raised herein will be studied by other students with a view to elucidating the nature and time of the contacts we claim to have demonstrated. One of the most important needs is for fuller distributional discussions of parallel traits. Those who have the ability and materials would do great service in treating this aspect of the problem, either in whole or in part.

It should also be noted that much additional evidence accumulated in the course of this study could have been presented had not limitations of time prevented it. Still other data were not presented because of imprecise or insufficient documentation. Some important categories which yield additional evidence of significance include traditional history and mythology, property and labor, social stratification, marriage, family and kinship, government and law, and warfare.



## BIBLIOGRAPHY

- Alexander, H. B. "Communion with Deity," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, III, 742.
- \_\_\_\_\_. "Music (American)," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, IX, 10.
- Andrews, E., and Andrews, I. G. D. *Comparative Dictionary of the Tahitian Language; Tahitian-English with an English-Tahitian Finding List*. Chicago Academy of Sciences, Special Publication, No. 6. Chicago, 1944.
- Armillas, P. "A Sequence of Cultural Development in Meso-America," *A Reappraisal of Peruvian Archaeology*. Society for American Archaeology, Memoir, No. 4. Menasha, 1948, pp. 105-11.
- Barnett, H. G. "Culture Processes," *American Anthropologist*, n.s., XLII (1940), 21-22.
- Beckwith, M. W. *Hawaiian Mythology*. New Haven, 1940.
- \_\_\_\_\_. "Hawaiian Riddling," *American Anthropologist*, n.s., XXIV (1922), 311-31.
- \_\_\_\_\_. *Kepelino's Traditions of Hawaii*. B. P. Bishop Museum, Bulletin, No. 95. Honolulu, 1932.
- Bennett, W. C. "The Andean Highlands: an Introduction," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1947, II, 21.
- \_\_\_\_\_. "The Archaeology of the Central Andes," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1947, II, 61-147.
- \_\_\_\_\_. *Archaeology of Kauai*. B. P. Bishop Museum, Bulletin, No. 80. Honolulu, 1931.
- \_\_\_\_\_. "Architecture and Engineering," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 1-66.

- Best, E. Astronomical Knowledge of the Maori. Dominion Museum, Memoir, No. 3. Wellington, 1922.
- Beyer, H. Philippine and East Asian Archaeology and Its Relation to the Origin of the Pacific Islands Population. National Research Council of the Philippines, Bulletin, No. 29. Quezon City, 1948.
- Blom, F. "Commerce, Trade and Monetary Units of the Maya," Middle American Research Series, Publication No. 4. New Orleans, 1932.
- Boas, F. "America and the Old World," Proceedings of the XXIst International Congress of Americanists, Göteborg, 1924. Göteborg, 1925, pp. 21-28.
- Boyd, W. C. Genetics and the Races of Man: an Introduction to Modern Physical Anthropology. Boston, 1950.
- Briggs, I. M. "The Tree of Life Symbol; Its Significance in Ancient American Religion." Unpublished Master's Thesis, Department of Archaeology, Brigham Young University, 1950.
- Brooks, C. "Origin of the Chinese Race," Proceedings of the California Academy of Sciences, Series I, Vol. VII (May, 1876).
- Bruman, H. J. "Some Observations on the Early History of the Coconut in the New World," Acta Americana, II (1944), 220-43.
- Buck, P. H. (Te Rangi Hiroa). Samoan Material Culture. Bulletin, B. P. Bishop Museum, No. 75. Honolulu, 1930.
- Burrows, E. G. "Western Polynesia, a Study in Cultural Differentiation," Etnologiska Studier, 1938, No. 7, pp. 1-192.
- Bushnell, G. H. S. The Archaeology of the Santa Elena Peninsula in Southwest Ecuador. Cambridge, 1951.
- Campbell, J. "The Origin of the Haidahs of the Queen Charlotte Islands," Proceedings and Transactions, Royal Society of Canada, 2d series, III (1897), sec. 2, 91-112.
- Carter, G. F. "Plant Evidence for Early Contacts with America," Southwestern Journal of Anthropology, VI (1950), 164-71.
- \_\_\_\_\_ . Plant Geography and Culture History in the American Southwest. Viking Fund Publications in Anthropology, No. 5. New York, 1945.

Christian, F. W. "Early Maori Migrations as Evidenced by Physical Geography and Language," Report, Sixteenth Meeting, Australasian Association for the Advancement of Science, Wellington, January, 1923. Wellington, 1924, pp. 523-35.

---

. "On the Evidence of Malay, Javanese, Arabian and Persian Admixture in the Inca or Keshua Language of Peru, amongst the Aymara Language of the Peasant Class," Journal, Transactions of the Victoria Institute, XL (1908), 240-48.

Clements, F. E., Schenck, S. M., and Brown, T. K. "A New Objective Method for Showing Special Relationships," American Anthropologist, n.s., XXVIII (1926), 585-604.

Cook, O. F. "Food Plants of Ancient America," Smithsonian Institution, Annual Report, 1903, pp. 481-497.

Cooper, J. M. "Games and Gambling," Handbook of South American Indians. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 503-24.

---

. "Stimulants and Narcotics," Handbook of South American Indians. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 543-58.

Covarrubias, M. "Tlatilco: El Arte y la Cultura Preclásica del Valle de Mexico," Cuadernos Americanos, LI (1950), 149-62.

Crawley, E. "Human Sacrifice (Introductory and Primitive)," Encyclopaedia of Religion and Ethics. Edited by J. Hastings. New York, 1951, VI.

Crequi-Montfort, G. de, and Rivet, P. "La Langue Uru ou Pukina," Journal of the Society of Americanists of Paris, XVII-XIX (1925-27), 57-116, 211-244, 111-139.

Culin, S. "Games of the North American Indians," Twenty-Fourth Annual Report, Bureau of American Ethnology, 1902-03. Washington, 1907, pp. 36-44.

Cummings, B. Cuicuilco and the Archaic Culture of Mexico. University of Arizona Bulletin, Vol. IV, No. 8. Tucson, 1933.

Dixon, R. B. "Contacts with America across the South Pacific," The American Aborigines. Edited by D. Jenness. Toronto, 1933, pp. 315-53.

- Douay, L. Etudes Etymologiques sur l'Antiquite Americaine. Paris, 1891.
- \_\_\_\_\_. Nouvelles Recherches Philologiques sur l'Antiquite Americaine. Paris, 1900.
- Duff, R. "Moas and Man," *Antiquity*, XXIV (1950), 72-83.
- Ekholm, G. F. "Is American Indian Culture Asiatic?," *Natural History*, LIX (1950), 344-351, 382.
- Ellis, W. Polynesian Researches during a Residence of Nearly Eight Years in the Society and Sandwich Islands. 4 vols. London, 1831.
- Emerson, N. B. Unwritten Literature of Hawaii. Bureau of American Ethnology, Bulletin, No. 38. Washington, 1909.
- Emory, K. P. Archaeology of the Pacific Equatorial Islands. B. P. Bishop Museum, Bulletin, No. 123. Honolulu, 1934.
- \_\_\_\_\_. "Eastern Polynesia, Its Cultural Relationships." Unpublished Ph.D. dissertation, Department of Anthropology, Yale University, 1946.
- \_\_\_\_\_. "The Native Peoples of the Pacific," *Geography of the Pacific*. Edited by O. W. Freeman. New York, 1951.
- \_\_\_\_\_. "Oceanian Influence on American Indian Culture: Nordenskiöld's View," *Journal of the Polynesian Society*, LI (1942), 126-35.
- \_\_\_\_\_. Stone Remains in the Society Islands. B. P. Bishop Museum, Bulletin, No. 116. Honolulu, 1933.
- Farfán, J. M. B. "La Clave del Lenguaje Quechua del Cusco," *Revista del Museo Nacional (Lima)*, XI (1942), 248-66.
- Febres, A. Arte de la Lengua General del Reyno de Chile con un Dialogo Chileno . . . y por Fin un Vocabulario Hispano y un Calepino Chileno-Hispano. . . . Lima, 1765.
- Ford, C. S. "A Sample Comparative Analysis of Material Culture," *Studies in the Science of Society*. Edited by G. P. Murdock. New Haven, 1937, pp. 225-246.
- Friederici, G. "Zu den vorkolumbischen Verbindungen der Südsee-Völker mit Amerika," *Anthropos*, XXIV (1929), 441-487.

- Garibay K., A. M. Llave del Nahuatl. Otumba, Mexico, 1940.
- Gates, W. E. A Grammar of Maya. Maya Society Publication, No. 13. Baltimore, 1940.
- Gilmore, R. M. "Fauna and Ethnozoology of South America," Handbook of South American Indians. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1950, VI, 345-464.
- Girard, R. Los Chortis ante el Problema Maya. Vol. 1. Mexico, 1949.
- Gladwin, H. S. Excavations at Snaketown, II: Comparisons and Theories. Medallion Papers, No. 26. Globe, Arizona, 1937.
- \_\_\_\_\_. Men out of Asia. New York, 1947.
- Graebner, F. "Amerika und die Südseekulturen," Ethnologica, II (1913), fasc. 1, 43-66.
- Gray, L. H. "Baptism (Polynesian)," Encyclopaedia of Religion and Ethics. Edited by J. Hastings. New York, 1951, II.
- Green, L. C., and Beckwith, M. W. "Hawaiian Customs and Beliefs Relating to Sickness and Death," American Anthropologist, n.s., XXVIII (1926).
- Hagar, S. "Ancestor Worship (American)," Encyclopaedia of Religion and Ethics. Edited by J. Hastings. New York, 1951.
- Handy, E. S. C. "Dreaming in Relation to Spirit Kindred and Sickness in Hawaii," Essays in Anthropology Presented to A. L. Kroeber. Berkeley, 1936, pp. 119-27.
- \_\_\_\_\_. History and Culture in the Society Islands. B. P. Bishop Museum, Bulletin, No. 79. Honolulu, 1930.
- \_\_\_\_\_. Marquesan Legends. B. P. Bishop Museum, Bulletin, No. 69. Honolulu, 1930.
- \_\_\_\_\_. Polynesian Religion. B. P. Bishop Museum, Bulletin, No. 34. Honolulu, 1927.
- d'Harcourt, R. "Archeologie de la Province d'Esmeraldas, Equateur," Journal of the Society of Americanists of Paris, XXV (1942), pp. 61-200.
- Harrington, J. P. "Hokan Discovered in South America," Journal of the Washington Academy of Sciences, XXXIII (1943), 334-344.

- Hartland, E. S. "Foundation, Foundation-rites," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, VI.
- Heizer, R. F. "Curved Single-piece Fishhooks of Shell and Bone in California," *American Antiquity*, XV (1949), 89-97.
- \_\_\_\_\_. "Fish Poisons," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 277-81.
- Hernández de Alba, G. "The Highland Tribes of Southern Colombia," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1947, II, 915-960.
- \_\_\_\_\_. "Un Collar Precolombiano de Sodalita en Colombia," *American Antiquity*, IX (1943), 100-105.
- Heyerdahl, T. "The Voyage of the Raft Kon-Tiki," *The Geographical Journal*, CXV (1950), 20-41.
- Hibben, F. C. *Treasure in the Dust*. Philadelphia, 1951.
- Hill-Tout, C. "Oceanic Origin of the Kwakiutl-Nootka and Salish Stocks of British Columbia and Fundamental Unity of Same, with Additional Notes on the Déné," *Proceedings and Transactions, Royal Society of Canada*, 2d series, IV (1898), sec. 2, 187-231.
- Hrdlička, A. *Melanesians and Australians and the Peopling of America*. Smithsonian Miscellaneous Collections, Vol. XCIV, No. 11. Washington, 1935.
- Imbelloni, J. *La Esfinge Indiana; Antiguos y Nuevos Aspectos del Problema de los Origenes Americanos*. Buenos Aires, 1926.
- \_\_\_\_\_. "The Peopling of America," *Acta Americana*, I (1943), No. 3, 309-30.
- Jakeman, M. W. (ed.). *The "Historical Recollections" of Gaspar Antonio Chi*. Brigham Young University, Publications in Archaeology and Early History, No. 3. Provo, 1952.
- Johnson, F. (ed.). *Radiocarbon Dating*. Society for American Archaeology, Memoir, No. 8. Salt Lake City, 1951.
- Jolly, J. "Stupa," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, XI, 901.
- Kelly, I. "The Bottle Gourd and Old World Contacts," *Homenaje al Dr. Alfonso Caso*. Mexico, 1951, pp. 207-14.

- Kirchoff, P. "Mesoamerica," *Acta Americana*, I (1943), 92-107.
- Kroeber, A. L. "American Culture and the Northwest Coast," *American Anthropologist*, n.s., XXV (1923).
- \_\_\_\_\_. *Anthropology*. Revised edition. New York, 1948.
- \_\_\_\_\_. "Conclusions: the Present Status of Americanistic Problems," *The Maya and Their Neighbors*. New York, 1940, pp. 460-87.
- \_\_\_\_\_. "Cultural Relations between North and South America," *Proceedings of the XXIIIrd International Congress of Americanists*, New York, 1928. New York, 1930, pp. 5-22.
- \_\_\_\_\_. *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin, No. 78. Washington, 1925.
- Larco Hoyle, R. "A Culture Sequence for the North Coast of Peru," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1947, II, 149-175.
- Latcham, R. E. *La Agricultura Precolombiana en Chile y los Paises Vecinos*. Santiago, 1936.
- Lehmann, H. "Le Personnage Couche sur le Dos: Sujet Commun dans l'Archeologie du Mexique et de l'Equateur," *The Civilizations of Ancient America*. Edited by Sol Tax. Chicago, 1951, pp. 291-98.
- Linton, R. *Archaeology of the Marquesas Islands*. B. P. Bishop Museum, Bulletin, No. 23. Honolulu, 1925.
- \_\_\_\_\_. *Ethnology of Polynesia and Micronesia*. Field Museum of Natural History, Department of Anthropology Guide, Part 6. Chicago, 1926.
- \_\_\_\_\_. *The Material Culture of the Marquesas Islands*. Memoir, B. P. Bishop Museum, Vol. VIII, No. 5. Honolulu, 1923.
- Loeb, E. M. *The Blood Sacrifice Complex*. *Memoirs, American Anthropological Association*, No. 30. Menasha, 1923.
- Lothrop, S. K. *Atitlan: an Archaeological Study of Ancient Remains on the Borders of Lake Atitlan*. Carnegie Institution of Washington, Publication No. 444. Washington, 1933.
- McAllister, J. G. *Archaeology of Oahu*. B. P. Bishop Museum, Bulletin, No. 104. Honolulu, 1933.

- MacCulloch, J. A. "Baptism (Ethnic)," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, II.
- \_\_\_\_\_. "Blest, Abode of the," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951.
- \_\_\_\_\_. "Incense," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, VII.
- \_\_\_\_\_. "Music (Primitive and Savage)," *Encyclopaedia of Religion and Ethics*. Edited by J. Hastings. New York, 1951, IX, 8.
- McKern, W. C. *Archaeology of Tonga*. B. P. Bishop Museum, Bulletin, No. 60. Honolulu, 1929.
- MacLeod, W. C. "On the Diffusion of Central American Culture to Coastal British Columbia and Alaska," *Anthropos*, XXIV (1929), 417-39.
- \_\_\_\_\_. "On the Southeast Asiatic Origins of American Culture," *American Anthropologist*, n.s., XXXI (1929), 554-560.
- Markham, C. R. *Contributions towards a Grammar and Dictionary of Quichua, the Language of the Yncas of Peru*. London, 1864.
- \_\_\_\_\_. *The Incas of Peru*. New York, 1912.
- Martínez del Rio, P. *Los Orígenes Americanos*. 2d edition. Mexico, 1943.
- Means, P. A. *Ancient Civilizations of the Andes*. New York, 1936.
- Mendelsohn, S. "Cremation," *Ciba Symposia*, XI (1951), No. 8, pp. 1329-31.
- Metraux, A. "Easter Island Sanctuaries," *Etnologiska Studier*, V (1935), 104-53.
- \_\_\_\_\_. *Ethnology of Easter Island*. B. P. Bishop Museum, Bulletin, No. 160. Honolulu, 1940.
- Mitchell, S. L. "The Original Inhabitants of America Consisted of the Same Races with the Malays of Australasia, and the Tartars of the North," *Archaeologia Americana, Transactions and Collections of the American Antiquarian Society*, I (1820).
- Montell, G. "Le Vrai Poncho; Son Origine Post-Colombienne," *Journal of the Society of Americanists of Paris*, XVII (1925), 173-83.



- Murdock, G. P. (ed.). Outline of Cultural Materials. 3d rev. edition. Behavior Science Outlines, Vol. I. New Haven, 1950.
- Naumann, W. "Bark Cloth in the Reports of the First Explorers of the South Seas," *Ciba Review*, XXXIII (1940), 1175-79.
- \_\_\_\_\_. "The Use of Bark Cloth," *Ciba Review*, XXXIII (1940), 1193-97.
- Nibley, H. "The Hierocentric State," *Western Political Quarterly*, IV (1951).
- Nordenskiöld, E. "Origin of the Indian Civilizations in South America," *The American Aborigines*. Edited by D. Jenness. Toronto, 1933, pp. 276-320.
- Nuttall, Z. *The Fundamental Principles of Old and New World Civilization*. Peabody Museum of American Archaeology and Ethnology, Paper, II. Cambridge, 1901.
- Olson, R. L. "The Possible Middle American Origin of Northwest Coast Weaving," *American Anthropologist*, n.s., XXXI (1929), 114-121.
- O'Neale, L. M. "Basketry," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 69-96.
- Palacio, D. G. de. *Carta Dirijida al Rey de España*. Collection of Rare and Original Documents and Relations Concerning the Discovery and Conquest of America. New York, 1860.
- Palavecino, E. "Elementos Linguisticos de Oceania en el Quechua," *La Esfinge Indiana*. J. Imbelloni. Buenos Aires, 1926.
- Peabody, C. "Red Paint," *Journal of the Society of Americanists of Paris*, XIX (1927), 207-44.
- Perez, J. P. *Diccionario de la Lengua Maya*. Merida, 1866-77.
- Pimentel, F. *Cuadro Descriptivo y Comparativo de las Lenguas Indigenas de Mexico*. 3 vols. Mexico, 1874-75.
- Reed, E. K. Review of Boyd, *Genetics and the Races of Man*, *American Antiquity*, XVII (1951), 167.
- Rivers, W. H. R. "The Disappearance of Useful Arts," *Source Book in Anthropology*. Edited by A. L. Kroeber and T. T. Waterman. New York, 1931, pp. 524-35.

- Rivet, P. "Les Elements Constitutifs des Civilisations du Nord-Ouest et de l'Ouest Sud-Americain," Proceedings of the XXIst International Congress of Americanists, Göteborg, 1924. Göteborg, 1925, pp. 1-20.
- \_\_\_\_\_. "Les Malayo-Polynesiens en Amerique," Journal of the Society of Americanists of Paris, XVIII (1926), 141-278.
- \_\_\_\_\_. Los Origenes del Hombre Americano. Ediciones Cuadernos Americanos, No. 5. Mexico, 1943.
- Rouget, G. "La Conque comme Signe des Migrations Oceaniennes en Amerique," Proceedings of the XXVIIIth International Congress of Americanists, Paris, 1947. Paris, 1948, pp. 297-305.
- Rouse, B. I. Prehistory in Haiti, a Study in Method. Yale University Publications in Anthropology, No. 21. New Haven, 1939.
- Rout, E. A. Maori Symbolism. New York, 1926.
- Rowe, J. H. "Inca Culture at the Time of the Spanish Conquest," Handbook of South American Indians. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1947, II, 183-320.
- Ruppert, K. "A Special Assemblage of Maya Structures," The Maya and Their Neighbors. New York, 1940, pp. 222-30.
- Sauer, C. O. "Cultivated Plants of South and Central America," Handbook of South American Indians. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1950, VI, 487-543.
- Shafer, R. "Athapaskan and Sino-Tibetan," International Journal of American Linguistics, XVIII (1952), 12-19.
- Smith, A. L. Uaxactun, Guatemala: Excavations of 1931-1937. Carnegie Institution of Washington, Publication 588. Washington, 1950.
- Sorenson, J. L. "The Distribution of Tetrapod Pottery in the New World." Unpublished MS, in possession of the author, 1951.
- Steinmann, A. "The Ship as Represented in the Art of South East Asia," Ciba Review, No. 52 (1946), pp. 1876-83.
- Steward, J. H. "The Circum-Caribbean Tribes: an Introduction," Handbook of South American Indians. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1948, pp. 2-11.

- \_\_\_\_\_. "Diffusion and Independent Invention: a Critique of Logic," *American Anthropologist*, n.s., XXXI (1929), 491-95.
- \_\_\_\_\_. "South American Cultures: an Interpretive Summary," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 669-772.
- Stimson, J. F. Tuamotuan Religion. B. P. Bishop Museum, Bulletin, No. 103. Honolulu, 1933.
- Stirling, M. W. Historical and Ethnological Material on the Jivaro Indians. Bureau of American Ethnology, Bulletin, No. 117. Washington, 1938, p. 86, quoted in Metraux, A. "Weapons," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1949, V, 258.
- Stokes, J. F. G. "Spaniards and the Sweet Potato in Hawaii and Hawaiian-American Contacts," *American Anthropologist*, n.s., XXXIV (1932), 594-600.
- Stone, D. "The Basic Cultures of Central America," *Handbook of South American Indians*. Edited by J. H. Steward. Bureau of American Ethnology, Bulletin, No. 143. Washington, 1948, IV, 169-193.
- Sullivan, L. R. Marquesan Somatology, with Comparative Notes on Samoa and Tonga. B. P. Bishop Museum, Memoir, Vol. IX, No. 2. Honolulu, 1923.
- Tavera-Acosta, B. "Nuevos Vocabularios de Dialectos Indigenas de Venezuela," *Journal of the Society of Americanists of Paris*, XIII-XIV (1921-22), 217-232, 65-82.
- Taylor, W. W. A Study of Archeology. Memoir, American Anthropological Association, No. 69. Menasha, 1948.
- Thomas, C. W. "Comparative List of Central American and Polynesian Words; also Correspondence, Miscellaneous." Bureau of American Ethnology, MS 3717, 1894.
- Thomas, C. "Maya and Malay," *Journal of the Polynesian Society*, VII (1898), 89-100.
- Thompson, J. E. S. Maya Hieroglyphic Writing: Introduction. Carnegie Institution of Washington, Publication 589. Washington, 1950.
- Torres Rubio, D. de. Arte y Vocabulario de la Lengua Quichua General de los Indios de el Peru. Reprint of the edition of 1619. Lima, 1754.

- Tozzer, A. M. (ed.). Landa's Relación de las Cosas de Yucatan. Peabody Museum of American Archaeology and Ethnology, Paper, Vol. XVIII. Cambridge, 1941.
- Tregear, E. The Maori-Polynesian Comparative Dictionary. Wellington, 1891.
- \_\_\_\_\_. The Maori Race. Wanganui, 1904.
- \_\_\_\_\_. "Notes on Maya and Malay," Journal of the Polynesian Society, VII (1898), 101-108.
- Vaillant, G. The Aztecs of Mexico. Penguin Books edition. Harmondsworth, Middlesex, 1950.
- \_\_\_\_\_. Excavations at Zacatenco. Anthropological Papers of the American Museum of Natural History, Vol. XXXII, Part 1. New York, 1930.
- Von Hagen, V. W. The Aztec and Maya Papermakers. New York, 1944.
- Weitlaner, R. C. "Relaciones Genéticas entre los Grupos Lingüísticos," Mexico Prehispánico. Mexico, 1946, pp. 34-35.
- Whitaker, T. W. "Lagenaria: a Pre-Columbian Cultivated Plant in the Americas," Southwestern Journal of Anthropology, IV (1948), 49-68.
- Willoughby, C. C. "Feather Mantles of California," American Anthropologist, n.s., XXIV (1922).
- Wolff, W. Island of Death. New York, 1948.
- Zevallos Quiñones, J. "Primitivas Lenguas de la Costa," Revista del Museo Nacional (Lima), XVII (1948), 114-19.
- \_\_\_\_\_. "Un Diccionario Yunga," Revista del Museo Nacional (Lima), XV (1946), 163-88.

EVIDENCES OF CULTURE CONTACTS BETWEEN POLYNESIA  
AND THE AMERICAS IN PRECOLUMBIAN TIMES

An Abstract  
of a Thesis Presented to  
the Department of Archaeology  
Brigham Young University  
Provo, Utah

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

by  
John Leon Sorenson

July, 1952

## ABSTRACT

In Chapter I the general problem of diffusion was discussed, and its importance in the Americanist and Oceanic fields was pointed out. The purpose of the present study was to summarize the most significant work of the past relating to Polynesian-American contacts. In addition to this, material obtained by original research was to be added to that previously found.

In the language section, Chapter II, Polynesian and American words of parallel form or sound and meaning were listed. In addition brief attention was given to the possible occurrence in Polynesia of some form of writing. Other forms of communication and recording were also compared.

Such aspects of culture as agricultural methods, food preparation, and fishing were considered at great length in Chapter III. Special attention was paid to the evidence--much of it new--from ethnobotany, which shows that contacts of people did occur between America and lands to the west. It was pointed out that plant history has special value in providing at least a rough dating in some cases. Polynesia was shown to have plants and methods both from the west and also from America. Several aspects of fishing were compared and revealed that some highly specific traits were held in common by both our areas. A further important parallel appears in

the area of beverages where the ceremonial drinking of America has definite likenesses, even in the name, in Polynesia.

Chapter IV compared especially the elaborate head-dresses so common as symbols of rank in both America and Polynesia. Another striking comparison was in feather mantles.

Chapter V concerned itself with manufacturing and associated activities. Most impressive was the almost complete identity in the bark-cloth making complexes of the two regions. Some word parallels were pointed out in Chapter II which support the culture likenesses.

Several types of houses, domestic and religious, were shown to have similarities in the two regions. One of the most striking of these is the stupa of India, tupa of Easter Island, and chullpa of Peru. The unusually elaborate stone temple structure of eastern Polynesia was suggested as close in a number of important features to a special assemblage of buildings in the Maya area. In military construction the use of fortified hilltops, with even details much alike, proved to be present in South America and generally in Polynesia.

According to the data of Chapter VII on religious beliefs and practices, some very complex characteristics or beliefs about certain supernatural beings in Polynesia find striking parallels in Mesoamerica. A number of beliefs about plants and animals were closely similar in the two areas. This evidence is bolstered by a long list of correspondences in vocabulary. Both general and specific correspondences exist between Polynesian and American practices with regard to such

rites as sacrifice, finger sacrifice, circumcision, and baptism. The elaborate means of divination employed in the Americas seems duplicated in some cases in Polynesia.

Chapter VIII demonstrated that an important group of games, sports, art features, musical instruments, dramatic performances and related words were connected in the separate regions of Polynesia and the Americas.

In the brief discussion of transportation, evidence was brought out to show that communication between the regions, to carry the traits spoken of previously from the one region to the other, was feasible, at the very least. Use of litters provides another specific evidence of inter-areal communication in ancient times.

But brief attention was given to comparisons in human biology. It was pointed out that recent genetic studies point to an important linkage of race between Polynesia and the Americas, in contradiction of previous interpretations. Several fruitful areas for more detailed research on the challenging problem were brought out.

The conclusions postulated several migratory movements from America to Polynesia. The most important of these was from Ecuador or Colombia into eastern Polynesia. This movement, mixed with a supposed "basic Oceanic" culture already in the islands, was thought to have resulted in typically Polynesian culture. A suggested time for the migration was between 300-700 A.D.

Another migration, this time from North America, per-



haps Mexico or the Northwest Coast, traveled to Hawaii where the unusual culture of Nihoa and Necker Islands shows evidence of having dated to perhaps 1-400 A.D.

Before either of these had taken place, culturally simple Oceanians are held to have made contact with South America (and perhaps North America too) before 1000 B.C. As a result the later return wave of American culture into the islands took back with it a number of features not unlike those already there.

All those reconstructions were offered only as hypotheses, since it was admitted that lack of complete distributional data--particularly for America--still hampers quantitative treatment which might yield more definite results for culture-history reconstruction than were obtained here.

A plea was added for further studies with the aim of clarifying the knotty problems of Oceanic culture history and American origins.