Method for the synthesis and analysis of manipulative religion

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A METHOD FOR THE SYNTHESIS AND ANALYSIS
OF MANIPULATIVE RELIGION

by

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B.A. Montana State University, 1963

Presented in partial fulfillment of the requirements for the degree of

Master of Arts

MONTANA STATE UNIVERSITY

1963

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JUL 22 1963

Date
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CHAPTER I

INTRODUCTION

The cross-cultural comparison of the world's varied religious systems has not proceeded at a rate commensurate either with the acknowledged importance of religion as an integral, central facet of man's social existence or with the parallel technical advances that have characterized recent developments in the social sciences. Man's religious experience has not received the intensive attention of scholars that could reasonably be expected of them by reason of their professional mandates. Theirs is the responsibility of deriving via the comparative method and other synthetic procedures broad generalizations concerning the dynamics of religion and the predictability of social consequences.

A brief overview of events and forces in the historical development of man's concerted and serious interest in religion may serve to clarify the present wanting status of our synthetic and analytical accomplishments in the field of comparative religion.

Until the age of enlightenment man was almost entirely preoccupied with his own religion, and the practices of his neighbor were viewed with either suspicion or hostility.

During the centuries of enlightenment and European colonization, reports by returning travelers were not complete without accounts of the strange religions practiced by the savages they encountered. It
was not until the latter part of the nineteenth century, however, that interest was stimulated toward the comparative study of religion from a generic viewpoint. Because Darwin, Boucher de Perthe, Charles Lyell, and others had upset the pat Christian explanations with respect to the realities of biology and geology, the accepted beliefs about religion in general became suspect. Thus, the embryonic science of Anthropology entered upon its advance toward the cultural subject of religion. Although strictly descriptive publications became more sensitive and objective, as well as more abundant, more valuable works were produced by such great theorists as E. B. Tylor, R. R. Marett, and James Frazer. It was they who proposed solutions to one of the burning questions of the times: What was the evolution of culture and religion? In 1871, Tylor published a monumental work entitled Primitive Culture in which was contained a long section that dealt with the origin of man's religion. Tylor reasoned that religion began with animism, the belief in personalized or anthropomorphic spirits. In 1909, R. R. Marett suggested an earlier stage in the evolution of religion; The Threshold of Religion presents extensive evidence to demonstrate that a belief in non-personalized supernaturals necessarily precedes personalized supernaturals (and therefore animism) in the evolution of religion.

In a twelve volume work entitled The Golden Bough (1911-15), Sir James Frazer proposed that religion evolved, not from some specific belief, but from certain observed natural relationships that were magnified into a system of magic. He further suggested that the supernatural was grafted onto that base and that it was not the core of religion as both Tylor and Marett had proposed.
The 1920's and 1930's found the doctrine of unilateral evolutionism, as propounded by Tylor, Marett and Frazer, falling into increasing disfavor. In America, where anthropology had become generally anti-theoretical, Franz Boas and his followers adhered rigidly to the ethnographic description of religious phenomena. In Europe, and particularly in Germany and England, the doctrine of diffusion as propounded by Wilhelm Schmidt, Elliot Smith, Franz Graebner, and others began gradually to replace the emphasis upon evolution. The outstanding diffusionist contributions on religion are those of Father Wilhelm Schmidt. It was Schmidt's contention (1921) that the original religion of man was centered upon the existence of a high god. He felt, however, that the original religion was debased through the centuries by a diffused overlay of magically oriented activities. Schmidt found evidence indicating the presence of an aboriginal high god in every culture he examined.

In recent years, general studies of religion have appeared as rather innocuous syntheses. By consulting the first page in Primitive Culture, the reader knows precisely what theoretical road he is traversing and each succeeding page leads inevitably to the conclusion that animism is the fountainhead of religion. In the works of Radin (1937), Lowie (1948) and Malinowski (1948), the reader is less certain where he is heading; if he knows where he is heading he may wonder why. These writings are, in a real sense, popularizations rather than theoretical expositions though they each contain elaborate personal theories. The end seems to be that of communicating a "feeling" for religion.

In his preface to Social Theory and Social Structure (1949:1-5) Robert K. Merton suggests that the most fruitful area of social theory is that which he calls theories of the middle range. These are
theories which are "intermediate to the minor working hypotheses evolved in abundance during the day-to-day routines of research, and the all-inclusive speculations comprising a master conceptual scheme from which it is hoped to derive a very large number of empirically observed uniformities of social behavior." This viewpoint seems to have particular implications for the study of religion. The all-encompassing theories of Tylor, Marett, Frazer, and Schmidt are, despite the abundance of ethnographic evidence presented, essentially unprovable propositions. It is inconceivable that the religious practices of man a million years in the past could be reconstructed without access to immense knowledge of the processes involved in culture change. Although considerable knowledge has been gained in recent years concerning culture change, the task of working back a million years is still far beyond the capacity of anthropologists.

There are many ethnographic studies directed toward developing theories of the middle range, but there is a scarcity of studies in the specific area of social anthropology. Two outstanding studies in the social anthropology of religion are Willard Z. Park's Shamanism in Western North America (1941) and Ake Hultkrantz’s Conception of the Soul Among North American Indians (1953). Although both studies yield

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1 For example: Papago Indian Religion (Underhill 1946); An Apache Life-Way (Opler 1941); The Role of Conjuring in Salteaux Society (Hallowell 1942).

2 Social Anthropology will be defined herein as the comparison of aspects of social organization among different cultures, Ethnography as the description of single cultures, and Ethnology as the intensive theoretical analysis of single cultures.
theories of the middle range, they have in common a basic flaw in that
the scientific method, in all its aspects, was not strenuously applied. Because studies of religion are notoriously weak in this regard, this
paper will be oriented toward the improvement of methodology in the com-
parative study of religion. If it can be shown that rigorous methodology
is applicable to studies of religion, the primary purpose of this paper
will have been fulfilled. Theories and hypotheses derived from the appl-
cation of this method should be considered as evidence of the utility
of the method rather than as end products in themselves.

There are two very different approaches which are in accord with
the strictures of science. The first is the experimental approach used
by most natural scientists and by some psychologists and from which
theory is empirically derived. The second approach is that of imposing
a logically consistent structure upon reality in such a way that the
significant relationships may be examined and theories derived there-
from. The second approach is preferred in this study for two reasons.
The first reason is a rather practical consideration: The data of
social anthropology (as previously described) is not amenable to experi-
mentation. The second reason concerns the philosophy of science.
Following William James (1909), the position will be taken that a vari-
able is a segment of the real world de-limited from other segments by
mental constructs, i.e., concepts, which are conceived rather than
perceived by the investigator. The scientist brings the variables to
the laboratory with him; he does not "discover" them in the course of

3Specifically, these investigators did not derive their theories from testing hypotheses, and failed to use any formal kind of sampling technique.
experimentation. Thus, the only proof of a theory is that it yields what science demands in the way of results, and not that the results reflect "the laws of nature". Even though the researcher brings the variables to the laboratory with him, the variables must be logically consistent in order that they may yield, upon their application, valid results. Ernest Nagel (1961:1-15) maintains that the distinctive goal of science is the provision of systematic explanations. The term "systematic explanation" has two distinct implications: 1) variables must be described, and 2) the inter-relationships among the variables must be discerned. The establishment of a method that provides for these two requirements calls for a system capable of isolating the significant variables. If variables overlap rather than being isolated, it appears impossible that they could ever be analytically inter-related qua variables. On the other hand, a description of variables within a defined area requires a statement of elements held in common among or between them. When no statement of the common elements accompanies the description, there is a distinct possibility that some phenomena included within the area under description have not been conceived of as being variables. If certain variables are thus omitted from a synthesis, the outcome of such an endeavor becomes necessarily suspect.

Therefore, any assemblage of concepts (variables) within a defined area must fulfill the following requirements prior to their being considered internally reliable in the synthetic description and analysis of that area:

1) The conceptual ordering of variables (system) must split the defined area into mutually exclusive categories.

2) The conceptual ordering of variables (system) must relate these mutually exclusive categories by a statement of common elements.
The first step in examining existing concepts is the operational definition of what exactly constitutes the limits of the area under discussion. Manipulative religion shall be defined as man's interaction with the supernatural, wherein he redirects the stimuli provided by defined relationships between the natural and supernatural, thereby effecting appreciable rearrangements of reality. The following is a list of some of the more important concepts which, by their definition, are involved within the framework of manipulative religion:

1) Shamanism - Religious practices based upon the theory that a spirit outside the individual takes possession of him and that he thereafter operates only when motivated by the spirit.

2) Witchcraft - The exercising of control over another person through individual protective spirits, often to the person's disadvantage.

3) Divination - The process of arriving at a judgment of the unknown or future through the study of incomplete evidence as revealed in various signs.

4) Magic - The techniques of coercion by which persons attempt to attain desired ends.

5) Prayer - A verbal request submitted to a supernatural being.

6) Incantation - The expression of special phrases by statements or by singing in order that a special power should take effect.

7) Spell - A series of recited or sung words expressed to accomplish desired magical ends.

8) Sacrifice - The giving, sometimes including the destruction, of a symbolic offering for religious or sacred purposes.

9) Fetish Use - The use of an object which has supernatural potency, often because of its association with a spiritual being (Winick 1958).

Rather than abstracting definitions of these variables from among a variety of sources and thereby risking the selection of inconsistent definitions, I have chosen to rely upon Winick's Dictionary of Anthropology. Although this source may be held questionable, considering its generalized attitude, as opposed to more sophisticated conceptualizations, it constituted the only available resource of its kind.
Several of the above definitions are partially inside and partially outside the area encompassed by manipulative religion. Since the definitions of magic, divination, and spell include no statement as to whether the supernatural is involved in the particular activity, we may assume that certain aspects do involve the supernatural while others do not. For ease of analysis only those parts of these concepts which are within the scope of the defined area will be examined. Thus, the parenthestic supplements to follow, as they concern divination, magic, and spell, will be added to the above definitions:

3) Divination - The process of arriving at a judgment of the unknown or future through the study of incomplete evidence as revealed in various signs (the supernatural being involved in some way).

4) Magic - The techniques of coercion by which persons attempt to attain desired ends (the supernatural being involved in some way).

7) Spell - A series of recited or sung words expressed to accomplish desired magical ends (the supernatural being involved in some way).

Examining these nine concepts in relation to the two stated conceptual necessities for scientific syntheses, we observe that the defined concepts fail to constitute mutually exclusive variable categories. There is nothing in either of the preferred definitions of divination, magic, spell, etc., to exclude, for example, a witch from practicing shamanism or to prevent a shaman from practicing witchcraft.
Furthermore, shamanism may involve magic, or prayer, or incantation, or spell, or sacrifice, or fetish use. For that matter, witchcraft and divination may involve any or all of these activities. If two concepts are examined at a time, it is difficult to find any pair which could not be at least peripherally overlapping. Only three pairs (out of a possible 45) exhibit mutual exclusion. They are: 1) prayer and fetish use, 2) incantation and fetish use, and 3) spell and fetish use. Because prayers, spells and incantations involve verbalization, and fetish use implies the involvement of objects, the two categories are, in a sense, exclusive of one another. However, the mutual exclusion does not extend among prayers, incantations and spells. An incantation could conceivably be a prayer, or a prayer might be an incantation. A spell could consist of a prayer-incantation, a prayer, an incantation, or something entirely outside the realm of either of them.

On the other hand, it is doubtful that the nine concepts cited above are related to one another so closely that separation is impossible. It might be argued that since total exclusiveness is not apparent, the categories must be interrelated. Yet it does not necessarily follow that because shamanism may include witchcraft and divination that shamanism does include witchcraft and divination. It is just as easy to find a particular instance of shamanism that has not the least connection with witchcraft or divination, as they are defined, or, for that matter, with magic, prayer, incantation, spell, sacrifice, or fetish use.
Because the old concepts incorporated within the scope of manipulative religion are at once inextricably interwoven and only remotely related to one another, it appears that the introduction of a new method for analysis and synthesis is warranted. In addition, reclassification forces re-examination of the data and it may reveal relationships heretofore obscured.
Before presenting the proposed method, it is necessary to construct a theoretical system in which manipulative religion occupies an exclusive, yet integrated position. Without a theoretical construct, the same argument that was employed in examining the concepts included in the sub-structure of manipulative religion could be applied to the relationship of manipulative religion to such concepts as religion, theology, and supernaturalism. Although social scientists in general do not agree to the specifics of a standard definition of religion per se, there does appear to be a common thread uniting diverse definitions. Religion, then, can be considered to be the interaction of man with the culturally defined supernatural. This definition can only be useful in classifying religious responses if all cultures conceive of reality in terms of a sacred-secular dichotomy. Most authorities agree with Emile Durkheim (1912) that all peoples do make this distinction, or at least they admit that all cultures recognize a supernatural; this admission amounts to the same thing in essence.

The following diagram illustrates the classification of religion as it will be considered in this study:

```
RELIGION
THEORETICAL — APPLIED
CONFIRMATIVE MANIPULATIVE
```

Diagram 1
Beginning with religion as the general area, the first step will be that of splitting religion into two categories, each of which will represent a different kind of interaction that man performs in his relationship to the supernatural. The first kind of interaction will be called **theoretical religion**. Essentially it is a passive interaction with the supernatural, concerned as it is with the ethno-theology of the supernatural as well as with the ethnic determination of how the natural and supernatural operate relative to one another. The second kind of interaction will be designated **applied religion**. It shall be defined as an active interaction with the supernatural, involving culturally provided stimuli and responses in terms of which man behaves in his day-to-day existence. It should be noted that this dichotomy is far from original; Van Genneps (1960:1-16) called the first category "religion" and the second "magic". In a slightly different context, Frazer (1911-15) divides that which he calls "magic" into the theoretical and practical sub-categories. Morgan (1901) followed these same general lines of thought in his description of the Iroquois.

Although some authors discern several different kinds of **theoretical religion**, a discussion of these different sub-categories is superfluous to the problem at hand. Before entering upon a discussion of **applied religion**, however, it may be well to introduce two concepts abstracted from **theoretical religion** which will play important roles in the method proposed for the synthesis and analysis of **manipulative religion**. I will consider the theorized supernatural as consisting of supernatural entities which exhibit behavior as a function
of personality-projected behavior (dynamistic supernatural). ¹

The category of applied religion will be considered to consist of two sub-categories. The first will be designated confirmative religion; it is man's interaction with the supernatural, wherein he makes only minimal response of a non-redirecive nature to the stimuli provided by the defined relationships between the natural and supernatural, thereby causing no modification of reality. Confirmative religion is non-redirecive in that the consequences of such practices tend to reinforce the original reality, rather than to cause the re-arrangement of its constituents. The second sub-category of applied religion is, of course, manipulative religion. Repeating the definition presented on page 7, manipulative religion is man's interaction with the supernatural, wherein he redirects the stimuli provided by defined relationships between the natural and the supernatural, thereby effecting appreciable re-arrangement of reality.

The contrast between confirmative and manipulative religion may best be illustrated by reference to certain practices of the aboriginal inhabitants of Hawaii. The Hawaiian nobility possessed a great quantity of mana (dynamistic supernatural). The nobility effected specific changes in reality by reason of their possession of mana. These acts are a part of manipulative religion because they involve the redirection of culturally provided stimuli, and thus induce the re-arrangement of reality. On the other side of the coin is the behavior of commoners in relation to the nobility. It was considered dangerous to come into

¹In this paper the Polynesian word mana will be used as a synonym for the dynamistic supernatural.
personal contact with individuals possessing greater quantities of mana because injury would occur to the person of lower status who possessed less mana. In conjunction with these theoretical contentions the Hawaiians had a number of avoidance rules or tabus. These acts of avoidance may be thought of as confirmative religion as it concerns a non-redirective, essentially passive response to culturally provided stimuli without a consequent re-arrangement of reality.

Although the definition of manipulative religion is adequate in that it establishes a perimeter around a group of behavioral phenomena, for real utility a set of necessary conditions assists an investigator in deciding whether or not a particular behavioral item should either be included or excluded from consideration. There is, however, a risk in using a set of necessary conditions in conjunction with a definition since they may coincide only imperfectly. A way of avoiding such difficulties is to derive the necessary conditions from the definition, or vice versa. Because manipulative religion has already been defined, the necessary conditions will be derived from the definition.

There are four basic elements in the definition of manipulative religion. The definition of manipulative religion requires the effec-
tation of a re-arrangement of reality; thus two elements in the defini-
tion are that there must be causal activity and that there must be manifest effect. Necessarily, any causative activity in which man indulges must affect a portion of the community, if only the people directly engaged in the activity. The third element, then, is the latent or sociological affect upon the community. Finally, the very nature of manipulative religion indicates that in some way man is interacting with his supernatural. The fourth element, therefore, is
that the supernatural must enter into either the cause or the manifest
effect.

Restating these four elements yields the following requirements
which must be fulfilled in order for a particular bit of behavior to be
considered to be a part of manipulative religion:

1) Man must believe that he effected a re-arrangement of
reality by using causative procedures (there must be a
cause).

2) There must be a culturally defined re-arrangement of
reality (there must be a manifest effect).

3) There must be an effect upon the community (there must
be a sociological or latent effect).

4) It must be believed that the supernatural (dynamistic
or animistic) is involved in either the cause or the
manifest effect.

The Haida of Queen Charlotte Island perform a religious activity
which graphically illustrates the above basic requirements. When an
earthquake struck the island one Haida moiety ran from their homes and
in unison sang a chant which invoked the supernatural and thus stopped
the tremor. By performing the required acts this moiety had used
manipulative religion (the cessation of the tremor was the manifest
effect; the changes in status of the members of this moiety relative
to the community and to one another was the sociological effect; and
invoking the supernatural involved the supernatural in the causative
procedures).

Although the preceding necessary conditions establish a definite
perimeter around a group of phenomena, something more is required be-
fore synthesis and analysis of these phenomena can take place. On
page 5, two basic requirements were established as points of reference
for evaluating previously existing concepts as to their locus within
the framework of manipulative religion. These two requirements form the basis for the creation of any concept assemblage: the first is that a system must split a defined area into mutually exclusive categories, and the second is that a system must relate mutually exclusive categories by a statement of common elements. Rather than establishing the concepts (variables) as the first step, it is more advisable to begin with a classification and then establish variability within each class. By so doing, all the phenomena included in manipulative religion will also be included in one or another of the variables.

Using the first three necessary conditions on page 15 as units into which every manipulative act may be divided, we find three classes: cause, manifest effect, and latent effect. (The fourth necessary condition, that the supernatural must be included in either the cause or the manifest effect, can be handled more readily as part of the variables than as a part of the classification.) These three units can be further broken down on the basis of the content of the necessary conditions.

Turning to the first necessary condition listed above, the requirement of cause, we find two essential elements to be involved: 1) man, himself, must somehow be actively involved, and 2) man must use some technique or procedure. The second necessary condition, manifest effect, establishes two requirements: 1) there must be a defined reality, and 2) this reality must be re-arranged. The third necessary condition (latent effect) has one essential element: a portion of the community must be affected. Therefore, the abstraction of essential elements from the established necessary conditions of manipulative
religion yields the following classification:

\[
\begin{array}{c|c|c}
\text{Manipulative Religion} & \text{Man} & \text{Techniques} \\
\hline
\text{Cause} & \text{Manifest Effect} & \text{Latent Effect} \\
\hline
\text{Reality Change} & \text{Affect} & \text{(upon the community)} \\
\end{array}
\]

Diagram 2

In addition to the above-mentioned categories of cause, I should like to include two categories which are not derived from the necessary conditions. This is possible, however, only if one of the variables included within each category is the negation of the category itself. Thus, I will include under the class "cause" the categories, objects and route, each of which will have (in addition to variables implying the use of objects and the use of a supernatural as an intermediary) variables implying not using objects and not using the supernatural as an intermediary. The outline of the classification of manipulative religion in its completed form is:

\[
\begin{array}{c|c|c}
\text{Manipulative Religion} & \text{Man} & \text{Techniques} \\
\hline
\text{Cause} & \text{Manifest Effect} & \text{Latent Effect} \\
\hline
\text{Objects} & \text{Route} & \text{Reality Change} & \text{Affect} \\
\hline
& & \text{(upon the community)} \\
\end{array}
\]

Diagram 3

Before presenting the variables, it should be pointed out that Diagram 3 is not a standard classification such as the breakdown of religion into constituent elements in Diagram 1. It is rather a declaration of the categories to be used in the study.

Since the schema to be presented in Figure 1 is a research tool
rather than a theoretical exposition, the variables must be applicable to specific situations. Therefore, rather than actually defining the variables, a set of criteria will be used. Although a certain amount of clarity is inevitably lost by this process, the increased utility more than offsets this deficiency. In addition, the evaluation of variables (in reference to the requirements of exclusiveness and inter-relatedness) is facilitated.

<table>
<thead>
<tr>
<th>I. Cause</th>
<th>Criteria</th>
</tr>
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<tbody>
<tr>
<td>A. Man, acting:</td>
<td></td>
</tr>
<tr>
<td>1. privately</td>
<td>one individual sufficient for the manifest efficacy of the cause</td>
</tr>
<tr>
<td>2. publicly</td>
<td>more than one individual necessary for the manifest efficacy of the cause</td>
</tr>
<tr>
<td>3. with mana</td>
<td>using the same cause, not all other individuals could achieve a similar manifest effect</td>
</tr>
<tr>
<td>4. without mana</td>
<td>using the same cause, all other individuals could achieve a similar manifest effect</td>
</tr>
<tr>
<td>B. Techniques:</td>
<td></td>
</tr>
<tr>
<td>1. with mana</td>
<td>slight or minor variations considerably change the manifest effect</td>
</tr>
<tr>
<td>2. without mana</td>
<td>slight or minor variations do not considerably change the manifest effect</td>
</tr>
<tr>
<td>C. Objects:</td>
<td></td>
</tr>
<tr>
<td>1. unnecessary</td>
<td>objects not required for manifest efficacy</td>
</tr>
<tr>
<td>2. necessary</td>
<td>object required for manifest efficacy</td>
</tr>
<tr>
<td>a. with mana</td>
<td>all other identical objects are not sufficient for manifest efficacy</td>
</tr>
<tr>
<td>b. without mana</td>
<td>all other identical objects are sufficient for manifest efficacy</td>
</tr>
<tr>
<td>D. Route:</td>
<td></td>
</tr>
<tr>
<td>1. indirect</td>
<td>animistic supernatural an intermediary agent in the manifest effectation</td>
</tr>
<tr>
<td>2. direct</td>
<td>animistic supernatural not utilized in the manifest effectation</td>
</tr>
</tbody>
</table>
Note: In the case of many men, techniques, or objects only a percentage of which possess mana, the coding will be A3, B1, and C2a, respectively.

II. Manifest Effect

X. Reality:

1. natural
2. supernatural

that reality which is culturally defined to be
ordinary
extra-ordinary

Y. Re-arrangement:

1. spatial
   a. immediate
   b. delayed
2. temporal
   a. retrospective
   b. prospective

re-arrangement of the relationship of culturally defined "things"
re-arrangement of the relationship of culturally defined "things"
delayed re-arrangement of the relationship of culturally defined "things"
re-arrangement of the normal course of time
re-arrangement of the past into the present
re-arrangement of the future into the present

III. Latent Effect

Z. Affecting:

1. 0 -20
2. 20-40
3. 40-60
4. 60-80
5. 80-100%

affecting 0 -20% of the community
affecting 20-40% of the community
affecting 40-60% of the community
affecting 60-80% of the community
affecting 80-100% of the community

Figure 1
Most of the variables in Figure 1 are modifications of existing concepts. There is nothing new in the dichotomy between man acting publicly and man acting privately. Ceremonies are often distinguished from non-ceremonial activities on the basis of the number of individuals involved. In the definition of shamanism one important criterion is that the shaman has a special relationship with the supernatural, i.e., he has mana. The criterion established for techniques with mana is not very different from the definition of an incantation on page 7. Neither is the criterion of objects with mana dissimilar to the definition of fetish use used on page 7. Temporal re-arrangement of reality has much in common with some of the implications of divination. Thus, there is really nothing unique about the concepts themselves in Figure 1; it is the systematic organization which is original.

Rather than illustrating each variable category in Figure 1, the schema may be better illustrated by its application to a specific behavioral phenomenon. Since the generalized Plains Indian "vision quest" is familiar to most social scientists, let us examine it using the proposed methodology.

The Plains Indian vision quest fulfills the necessary conditions set forth on pages 16 and 17 for manipulative religion. Condition 1. (man must consider that he caused a re-arrangement of reality) is satisfied by the fact that the vision is consciously sought by the individual by fasting, self-torture, etc. Condition 2. (there must be a re-arrangement of reality) is satisfied by the fact that in a successful vision quest an individual gains supernatural power. Condition 3. (there must be an affect upon a portion of the community) is satisfied
by the fact that gaining supernatural power directly affects the recipient of the power. Condition 4. (the defined supernatural must be considered to be included in either the cause or the manifest effect) is satisfied by the fact that the individual gains supernatural power, often via a visit from a supernatural being. Thus, the Plains Indian vision quest may be considered to be one of the phenomena included in manipulative religion, and consequently, the schema may be applied.

Beginning the cause class of the schema, it shows man acting privately without mana (Al, Alh) because the initiate goes to the mountain alone in search of mana, not possessing it. Secondly, the techniques of fasting and self-torture do not possess mana (B2) because there are no specific dictates as to procedure. Thirdly, the objects used (tobacco, etc.) are necessary, but other identical objects are sufficient so that the object must be considered as not possessing mana (C2b). Lastly, since a guardian spirit gives the power to the individual, it may be thought of as an indirect route (Dl).

Turning to the manifest effect class of the schema, it is, first, a change in the supernatural reality (X2) because the individual receives mana. Secondly, it is a spatial immediate change (Yla) since mana is considered a "thing" and it is transferred or given instantaneously.

In the final class of the schema, latent effect, the change affects directly only the vision seeker and therefore affects zero-plus to twenty percent of the community (Zl). Using the symbols in Figure 1, the Plains Indian vision quest is coded:

```
  I  II  III
  A1h B2 C2b D1  X2 Yla  Zl
```

The foregoing illustration of the coding system is typical of the coded data presented in Appendix I.
CHAPTER III

THE TECHNIQUES

Chapters I and II dealt principally with an evaluation of existing concepts within the construct of manipulative religion and the development of a set of concepts consistent with the requirements established for evaluation. This evaluation and the accompanying requirements were derived by logical means rather than by empiric processes. At this point a method was established which fulfilled the aforementioned requirements for synthetic and analytic devices, and which had systematic potential. However, it remains to be demonstrated whether the proposed method has real utility in describing and analyzing actual religious practices. A good example of a conceptual method which was internally faultless but externally or empirically useless was Aristotle's conception of the constituent elements of the terrestrial world. To Aristotle, matter consisted of four elements—earth, water, fire, and air. These were delimited in a very systematic manner, earth being cold and dry; water being cold and wet; fire being hot and dry; air being hot and wet. These four categories were mutually exclusive and were interrelated by a statement of commonness. Yet, the application of Aristotle's classification to the present external world in an effort to describe and analyze matter would be ridiculous, since physicists now possess conceptual devices which are much more useful. Thus, an evaluation of any conceptual device properly requires testing of its
relevance and applicability to external demands.

In testing an anthropological conceptual device, the best procedure would be to randomly select a sample of the world's cultures and then to directly investigate this sample. However, this procedure was infeasible in the present instance because of lack of time and money and impossible because, at the present time, a good many of the world's cultures have either been absorbed to the extent that their cultural identity has been lost or forever confused. Further, many cultures have not been described. As a consequence of these considerations, ethnographic data must be used instead of field work. On top of this, many of the cultures which are now extinct went out of existence before information could be gathered about them. Thus, selective sampling, rather than random sampling, must be used in social anthropological syntheses. One possibility of random sampling lies in the use of the Human Relations Area Files. These files, established at Yale and affiliated universities, attempt to facilitate cross-cultural research by standardizing data concerning a large number of cultures. Although one may take a random sample of cultures from its files, nonetheless, the selection of cultures used for the file itself is not random.

Even though it is impossible to use a randomized sample to evaluate the conceptual device, methodological rigor may be maintained by utilizing a selective sample. Although the generalizations which come from testing a method using selective sampling have much less reliability, their reliability is sufficient to permit some evaluation of the conceptual system. Because of the limited number of available
research facilities, the only feasible population from which to draw my sample is native North America. Despite the fact that native North America does not contain the whole range of cultural diversity, it is heterogeneous enough to provide an adequate test.

With the peoples of North America as the population, the next step is the examination of the extent of the population. The question as to what constitutes a tribe as opposed to a sub-tribe or a community is a knotty problem. Murdock (1960) in Ethnographic Bibliography of North America distinguishes 253 tribes in North America. By accepting Murdock in this regard, the problem of what constitutes a tribe is circumvented (although hardly solved). The evaluation of data adequacy and data accumulation is facilitated by this acceptance since his bibliography is arranged into these 253 categories. One rather questionable, though necessary, assumption which has to be made in reference to these individual tribes is that of internal homogeneity. There are certainly cultural differences between the Ojibwa of Red Lake and the Ojibwa of Sault St. Marie, yet these differences must be ignored if one is comparing the Ojibwa with the Haida or the Chiracahua Apache.

In 1937, A. L. Kroeber established a series of cultural areas for aboriginal North America. The primary bases for this classification were economy and environment. Despite certain inconsistencies of procedure, these cultural areas provide a starting point for selective sampling. If these areas (as Kroeber indicates) display more intra-area than inter-area similarities, then the selection of a typical tribe from each area should yield a representative sample of the total population.

By combining Murdock's tribes and Kroeber's cultural areas, I was
able to devise a sampling technique for this study. The 253 tribes were arranged into the 35 cultural areas. Using Murdock's bibliography, the available literature on each of the tribes in each cultural area was evaluated as to whether or not there was sufficient ethnographic information concerning their religion. Those tribes about which there was insufficient information were discarded. In speaking of the typicality versus atypicality of cultures within a cultural area, Clark Wissler (1929: 355) states: "One outstanding characteristic of a culture area is that the few tribes ranging around the center of the area appear to possess a form of culture which is the most typical, or which best represents the area type. The surrounding marginal tribes are less typical." Using this principle, the remaining groups were then examined in terms of central location within the cultural area, the peripheral groups being discarded. The centrally located groups were then examined in terms of available data at Montana State University. If, at this point, there were still two or more groups under consideration, a slip of the coin decided which tribe was to be used to represent the cultural area. Needless to say, many sample cultures were chosen before the later stages of the selective process were reached. Four culture areas were discarded because of insufficient data: the tribes inhabiting the Willamette Valley, South Florida, the Northwest Gulf Coast, the South Atlantic Slope culture areas apparently became extinct before any investigation of religion could be made.

The cultural areas and the sample tribes for each cultural area are listed below, accompanied by a map presenting the location of the sample tribes.
**Culture Areas**

**I. Arctic Coast**
- a. central-eastern
- b. western

**II. Northwest Coast**
- a. northern maritime
- b. central maritime
- c. gulf of Georgia
- d. Puget Sound
- e. lower Columbia
- f. Willamette valley
- g. lower Klamath

**III. Southwest**
- a. pueblo
- b. inter, circum-pueblo
- c. Sonora
- d. northeast Arizona
- e. lower Colorado
- f. penninsular California
- g. southern California

**IV. Intermediate, Intermountain**
- a. Great Basin, Snake-Salmon, Klamath lakes
- b. California, climax, transition
- c. Columbia-Frazer

**Sample Tribes**
- Baffinland Eskimo
- West Alaska Eskimo
- Haida
- Bella Coola
- Klallam
- Snuqualmi
- Chinook
- insufficient data
- Yurok
- Acoma
- Chiracahua
- Papago
- Havasupai
- Mohave
- Diegueno
- Luiseno
- Paviotso
- Maidu
- Kutenai
<table>
<thead>
<tr>
<th>Culture Areas</th>
<th>Sample Tribes</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. East and North</td>
<td></td>
</tr>
<tr>
<td><strong>Eastern Areas</strong></td>
<td></td>
</tr>
<tr>
<td>a. southeast</td>
<td>Creek</td>
</tr>
<tr>
<td>b. south Florida</td>
<td>insufficient data</td>
</tr>
<tr>
<td>c. northwest Gulf coast</td>
<td>insufficient data</td>
</tr>
<tr>
<td>d. Red River, middle Platte</td>
<td>Caddo</td>
</tr>
<tr>
<td>e. plains</td>
<td>Crow</td>
</tr>
<tr>
<td>f. prairie</td>
<td>Omaha</td>
</tr>
<tr>
<td>g. Wisconsin</td>
<td>Winnebago</td>
</tr>
<tr>
<td>h. Ohio valley, Illinois</td>
<td>Miami</td>
</tr>
<tr>
<td>i. lower Great Lakes</td>
<td>Iroquois</td>
</tr>
<tr>
<td>j. north Atlantic slope</td>
<td>Micmac</td>
</tr>
<tr>
<td>k. middle Atlantic slope</td>
<td>Delaware</td>
</tr>
<tr>
<td>l. south Atlantic slope</td>
<td>insufficient data</td>
</tr>
<tr>
<td>m. Appalachian summit</td>
<td>Cherokee</td>
</tr>
<tr>
<td><strong>Northern Areas</strong></td>
<td></td>
</tr>
<tr>
<td>n. northern Great Lakes</td>
<td>Ojibwa</td>
</tr>
<tr>
<td>o. eastern sub-Arctic</td>
<td>Montagnais</td>
</tr>
<tr>
<td>p. western sub-Arctic</td>
<td>Kaska</td>
</tr>
</tbody>
</table>

Figure 2

Rather than presenting at this time the results of the application of the method to the sample, the requirements of continuity in discussion necessitate deferring consideration of the data until after the general discussion. Thus, Appendix I (The Data) will appear at the
Map Distribution of Sample Tribes

Figure 3
end of the narrative.

Three major problems were encountered in the process of applying the devised methodology to the descriptions of the sample tribes. Although these problems came to light in this particular investigation, they are probably inherent in any synthetic study of this nature. Briefly, the problems are:

1) The Effect of Diffusion - It is a generally accepted fact that the diffusion of culture traits is an important cultural process, particularly in North America. Moreover, traits that have diffused into a culture may become equally or more important than traits which have evolved within the culture. Yet the synthesizer is forced into the position of discarding any particular activity which is described as having diffused into a culture, while keeping anything which is not described in this manner. Thus, in the examination of the Kutenai data, the Sun Dance was omitted because Turney-High (1941: 176) specifically stated that the Kutenai borrowed the Sun Dance from the Plains Indians. The Crow probably borrowed the Sun Dance, too (Spier: 1921), but, because Lowie (1919; 1924; 1935) prefers no statement of diffusion, the Sun Dance was included as a Crow phenomenon. If one does not omit every cultural trait that has been described as being the result of diffusion, then, logically, all phenomena must be included. If this had been done in the current study, it would have been reduced to a description of Pan-Indianism and pseudo-Christianity as performed among thirty-one North American Indian tribes.

2) The Effect of Variable Time Depth - There is a disparity of several hundred years between ethnographic accounts of various tribes
used in my sample. Since there is no way of handling these time disparities in synthetic studies (which, by necessity, are synchronic), they must be ignored. By ignoring time depth the synthesizer is saying, in effect, that his data are contemporaneously derived. He thus accepts unqualifiedly the concept of the "ethnographic present" and its corollary, "the aboriginal condition". The implication of these assumptions is that the ethnographer is writing about a slice through time just prior to white contact. Yet, what of the fact that the time of white contact varies considerably among individual groups in the sample? By ignoring this kind of time disparity the synthesizer makes an implicit judgment to the effect that only inconsequential changes took place in the culture of the latest contacted group since the date at which the first culture of the sample was contacted. This observation, needless to say, lies beyond the possibility of empirical validation. It appears that synthesizers, in using the concepts of the "ethnographic present" and the "aboriginal condition," have solved one problem of time depth in accord with expediency only to create an even more difficult problem set.

3) The Effect of Investigator Bias - By using second-hand cultural information (ethnographies), written by a variety of investigators, one may be sure that there are many personal-professional biases inflicted upon the data. The problem is to determine which of these investigators were the least biased, an insoluble problem, because, at the present time, their work cannot be tested for reliability. The only reasonable solution is to assume that those investigators whom the synthesizer considers competent produced relatively unbiased reports.
This procedure, however, introduces yet another bias to the problem—
that of the synthesizer.

The discussion of these three problems contained the means which
I adopted in this study in an effort to reduce their limitations:
1) omitting everything which the ethnographer thought had diffused into
the culture in question, 2) assuming the ethnographic present, and 3)
assuming that "competent" field workers were relatively unbiased.
Needless to say, these are not adequate solutions to very real and cen-
tral problems. However, because this study is concerned basically with
presenting a conceptual method and not with presenting a synthesis in
itself, these tactics are probably adequate. On the other hand, I
think that the effects of these chronic problems must be better under-
stood and allowances made before really meaningful syntheses in cul-
tural anthropology may be performed.
CHAPTER IV

THE EVALUATION

In attempting to evaluate a conceptual device such as the one presented herein, the investigator is led down a path upon which he has no business. In order to prove that a system has utility and theoretical significance it is necessary to develop certain specific theoretical constructions which would not have come to light without the application of the system. This is an illegitimate process, however, because it involves ex post facto reasoning. The strictures of science do not allow the scientist the luxury of devising methodology, applying it to a segment of reality and then taking the results and building theories. The scientist must have a specific hypothesis, and use the proper techniques, before he can make theoretical statements. In studies concerned with methodology the only real hypothesis is that the proposed method has utility. But then, how can it be proved (or disproved) that a method has utility? There appears to be only one way out (and it may be sophism): apply the method to reality and then suggest hypotheses for further study. The potential of the hypotheses for yielding new insights will give some indication of the relative merit of the methodology. The final assessment, of course, can only occur when these or other hypotheses are tested using the methodology.

In evaluating a device by the yield of significant hypotheses...
a very real pitfall exists. Because hypothesis forming is generally a nebulus process based on intuitive "hunches" the investigator would be sorely tempted to dream up the most fantastic hypothesis in support of his primary hypothesis that the methodology has utility. This can only be controlled if the hypotheses are firmly grounded in statistical fact. Although there are undoubtedly many statistical techniques which could be used in this study to provide the raw material for deriving hypotheses, Chi^2 analysis appears to be the best because, aside from the simplicity of Chi^2, the material provided by the application of the method to the sample is most amenable to this kind of analysis. The sample consists of 356 manipulative acts, each one of which has at least one variable in each of seven categories of the schema. Thus, two by two Chi^2 tables comparing a set of variables from one category with a set of variables from another category should provide a very adequate source of hypotheses. If, for example, the variables of man acting with mana and without mana were compared in a two by two table with the variables of manifest change in natural reality and manifest change in supernatural reality, and it was found that there were closer associations than one might expect by chance, then, a firmly grounded hypothesis could be suggested.

The formula to be used to derive Chi^2 is $X^2 \frac{(BC-AD)^2}{EFGH}$, with the letter values from the following table:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>D</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>H</td>
<td>K</td>
<td></td>
</tr>
</tbody>
</table>
For comparative purposes the expected frequency of each cell will be indicated within a parenthesis. The formula to be used to calculate the expected frequency is: expected frequency cell A $\frac{GxE}{K}$. The level of probability to be used will be $P .01 S/1 df$.

Before entering into the specifics of the Chi$^2$ analysis of the sample, an overview of the results applying the schema to the sample is necessary. The following table presents the distribution of the 356 manipulative acts (found to be used by the thirty-one sample groups) among the variables presented in Figure 1. It should be remembered that each one of these 356 acts has at least one aspect in every category.

<table>
<thead>
<tr>
<th>I. Cause</th>
<th>Incidence</th>
<th>Percentage</th>
<th>Weighted Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Man, acting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. privately</td>
<td>273</td>
<td>76.69</td>
<td>78.92</td>
</tr>
<tr>
<td>2. publicly</td>
<td>83</td>
<td>23.31</td>
<td>21.08</td>
</tr>
<tr>
<td>3. with mana</td>
<td>195</td>
<td>54.78</td>
<td>55.18</td>
</tr>
<tr>
<td>4. without mana</td>
<td>161</td>
<td>45.22</td>
<td>44.52</td>
</tr>
<tr>
<td>B. Techniques:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. with mana</td>
<td>125</td>
<td>35.11</td>
<td>30.04</td>
</tr>
<tr>
<td>2. without mana</td>
<td>231</td>
<td>64.89</td>
<td>69.96</td>
</tr>
<tr>
<td>C. Objects:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. unnecessary</td>
<td>101</td>
<td>28.37</td>
<td>31.36</td>
</tr>
<tr>
<td>2. necessary</td>
<td>255</td>
<td>71.63</td>
<td>68.64</td>
</tr>
<tr>
<td>a. with mana</td>
<td>126</td>
<td>35.39</td>
<td>29.37</td>
</tr>
<tr>
<td>b. without mana</td>
<td>129</td>
<td>36.24</td>
<td>39.27</td>
</tr>
<tr>
<td>D. Route:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. indirect</td>
<td>130</td>
<td>36.52</td>
<td>36.31</td>
</tr>
<tr>
<td>2. direct</td>
<td>226</td>
<td>63.48</td>
<td>63.69</td>
</tr>
</tbody>
</table>

(continued next page)
II. Manifest Effect

X. Reality:
1. natural
   - Incidence: 197
   - Percentage: 55.34
   - Weighted Percentage: 54.66
2. supernatural
   - Incidence: 159
   - Percentage: 44.66
   - Weighted Percentage: 45.34

Y. Re-arrangement:
1. spatial
   - Incidence: 331
   - Percentage: 92.98
   - Weighted Percentage: 90.22
   - a. immediate
     - Incidence: 303
     - Percentage: 85.11
     - Weighted Percentage: 83.52
   - b. delayed
     - Incidence: 28
     - Percentage: 07.87
     - Weighted Percentage: 06.70
2. temporal
   - Incidence: 25
   - Percentage: 07.02
   - Weighted Percentage: 09.78
   - a. retrospective
     - Incidence: 5
     - Percentage: 01.14
     - Weighted Percentage: 01.34
   - b. prospective
     - Incidence: 20
     - Percentage: 05.62
     - Weighted Percentage: 08.64

III. Latent Effect

Z. Affecting
1. 0-20%
   - Incidence: 281
   - Percentage: 78.93
   - Weighted Percentage: 80.75
2. 20-40%
   - Incidence: 1
   - Percentage: 00.28
   - Weighted Percentage: 00.28
3. 40-60%
   - Incidence: 0
   - Percentage: 00.00
   - Weighted Percentage: 00.00
4. 60-80%
   - Incidence: 0
   - Percentage: 00.00
   - Weighted Percentage: 00.00
5. 80-100%
   - Incidence: 74
   - Percentage: 20.79
   - Weighted Percentage: 18.67

Table 1
distribution of 356 manipulative acts drawn from a sample of 31 North American Indian Tribes.

Table 1 gives the distribution of the sample into the categories of the schema (Figure 1). Three calculations were performed in reference to Table 1: 1) incidence, 2) percentage, and 3) weighted percentage.

The incidence is the tabulation of the number of manipulative acts which have an aspect in each variable category. The percentage was calculated by dividing the incidence of each variable by the total number of manipulative acts. Because there is not an identical number of forms for each sample tribe (for example, the Baffinland Eskimo have seven forms, whereas Acoma was found to have twenty-one) the weighted percentage is necessary. The weighted percentage gives statistical equivalence to each
sample tribe. It was calculated by adding the variable percentage for each tribe and dividing by the number of tribes. The notable differences between the weighted and unweighted percentages are in techniques with mana (B1) and without mana (B2), and objects with mana (C2a) and without mana (C2b). Generally speaking, the weighted and unweighted percentages are identical and thus it would appear that those cultures with a large number of forms have not skewed the sample to an undesirable degree.

Table 1 is of no extraordinary significance. It is, however, a prerequisite to either internal or external analysis. Even the common procedure of typing various geographical or cultural areas is external analysis since the process consists of relating findings to criteria apart from the findings (in this case locale or cultural attributes). The process of examining internal interrelationships between variables also depends upon a descriptive device. Although it is tempting to suggest some hypotheses from the distribution in table 1, the limitations set forth in the beginning of this chapter clearly forbid such activities. It is enough to say that if the object of study was North American manipulative religion, table 1 would provide a starting place.

The Chi² analysis of the sample will consist of two basic steps: 1) the analysis of the relationship of the variables of one category of the schema to the variables of another category, and 2) the analysis of the relationship of the variables of the schema to variables completely set apart from religion. By using both of these procedures the capacities of the proposed method can be evaluated in reference to its use for ethnological and cultural anthropological studies, as well
as studies strictly concerned with the social anthropology of religion.

The first step mentioned above is an internal analysis of the data gathered concerning manipulative religion. Rather than attempting to examine every possible relationship between variables for probability levels below .01, two general areas of comparison should yield the significant hypotheses. The first the comparison of the variables contained within the class manifest effect with the variables contained within the class cause. The second general area will be the comparison of the class latent effect with the variables of the other two classes.

The first class of manifest effect to be examined will be reality (X). Because changes in the supernatural world must be validated subjectively by the members of a culture, and not objectively as in the case of changes in the natural world, it should be rather interesting to discover if there are any activities which are associated causally with the variables subsumed under the category of reality. There appear to be two pairs of variables having significant relationships (probability of less than .01) with the two variable categories of reality. The first pair is man acting with mana (A3), and man acting without mana (A4). Table 2 gives the observed frequencies of X1 and X2 in relation to A3 and A4.

<table>
<thead>
<tr>
<th>natural reality</th>
<th>man with mana A3</th>
<th>man without mana A4</th>
<th>totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>supernatural reality</td>
<td>125 (107.9)</td>
<td>72 (89.1)</td>
<td>197</td>
</tr>
<tr>
<td>70 (87.1)</td>
<td>89 (71.9)</td>
<td>159</td>
<td></td>
</tr>
</tbody>
</table>

| totals | 195 | 161 | 356 |

$X^2 = 13.40$, $P = .001$, $W/1$ df

Table 2
Table 2 shows that change in natural reality is more closely related to man acting with mana, whereas change in supernatural reality is more closely related to man acting without mana. From the criterion for man acting with mana in Figure 1 (using the same cause, not all other individuals could achieve a similar manifest effect) we see that this variable category refers to specialized practitioners such as shamans. Table 2 suggests the hypothesis that these specialists are more concerned with the natural world and, although they do business with the supernatural world in seances with the dead and in curing through retrieving the souls of the dying, that in order to remain specialists, must continue to validate the efficacy of their specialized abilities. By limiting his practices to the natural world, which can be validated more or less objectively, the specialist can best "prove" to the community that his activities are justified. Collaterally, the non-specialist is not obliged to "prove" anything, since his major status in the community is not dependent upon his efficacy in religiously manipulating reality.

The second pair of variables which have a statistically significant relationship to natural and supernatural reality are the variables of objects necessary (objects necessary with mana—C2a, objects necessary without mana—C2b). Table 3 gives the observed frequency of X1 and X2 in relation to C2a and C2b:
Table 3 indicates that changes in natural reality are more closely associated with the use of objects possessing mana, while changes in supernatural reality are more closely associated with the use of objects not possessing mana. One hypothesis which might be derived from these results is that fetishes do not play a relatively important role in the manipulative religious activities of the North American Indian. Fetishes are usually defined as objects which have a relationship to the supernatural. Since this definition of fetishes includes it within the category of the use of objects with mana (all other identical objects are not sufficient for efficacy), it is obvious that, if fetishes played a prominent role in North America, Table 3 would indicate this fact by displaying a relationship between supernatural reality (X2) and the use of objects with mana (C2a). Because Table 3 indicates exactly the opposite set of relationships, the preceding hypothesis can be advanced. There is, however, another category that might indicate the use of fetishes. Route (D)—with its variables, D1, using the animistic supernatural as intermediary, and D2, not using the animistic supernatural as intermediary, when compared with C2a and
C2b, would indicate the use of fetishes if a Chi$^2$ table of this combination showed a distinct relationship between C2a and D1. A Chi$^2$ analysis of this set shows, however, that there is no such relationship between these two sets of variable categories, one way or the other. Therefore, the hypothesis that fetishes do not play an important role in the manipulative religious activities of North American Indians resists refutation.

The second category to be examined will be the kind of rearrangement which has been effected. Figure 1 splits rearrangement (Y) into two categories, each having two sub-categories: 1) spatial change (the rearrangement of the relationship of culturally defined "things" with the variable sub-categories of spatial immediate change and spatial delayed change), and 2) temporal change (the rearrangement of the normal course of time with the variable sub-categories of retrospective and prospective change).

The first set of comparisons will be between the spatial-temporal change dichotomy and the variable categories of causative activity. In Table 1 it was pointed out that manipulative acts resulting in spatial change far outnumber those resulting in temporal change. As a result of this distribution the procedure of investigating the causal factors related to the spatial-temporal dichotomy must necessarily differ. With such an unequal distribution I will only attempt to find those factors which result in temporal change. Because these factors can be examined better as a group, I shall present two Chi$^2$ tables and then discuss their implications, considered as a unit.
Tables 4 and 5 present a partial description of the North American seer and prophet, since the manipulation of the normal course of time (temporal change—Y2) conforms quite closely to the definition of these activities. Table 4 indicates that there is a close association between temporal change and man acting privately (A1). Table 5 shows that there is also a close association between temporal change and man acting with mana (A3). Thus, we can hypothesize that the North American seer or prophet is generally a solitary specialist.

This specialization can be observed also in the relatively few number
(25) of manipulative activities resulting in temporal change.

Before proceeding in the second area of internal analysis--that of latent effect, I should like to point out that the variables of spatial change (spatial immediate change--Yla, spatial delayed change--Ylb) and the variables of temporal change (temporal retrospective--Y2a, temporal prospective--Y2b) had no apparent association with any other variables. As a consequence I think that these four sub-categories are essentially useless variables and that both should be eliminated from the schema in its further application. The category re-arrangement would then consist of two variables--spatial change, and temporal change.

The next step in the evaluation will be an examination of latent effect for any significant relationships between the variables contained within this class, and the variables contained within either cause or manifest effect. Before examining any specific instances of significant relationships, I will discuss the overall relationships of latent effect to cause and manifest effect.

The five variables of latent effect (affecting 0-20% of the community, affecting 20-40% of the community, affecting 40-60% of the community, affecting 60-80% of the community, and affecting 80-100% of the community) have four significant relationships with the variables of cause. On the other hand there are no significant relationships between the variables of latent effect and the variables of manifest effect. These rather strange findings suggest that the results of manipulative acts (manifest effect) serve to reinforce the acts themselves, but it is causative activity which affects the community. One
hypothesis that can be derived is that, although the manifest effect of manipulative activity is culturally pre-defined to occur in a certain pattern, the end product, when viewed objectively, is illusory. Using this hypothesis as a working model, investigators can define the manifest effect of manipulative acts to be psychological phenomena, and they can proceed to study instances of manipulative religious activity on a purely deterministic level without having to attempt the difficult task of proving that the manifest results of the behavior in question are not objectively real.

There is essentially a dichotomy between acts affecting 0-20% of the community (Z1) and acts affecting 80-100% of the community (Z5). (Note Figure 1). By collapsing the one entry in Z2 (affecting 2-40% of the community) into Z1, and eliminating the categories of Z3 and Z4 (affecting 40-60% of the community, and affecting 60-80% of the community) as they have no entries, two variable categories are created which can be used in two-by-two Chi$^2$ tables. The first set of variable categories to be examined in reference to the dichotomized variable categories of latent effect will be A1 and A2 (man acting privately, and man acting publicly). Recalling Figure 1, private and public behavior was differentiated by the criterion that private behavior required only one individual for the efficacy of the procedure, while public behavior required more than one individual. This fact provides a test of the previous hypothesis that the latent effect manipulative procedures have a direct relationship to the causative activities and have no relationship to the culturally defined or manifest effect. If the hypothesis is correct, then there should be a distinct relationship between a socio-
logical effect upon 80-100% of the community and public behavior (A2), and a relationship between a sociological effect upon 0-20% of the community and private behavior (A1). A comparison of these two sets of variables yields the following two-by-two table.

<table>
<thead>
<tr>
<th></th>
<th>man acting privately</th>
<th>man acting publicly</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 affecting 0-20% of the community</td>
<td>237 (216.3)</td>
<td>45 (65.7)</td>
<td>282</td>
</tr>
<tr>
<td>A2 affecting 80-100% of the community</td>
<td>36 (56.7)</td>
<td>38 (17.3)</td>
<td>74</td>
</tr>
<tr>
<td>Totals</td>
<td>273</td>
<td>83</td>
<td>356</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 41.07 \quad P < .001 \quad \text{W} = 1 \text{ df} \]

Table 6

Table 6 shows that there is a pronounced association between a sociological effect upon 80-100% of the community and man acting publicly, and between a sociological effect upon 0-20% of the community and man acting privately. Thus, the hypothesis in question is further validated.

The other three sets of variable categories which display significant relationships to the variable categories of latent effect do not provide such an obvious means of reinforcing the hypothesis that latent effect has a direct relationship to cause. There is, however, one framework within which a kind of validation may be accomplished. This framework rests upon the fact that in the dichotomy between the use of techniques with mana (B1) and the use of techniques without mana (B2), in the dichotomy between the use of objects with mana (C2a) and the use
of objects without mana (C2b), and in the dichotomy between using the supernatural as intermediary (D1) and not using the supernatural as intermediary (D2) there is an essential element which is held in common. This element may be thought of as differential energy output, since in each dichotomy one variable category requires more human energy expenditure than the other. To use techniques with mana (B1), objects with mana (C2a), and the supernatural as intermediary requires that the community or a portion of the community define that there is something special about the procedures, or else there would be nothing special about them. This recognition depends upon a level of human energy output far exceeding the energy output necessary for using techniques without mana, objects without mana, and not using the supernatural as intermediary, because the use of these procedures requires no recognition on the part of the community. The preceding framework can be used as a review of the hypothesis that latent effect has a direct relationship to cause, for if this relationship exists a sociological effect upon 80-100% of the community should be more closely associated with the variable categories, depending upon a high energy output. By the same token a sociological effect upon 0-20% of the community should be more closely associated with the variable categories depending upon a low energy output.

The following two-by-two table gives the observed relationship between Z1, Z5 and B1, B2:
Table 7 indicates that there is a closer association between a sociological effect upon 80-100% of the community (Z5) and the use of techniques with mana (B1) than between a sociological effect upon 80-100% of the community and the use of techniques without mana (B2). It further indicates that a sociological effect upon 0-20% of the community is more closely associated with using techniques without mana:

<table>
<thead>
<tr>
<th></th>
<th>techniques with mana</th>
<th>techniques without mana</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>affecting 0-20% of the community Z1</td>
<td>86 (99)</td>
<td>196 (183)</td>
<td>282</td>
</tr>
<tr>
<td>affecting 80-100% of the community Z5</td>
<td>39 (26)</td>
<td>35 (48)</td>
<td>74</td>
</tr>
<tr>
<td>Totals</td>
<td>125</td>
<td>131</td>
<td>256</td>
</tr>
</tbody>
</table>

\[X^2 = 12.687 \quad P < .001 \quad W/1 \text{ df}\]

Table 8 indicates that a sociological effect upon 80-100% of the community...
community (Z5) is more closely associated with the use of objects with mana (C2a), while a sociological effect upon 0-20% of the community is more closely associated with the use of objects without mana (C2b).

The following table gives the observed relationship of Z1 and Z5 in reference to D1 and D2:

<table>
<thead>
<tr>
<th>D1</th>
<th>D2</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>indirect route (supernatural as intermediary)</td>
<td>direct route (supernatural not an intermediary)</td>
<td></td>
</tr>
<tr>
<td>affecting 0-20% of the community Z1</td>
<td>90 (103)</td>
<td>192 (179)</td>
</tr>
<tr>
<td>affecting 80-100% of the community Z5</td>
<td>40 (27)</td>
<td>34 (47)</td>
</tr>
<tr>
<td>Totals</td>
<td>130</td>
<td>226</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 12.391 \quad P = \leq 0.001 \text{ W/1 df} \]

Table 9

Table 9 indicates that there is a strong relationship between a sociological effect upon 80-100% of the community (Z1) and the use of an indirect route (D1), while an equally strong relationship exists between a sociological effect upon 0-20% of the community and the use of a direct route (D2).

The preceding three tables support the inference that at least among North American Indians, procedures which require a high energy output on the part of the community are associated with a latent effect upon a large portion of the community. As a consequence the creditability of the hypothesis that latent effect has a direct relationship to cause is not related to manifest effect is further enhanced.
This discussion concludes the first step in evaluating the conceptual device presented in Figure 1. Although a degree of continuity is lacking in much of the preceding work, it should be remembered that it was attempted to learn if the schema had the capacity to interrelate variable categories and it was not done as an attempt to analyze manipulative religion. With the exception of two pairs of variable subcategories which were found to be of no practical utility, a number of significant associations were found and several valuable hypotheses were suggested.

The second step in evaluating the schema is the examination of the capacity of the schema to relate the variables categories of cause, manifest effect, and latent effect to some kind of non-religious behavioral phenomenon. Subsistence was chosen as the non-religious behavioral class because there is an obvious cultural relationship between the procurement of food and the procedures for manipulating reality. If the variable categories and sub-categories of the schema are useful techniques for describing and analyzing manipulative religion, then, when related to subsistence, significant statements should be possible. In order that two-by-two Chi² tables can be used in this evaluation, subsistence will be dichotomized into hunting and gathering and horticultural subsistence types. The definition to be used for horticulture will be planting, cultivation, and harvesting of domesticated plants. The sample tribes were classified as either hunters and gatherers or horticulturists on the basis of the following criteria:

1) Horticulturists—deriving fifty percent or more of their food products from horticulture (as defined above).
2) Hunters and gatherers—deriving less than fifty percent of their food products from horticulture.

Using ethnographic reports, the thirty-one tribes in the sample were assigned to the appropriate subsistence group. The following table shows this classification:

<table>
<thead>
<tr>
<th>Horticulturists</th>
<th>Hunters and Gatherers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Acoma</td>
<td>1) Baffinland</td>
</tr>
<tr>
<td>2) Caddo</td>
<td>2) Bella Coola</td>
</tr>
<tr>
<td>3) Cherokee</td>
<td>3) Chinook</td>
</tr>
<tr>
<td>4) Creek</td>
<td>4) Chiracahua</td>
</tr>
<tr>
<td>5) Delaware</td>
<td>5) Crow</td>
</tr>
<tr>
<td>6) Havasupai</td>
<td>6) Diegueno</td>
</tr>
<tr>
<td>7) Iroquois</td>
<td>7) Haida</td>
</tr>
<tr>
<td>8) Miami</td>
<td>8) Kaska</td>
</tr>
<tr>
<td>9) Mohave</td>
<td>9) Klallam</td>
</tr>
<tr>
<td>10) Omaha</td>
<td>10) Kutenai</td>
</tr>
<tr>
<td>11) Papago</td>
<td>11) Luiseno</td>
</tr>
<tr>
<td></td>
<td>12) Maidu</td>
</tr>
<tr>
<td></td>
<td>13) Micmac</td>
</tr>
<tr>
<td></td>
<td>14) Montagnais</td>
</tr>
<tr>
<td></td>
<td>15) Ojibwa</td>
</tr>
<tr>
<td></td>
<td>16) Paviotso</td>
</tr>
<tr>
<td></td>
<td>17) Snuqualmi</td>
</tr>
<tr>
<td></td>
<td>18) West Alaska</td>
</tr>
<tr>
<td></td>
<td>19) Winnebago</td>
</tr>
<tr>
<td></td>
<td>20) Yurok</td>
</tr>
</tbody>
</table>

Table 10

The following table is similar to Table 1 (the distribution of the 356 forms into the various categories and sub-categories) except that in addition to the total count, counts have been taken to calculate the distribution of forms into the variable categories and sub-categories on the basis of the subsistence dichotomy outlined above.
I. Cause
   A. Man, acting:
      1. privately          273  102  171
      2. publicly           83   46   37
      3. with mana          195   66  129
      4. without mana       161   82   79
   B. Techniques:
      1. with mana          125   66   59
      2. without mana       231   82  149
   C. Objects:
      1. unnecessary       101   29   72
      2. necessary          255  119  136
         a. with mana       126   66   60
         b. without mana    129   53   76
   D. Route:
      1. indirect          130   57   73
      2. direct            226   91  135

II. Manifest Effect
   X. Reality
      1. natural           197   80  117
      2. supernatural      159   68   91
   Y. Re-arrangement
      1. spatial           331  138  193
         a. immediate      303  120  183
         b. delayed         28   18   10
      2. temporal          25   10   15
         a. retrospective   5    3    2
         b. prospective     20   13

III. Latent Effect
   Z. Affecting
      1. 0-20%            281  103  179
      2. 20-40%           1    0    1
      3. 40-60%          0    0    0
      4. 60-80%          0    0    0
      5. 80-100%         74   45   29

Table 11
Distribution of the 356 Manipulative Acts into Horticultural and Hunting and Gathering Subsistence
From an examination of the above table there would appear to be three instances where significant distributional differences exist between horticultural and hunting and gathering tribes. The instances are: 1) man acting privately (A1) as opposed to man acting publicly (A2), 2) man with mana (B1) as opposed to man without mana (A2), and 3) affecting 0-20% of the community (Z1) as opposed to 80-100% of the community (Z5).

Before proceeding into the discussion of the instances of significant differences between horticulturists and hunters and gatherers, I would posit the view, following Forde (1934) and Beals and Hoijer (1959: 330-331) that horticulturist societies tend to be cooperative in nature, whereas hunters and gatherers tend to be atomistic. Therefore, I should like to present the hypothesis that the manipulative acts of horticulturists tend to emphasize the group-oriented feelings necessary for sedentary existence, while the manipulative acts of hunters and gatherers tend to emphasize the relatively individualistic preferences necessary for atomistic migratory existence.

In each instance of distributional differences (listed above) I will examine each significant relationship between variables in the light of the previous hypothesis.

The following table gives the observed relationships between the hunting and gathering-horticultural dichotomy and the variable categories of man acting privately (A1) and man acting publicly (A2):
Table 12 indicates that private behavior (A1) tends to be more characteristic of hunters and gatherers while public behavior (A2) tends to be more characteristic of horticulturists. These results substantiate the hypothesis in question since public behavior is obviously more cooperative than private behavior.

The following table gives the observed relationships between the hunting and gathering-horticultural dichotomy and the variable categories of man acting with mana (A3) and man acting without mana (A4):

<table>
<thead>
<tr>
<th></th>
<th>Horticulturists</th>
<th>Hunters and Gatherers</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>man with mana</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>66 (81.1)</td>
<td>129 (113.9)</td>
<td>195</td>
</tr>
<tr>
<td>man without mana</td>
<td>82 (66.9)</td>
<td>79 (94.1)</td>
<td>161</td>
</tr>
<tr>
<td>Totals</td>
<td>148</td>
<td>208</td>
<td>356</td>
</tr>
</tbody>
</table>

\[ X^2 = 10.898 \quad P = < .001 \quad W/1 \quad df \]

Table 13
Table 13 shows that the use of personal mana in the performance
of manipulative acts (A3) is characteristic of hunters and gatherers,
while not using personal mana in the performance of manipulative acts
(A1) is characteristic of horticulturists. These findings provide
something of a substantiation for the hypothesis being tested. Not
using personal mana suggests non-specialists and thus a tendency
toward equalitarianism among horticulturists which in turn tends to
reinforce feelings of cooperation.

The following table provides another review of the hypothesis
that the manipulative acts of hunters and gatherers tend to emphasize
the individualistic feeling necessary for atomistic migratory existence,
and the manipulative acts of horticulturists tend to emphasize
the group-oriented feelings necessary for sedentary cooperative existence. The observed relationships between the subsistence dichotomy
and the variable categories of latent effect--affecting 0-20% of the
community (Z1), and affecting 80-100% of the community (Z5) are:

<table>
<thead>
<tr>
<th></th>
<th>Horticulturists</th>
<th>Hunters and Gatherers</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>affecting 0-20% of the community Z1</td>
<td>103 (117.3)</td>
<td>179 (164.7)</td>
<td>282</td>
</tr>
<tr>
<td>affecting 80-100% of the community Z5</td>
<td>45 (30.7)</td>
<td>29 (43.3)</td>
<td>74</td>
</tr>
<tr>
<td>Totals</td>
<td>148</td>
<td>208</td>
<td>356</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 14.234 \quad P = \leq .001 \text{ W/1 df} \]

Table 14
From Table 14 it may be seen that a sociological affect upon 0-20% of the community (Z1) is closely associated with hunters and gatherers, while a sociological affect upon 80-100% of the community (Z5) is closely associated with horticulturists.

These findings provide substantiation for the hypothesis in question, since a sociological effect upon a large portion of the community indicates an inter-dependency among the members of the community, while a sociological effect upon a small portion of the community indicates the opposite—that there is little intra-community dependence resulting from manipulative religious activities.

This discussion concludes the final step in the evaluation of the method. A hypothesis which has been around anthropology for a good many years was substantiated and a method for testing this hypothesis was suggested. I therefore submit that the conceptual schema presented in this study satisfied the stated requirements by providing hypotheses based on statistically significant relationships between variables within manipulative religion and between variables included in manipulative religion and variables included in subsistence.
CHAPTER V

CONCLUSIONS

This study should be considered as an effort to arrange and relate a set of concepts that have not previously been integrated or viewed as intimately connected. These concepts were plotted within a coherent conceptual structure which made possible, for the first time, a truly systematic study of man's attempts to change his reality through the use of his supernatural. In addition to being systematic, the theoretical design appears to be a useful tool. In the preceding chapter several rather important hypotheses were suggested, all of which were directly attributable to the application of the devised methodology. I should like to point out, however, that this apparent usefulness resulted indirectly from the non-random sampling of a limited population. There is a distinct possibility that, when applied to a random sample of the world's cultures, certain weaknesses will become apparent.

With the exception of two sets of variable sub-categories, the inter-relationships between the various categories suggested several areas for further research. Because the variable sub-categories of Spatial Change (Y1)¹ and the variable sub-categories of Temporal Change

¹Yla--immediate spatial change, Ylb--delayed spatial change
appear to have no significant relationship to any other categories or sub-categories, I would suggest that they be deleted from any further application of the schema.

Although the schema has potential in examining Manipulative Religion in itself, it is probably not precise enough to study specific phenomena within Manipulative Religion itself. It is, on the other hand, very adaptable, so that if the object of investigation were the supernatural per se, then the categories relating to the supernatural could be divided into a number of sub-categories. For instance, category $X_2$ (Supernatural Reality) could be reduced in the following manner:

\[
X_2 \rightarrow \text{Supernatural Reality} \\
X_{2a} \rightarrow \text{Dynamic supernatural} \\
X_{2b} \rightarrow \text{Animistic supernatural} \\
X_{2b1} \rightarrow \text{Gods} \\
X_{2b2} \rightarrow \text{ Spirits} \\
X_{2b3} \rightarrow \text{ Ghosts} \\
X_{2b4} \rightarrow \text{Souls}
\]

Similarly, if the primary interest were on the techniques involved, certain categories could be expanded. A category of supplication as opposed to compulsion could be established within the class, Techniques (B). Techniques with mana could be split into 0-25% of Techniques with mana, 25-50% of Techniques with mana, etc. If the effect upon the community were the area of interest, a dichotomy

2$Y_2a$--retrospective temporal change, $Y_2b$--prospective temporal change
between acts which are integrative as opposed to disintegrative could be established within the class of Latent Effect.

The basic schema could also be adapted for investigations of Confirmative Religion (man's minimal non-redirecive response to the stimuli provided by the defined relationship between the natural and supernatural), thereby developing something similar to the following:

<table>
<thead>
<tr>
<th>I. Latent Cause</th>
<th>II. Manifest Cause</th>
<th>III. Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>X. Requiring:</td>
<td>Z. Supernatural:</td>
<td>A. Man, acting:</td>
</tr>
<tr>
<td>1. community integration</td>
<td>1. dynamic</td>
<td>1. privately</td>
</tr>
<tr>
<td>2. sub-community integration</td>
<td>2. animistic</td>
<td>2. publicly</td>
</tr>
<tr>
<td></td>
<td>a. gods</td>
<td>3. with mana</td>
</tr>
<tr>
<td></td>
<td>b. spirits</td>
<td>4. without mana</td>
</tr>
<tr>
<td></td>
<td>c. ghosts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. souls</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. Techniques:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. with mana</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. without mana</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. Objects:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. unnecessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. with mana</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. without mana</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D. Route:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. reciprocal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. non-reciprocal</td>
<td></td>
</tr>
</tbody>
</table>

Because the method proposed in this study is unique in the area of comparative primitive religion, it is rather unrelated to previous studies concerning this subject. Methodology has never been of
extraordinary concern to students of religion, who have traditionally preferred either straight descriptive studies or unstructured synthetic studies. This study is, however, most closely linked with the general principles which make up that which we know as science—namely that theoretical contentions must be conceived systematically and tested rigorously. This close association and involvement with the mainstream of science may well be the biggest contribution of studies of this type. If anthropology is ever to escape the never-never land of the "humanistic sciences," the principles of science must be consistently applied and wholeheartedly embraced.

In summary, the method presented in this paper:

1) integrates a group of unrelated concepts.
2) fulfills the requirements of logic and systematics, and
3) has considerable potential for the study of manipulative religion.

Further, it is readily adaptable to various specific investigative needs. It is, therefore, a useful tool in the study of culture.
APPENDIX I

THE DATA

The data for the study were gathered in strict accordance with the necessary conditions set forth on page 15 for manipulative religion and the schema (Figure 1) devised for the classification of phenomena included within this behavioral category. Each manipulative form listed for a culture is unique for that culture, although it may be identical to manipulative forms included in the description of other cultures. The tribes of the sample have been arranged alphabetically with a parenthetical addition stating the culture areas to which they have been assigned (see Figure 5).

Because the data in this appendix are presented in coded form, the following table outlines the schema and indicates the meaning of the symbols.

<table>
<thead>
<tr>
<th>I. Cause</th>
<th>II. Manifest Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Man, acting:</td>
<td>X. Reality:</td>
</tr>
<tr>
<td>1. privately</td>
<td>1. natural</td>
</tr>
<tr>
<td>2. publicly</td>
<td>2. supernatural</td>
</tr>
<tr>
<td>3. with mana</td>
<td></td>
</tr>
<tr>
<td>4. without mana</td>
<td></td>
</tr>
<tr>
<td>B. Techniques:</td>
<td>Y. Re-arrangement:</td>
</tr>
<tr>
<td>1. with mana</td>
<td>1. spatial</td>
</tr>
<tr>
<td>2. without mana</td>
<td>a. immediate</td>
</tr>
<tr>
<td>C. Objects:</td>
<td>b. delayed</td>
</tr>
<tr>
<td>1. unnecessary</td>
<td>2. temporal</td>
</tr>
<tr>
<td>2. necessary</td>
<td>a. retrospective</td>
</tr>
<tr>
<td>a. with mana</td>
<td>b. prospective</td>
</tr>
<tr>
<td>b. without mana</td>
<td></td>
</tr>
<tr>
<td>D. Route:</td>
<td>III. Latent Effect</td>
</tr>
<tr>
<td>1. indirect</td>
<td>Z. Affecting</td>
</tr>
<tr>
<td>2. direct</td>
<td>1. 0–20%</td>
</tr>
<tr>
<td></td>
<td>2. 20–40%</td>
</tr>
<tr>
<td></td>
<td>3. 40–60%</td>
</tr>
<tr>
<td></td>
<td>4. 60–80%</td>
</tr>
<tr>
<td></td>
<td>5. 80–100%</td>
</tr>
</tbody>
</table>

Table 7

59
1. **Acoma** (IIIa)

   a. (All, B2 C2b D1) (X1 Y1b) (Z1) White, 1930: 63-140
   b. (All, B2 C2b D1) (X1 Y1b) (Z5) White, 1930: 63-140
   c. (All, B2 C2a D1) (X2 Y1a) (Z5) White, 1930: 63-140
   d. (All, B2 C2a D1) (X1 Y1a) (Z1) White, 1930: 63-140
   e. (A23, B1 C2a D1) (X1 Y1b) (Z5) White, 1930: 82-4
   f. (A13, B1 C2a D1) (X1 Y1a) (Z1) White, 1930: 86-8
   g. (A23, B1 C2a D2) (X2 Y1a) (Z1) White, 1930: 81-125
   h. (A23, B1 C2a D2) (X2 Y1a) (Z1) White, 1930: 107-11
   i. (A13, B1 C2a D1) (X1 Y1a) (Z1) White, 1930: 110
   j. (A13, B2 C2a D1) (X2 Y1a) (Z1) White, 1930: 110
   k. (A23, B1 C2a D2) (X2 Y1a) (Z1) White, 1930: 110
   l. (A13, B1 C2a D2) (X1 Y1a) (Z1) White, 1930: 112-5
   m. (A13, B1 C2a D2) (X2 Y1a) (Z1) Parsons, 1920: 127-8
   n. (A13, B2 C2a D1) (X1 Y1a) (Z1) Parsons, 1920: 127-8

2. **Baffinland Eskimo** (Ia)

   a. (A13, B2 C1- D1) (X2 Y1a) (Z5) Boas, 1888: 583-90
   b. (A13, B2 C1- D1) (X2 Y1a) (Z5) Boas, 1888: 601
   c. (A13, B2 C1- D1) (X1 Y1a) (Z1) Boas, 1888: 560-600
   d. (A13, B2 C1- D1) (X2 Y1a) (Z1) Boas, 1888: 593-4
   e. (A13, B2 C1- D1) (X1 Y1a) (Z1) Boas, 1901: 135-7

3. **Bella Coola** (IIb)

   a. (A14, B2 C1- D1) (X1 Y1a) (Z1) McIlwraith, 1948: 10h-8
   b. (A14, B2 C1- D2) (X2 Y1a) (Z1) McIlwraith, 1948: 10h-8
   c. (A14, B2 C1- D1) (X2 Y1a) (Z1) McIlwraith, 1948: 452-512
   d. (A14, B2 C1- D1) (X2 Y1b) (Z5) McIlwraith, 1948: 446-8
   e. (A14, B2 C2a D1) (X1 Y1a) (Z1) McIlwraith, 1948: 52h-39
   f. (A14, B2 C1- D1) (X2 Y1a) (Z1) McIlwraith, 1948: 517-8
   g. (A14, B2 C1- D1) (X1 Y1a) (Z1) McIlwraith, 1948: 559-62
   h. (A14, B2 C1- D1) (X1 Y1a) (Z1) Smith, 1925: 119
   i. (A14, B2 C2b D1) (X1 Y1a) (Z1) McIlwraith, 1948: 563-609

4. **Caddo** (Vd)

   a. (A24, B2 C2b D2) (X2 Y1a) (Z1) Swanton, 1942: 203-10
   b. (A24, B2 C2b D2) (X2 Y1b) (Z1) Swanton, 1942: 203-10
   c. (A13, B2 C2a D2) (X2 Y1a) (Z5) Swanton, 1942: 210-19
   d. (A13, B2 C1- D1) (X2 Y1a) (Z1) Swanton, 1942: 210
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<td>e.</td>
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<td>(X1 Y1a) (Z1)</td>
<td>Swanton, 1942: 219-26</td>
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<td>f.</td>
<td>(A13 B2 C2b D2)</td>
<td>(X1 Y2b) (Z5)</td>
<td>Swanton, 1942: 219-26</td>
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<td>g.</td>
<td>(A14 B2 C1- D1)</td>
<td>(X1 Y1a) (Z1)</td>
<td>Swanton, 1942: 210-34</td>
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<td>h.</td>
<td>(A14 B2 C2b D2)</td>
<td>(X2 Y1a) (Z1)</td>
<td>Swanton, 1942: 210-34</td>
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<td>i.</td>
<td>(A13 B2 C2b D2)</td>
<td>(X2 Y2a) (Z1)</td>
<td>Parsons, 1941: 32-6</td>
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<td>j.</td>
<td>(A13 B2 C2b D1)</td>
<td>(X1 Y1a) (Z1)</td>
<td>Parsons, 1941: 58-60</td>
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<td>k.</td>
<td>(A13 B2 C2a D2)</td>
<td>(X1 Y1a) (Z1)</td>
<td>Parsons, 1941: 32-6</td>
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5. Cherokee (Vm)

| a.   | (A13 B1 C2b D2) | (X2 Y1a) (Z1) | Mooney, 1900: 1-3 |
| b.   | (A13 B1 C2a D1) | (X2 Y1a) (Z1) | Mooney, 1891: 347-69 |
| c.   | (A13 B1 C2b D2) | (X2 Y1a) (Z1) | Mooney, 1891: 347-69 |
| d.   | (A14 B1 C2a D2) | (X1 Y1a) (Z1) | Mooney, 1891: 369-75 |
| e.   | (A14 B1 C1- D2) | (X1 Y1a) (Z1) | Mooney, 1891: 369-75 |
| f.   | (A14 B1 C1- D2) | (X2 Y1b) (Z1) | Mooney, 1891: 369-75 |
| g.   | (A14 B1 C1- D1) | (X2 Y1a) (Z1) | Mooney, 1891: 375-81 |
| h.   | (A14 B1 C1- D1) | (X1 Y1a) (Z1) | Mooney, 1891: 381-94 |
| i.   | (A13 B1 C2a D2) | (X2 Y1a) (Z1) | Mooney, 1891: 45-50 |
| j.   | (A13 B1 C2b D1) | (X2 Y1a) (Z1) | Mooney, 1891: 6-10 |
| k.   | (A13 B1 C1- D2) | (X1 Y1b) (Z1) | Mooney, 1891: 6-10 |
| l.   | (A13 B1 C2a D2) | (X1 Y1a) (Z1) | Mooney, 1891: 375-81 |
| m.   | (A13 B1 C2a D2) | (X1 Y2b) (Z1) | Gilbert, 1943: 324-5 |
| n.   | (A24 B1 C2a D2) | (X2 Y1a) (Z5) | Gilbert, 1943: 325-35 |
| o.   | (A24 B1 C2a D2) | (X1 Y1a) (Z5) | Gilbert, 1943: 325-35 |

6. Chinook (IIIe)

| a.   | (A14 B2 C2b D2) | (X2 Y1a) (Z1) | Ray, 1938: 74-7 |
| b.   | (A14 B2 C1- D2) | (X2 Y1a) (Z1) | Ray, 1938: 78-80 |
| c.   | (A14 B2 C2a D2) | (X2 Y1a) (Z1) | Ray, 1938: 86-9 |
| d.   | (A13 B2 C1- D1) | (X1 Y1a) (Z1) | Ray, 1938: 84-5 |
| e.   | (A13 B2 C2a D2) | (X1 Y1a) (Z1) | Ray, 1938: 84-5 |
| f.   | (A13 B2 C2b D2) | (X2 Y1a) (Z1) | Boas, 1893: 39-41 |
| g.   | (A13 B2 C2b D2) | (X2 Y1a) (Z1) | Ray, 1938: 88-9 |
| h.   | (A13 B2 C2a D2) | (X1 Y1a) (Z1) | Ray, 1938: 83-4 |
| i.   | (A13 B2 C1- D2) | (X2 Y1b) (Z5) | Ray, 1938: 89 |
| j.   | (A13 B2 C1- D2) | (X2 Y1a) (Z1) | Boas, 1893: 41-2 |

7. Chiracahua (IIIb)

| a.   | (A13 B1 C2a D1) | (X1 Y1a) (Z1) | Opler, 1941: 242-312 |
| b.   | (A13 B1 C2a D1) | (X1 Y2b) (Z1) | Opler, 1941: 214-15 |
| c.   | (A13 B1 C1- D2) | (X1 Y1a) (Z1) | Opler, 1941: 215-16 |
| d.   | (A13 B1 C1- D2) | (X1 Y1b) (Z1) | Opler, 1941: 215-16 |
| e.   | (A23 B1 C2a D1) | (X1 Y1a) (Z5) | Opler, 1941: 279-82 |
| f.   | (A23 B1 C2a D1) | (X2 Y1a) (Z5) | Opler, 1941: 279-82 |
| g.   | (A21 B2 C2a D2) | (X1 Y1a) (Z1) | Opler, 1941: 281 |
| h.   | (A13 B1 C2b D1) | (X1 Y1a) (Z1) | Opler, 1941: 285-6 |
i. (All B2 C1- D1) (X1 Yla) (Z1) Opler, 1941: 6-247
j. (All B2 C1- D1) (X1 Yla) (Z5) Opler, 1941: 6-247
k. (A23 B1 C2a D1) (X1 Yla) (Z1) Opler, 1941: 257-312
l. (A24 B1 C2a D1) (X1 Ylb) (Z1) Opler, 1941: 82-131
m. (A24 B2 C2b D2) (X2 Yla) (Z1) Opler, 1941: 208-11
n. (All B2 C1- D2) (X2 Yla) (Z1) Opler, 1941: 208-11
o. (All B2 C1- D2) (X2 Yla) (Z1) Opler, 1941: 208-11
p. (A13 B1 C2a D2) (X2 Yla) (Z1) Opler, 1941: 246-56
q. (A14 B2 C2b D2) (X2 Yla) (Z5) Opler, 1941: 246-56

8. Creek (Va)

a. (All B2 C2a D1) (X1 Yla) (Z1) Swanton, 1925: 498-510
b. (All B2 C2b D2) (X2 Yla) (Z1) Swanton, 1925: 510-15
c. (All B2 C2b D2) (X2 Yla) (Z1) Swanton, 1925: 516-7
d. (All B2 C1- D1) (X1 Yla) (Z1) Swanton, 1925: 517-25
e. (All B2 C2a D2) (X2 Yla) (Z1) Swanton, 1925: 516-614
f. (A14 B1 C2b D2) (X2 Yla) (Z1) Swanton, 1925: 617-22
g. (A13 B2 C2a D2) (X1 Y2b) (Z1) Swanton, 1925: 615-7
h. (A13 B2 C2b D2) (X1 Yla) (Z1) Swanton, 1925: 615-7
i. (A13 B2 C2b D2) (X2 Yla) (Z1) Swanton, 1925: 615-7
j. (A13 B1 C2b D2) (X1 Yla) (Z1) Swanton, 1925: 622-9
k. (A13 B1 C2b D2) (X2 Yla) (Z1) Swanton, 1925: 631-70
l. (A13 B2 C1- D1) (X1 Yla) (Z5) Swanton, 1925: 629-31

9. Crow (Ve)

h. (A24 B1 C2b D1) (X2 Yla) (Z1) Lowie, 1935: 256-8
i. (A24 B1 C2b D1) (X2 Yla) (Z1) Lowie, 1935: 256-8
l. (A24 B1 C2a D1) (X1 Yla) (Z1) Lowie, 1921: 349-55
m. (A24 B1 C2a D1) (X1 Ylb) (Z5) Lowie, 1919: 101-176

10. Delaware (Vk)

a. (All B2 C2a D2) (X1 Yla) (Z1) Harrington, 1921: 34-8
b. (All B2 C1- D2) (X2 Yla) (Z1) Harrington, 1921: 34-8
c. (A23 B1 C2a D1) (X1 Ylb) (Z5) Harrington, 1921: 81-162
d. (A23 B1 C2a D1) (X1 Ylb) (Z1) Harrington, 1921: 81-162
e. (A23 B1 C2a D2) (X2 Yla) (Z5) Harrington, 1921: 81-162
f. (A24 B2 C2b D2) (X2 Yla) (Z5) Harrington, 1921: 162-84
g. (A13 B2 C1- D2) (X2 Y1a) (Z1)  Tantaquidgeon, 1942: 4-11
h. (A13 B2 C1- D2) (X1 Y2a) (Z1)  Tantaquidgeon, 1942: 4-11
i. (A13 B2 C2b D1) (X2 Y1a) (Z1)  Tantaquidgeon, 1942: 7-40
j. (A13 B2 C2a D2) (X1 Y1a) (Z1)  Tantaquidgeon, 1942: 7-40
k. (A13 B2 C2a D2) (X2 Y1a) (Z1)  Tantaquidgeon, 1942: 7-40
l. (A13 B2 C1- D2) (X1 Y1a) (Z1)  Tantaquidgeon, 1942: 14-6
m. (A13 B1 C2a D2) (X1 Y1a) (Z1)  Tantaquidgeon, 1942: 16-20
n. (A14 B1 C2b D2) (X2 Y1a) (Z1)  Tantaquidgeon, 1942: 21-3

11. Diegueno  (IIIb)
   a. (A24 B1 C2a D2) (X1 Y1b) (Z1)  Waterman, 1910: 285-93
   b. (A24 B1 C2a D2) (X2 Y1a) (Z1)  Waterman, 1910: 293-320
   c. (A14 B2 C2b D2) (X2 Y1a) (Z1)  Waterman, 1910: 305-6
   d. (A24 B1 C2b D2) (X1 Y1a) (Z1)  Waterman, 1910: 305-28
   e. (A13 B2 C2b D2) (X1 Y1a) (Z1)  Spier, 1923: 311-15
   f. (A24 B2 C1- D2) (X2 Y1a) (Z5)  Spier, 1923: 326
   g. (A13 B1 C2b D2) (X2 Y1a) (Z1)  DuBois, 1908: 99

12. Haida  (IIa)
   a. (A24 B1 C1- D2) (X1 Y1a) (Z5)  Swanton, 1909: 12-3
   b. (A14 B2 C2a D2) (X1 Y1a) (Z1)  Swanton, 1909: 15-6
   c. (A14 B2 C1- D2) (X2 Y1a) (Z2)  Swanton, 1909: 170-80
   d. (A14 B2 C2b D2) (X1 Y1a) (Z1)  Swanton, 1909: 17-28
   e. (A13 B2 C2b D2) (X1 Y1a) (Z1)  Swanton, 1909: 40-43
   f. (A13 B2 C1- D1) (X2 Y1a) (Z1)  Swanton, 1909: 42-3
   g. (A13 B2 C2b D1) (X1 Y1a) (Z1)  Swanton, 1909: 42
   h. (A14 B1 C2b D2) (X1 Y1a) (Z1)  Swanton, 1909: 41-2
   i. (A14 B2 C1- D1) (X1 Y2b) (Z5)  Swanton, 1909: 42
   j. (A13 B2 C1- D2) (X1 Y1a) (Z1)  Swanton, 1909: 40
   k. (A14 B2 C1- D1) (X1 Y1a) (Z1)  Swanton, 1909: 13-5

13. Havasupai  (IId)
   a. (A13 B2 C2b D1) (X1 Y1a) (Z1)  Spier, 1928: 275-81
   b. (A13 B2 C2b D1) (X2 Y1a) (Z1)  Spier, 1928: 275-81
   c. (A13 B2 C2b D2) (X1 Y1a) (Z5)  Spier, 1928: 281-4
   d. (A13 B2 C2b D2) (X1 Y1a) (Z1)  Spier, 1928: 281-4
   e. (A14 B2 C2b D1) (X1 Y1a) (Z5)  Spier, 1928: 285-7
   f. (A14 B2 C1- D1) (X1 Y1a) (Z5)  Spier, 1928: 285-7
   g. (A14 B2 C2b D1) (X1 Y1a) (Z1)  Spier, 1928: 285-7
   h. (A14 B2 C1- D1) (X1 Y1a) (Z1)  Spier, 1928: 285-7

14. Iroquois  (VI)
   a. (A13 B2 C2a D2) (X1 Y1a) (Z1)  Murdock, 1934: 315
   b. (A24 B1 C2a D1) (X2 Y1a) (Z1)  Parker, 1909: 165-85
   c. (A24 B1 C2a D2) (X2 Y1a) (Z1)  Parker, 1909: 165-85
15. Kaska (Vp)

a. (A13 B1 C2a D2) (X1 Y1a) (Z1) Honigman, 1954: 106-114
b. (A13 B1 C2a D2) (X2 Y1a) (Z1) Honigman, 1954: 111-2

c. (A13 B2 C1- D2) (X1 Y2b) (Z1) Honigman, 1954: 106

16. Klallam (IIc)

a. (A14 B2 C2b D2) (X2 Y1a) (Z1) Gunther, 1927: 247-9
b. (A13 B2 C1- D1) (X1 Y1a) (Z1) Gunther, 1927: 299-300

c. (A13 B2 C2b D2) (X2 Y1a) (Z1) Gunther, 1927: 290

d. (A13 B2 C1- D1) (X1 Y1a) (Z1) Gunther, 1927: 289-305

17. Kutenai (IVc)

a. (A13 B2 C2a D2) (X1 Y1a) (Z1) Turney-High, 1941: 170-80
b. (A13 B2 C2b D1) (X1 Y1a) (Z1) Turney-High, 1941: 173-7
c. (A13 B2 C2b D1) (X1 Y2b) (Z1) Turney-High, 1941: 173-7
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e. (A13 B2 C1- D2) (X1 Y1a) (Z1) Turney-High, 1941: 122-200
f. (A13 B1 C1- D2) (X1 Y1a) (Z1) Turney-High, 1941: 103-10
g. (A13 B2 C1- D1) (X1 Y1a) (Z1) Turney-High, 1941: 188
h. (A14 B2 C2b D2) (X2 Y1a) (Z1) Turney-High, 1941: 171-2
i. (A14 B2 C1- D1) (X2 Y1a) (Z1) Turney-High, 1941: 170-1
j. (A13 B2 C2a D1) (X1 Y2b) (Z1) Chamberlin, 1906: 95-6
k. (A13 B2 C2b D2) (X2 Y1a) (Z1) Chamberlin, 1906: 95-6
l. (A13 B2 C2b D2) (X1 Y1a) (Z1) Chamberlin, 1906: 95-6
### 18. Luiseno (IIIg)

| a. | (A2l B2 C2a D2) (X1 Y1a) (Z1) | Dubois, 1908: 98 |
| b. | (A13 B1 Cl- D2) (X1 Y1a) (Z5) | Dubois, 1908: 105 |
| c. | (AlE B1 Cl- D2) (X2 Y1a) (Z1) | Dubois, 1908: 98-9 |
| d. | (A13 B1 C2b D2) (X1 Y1a) (Z1) | Sparkman, 1908: 215-7 |
| e. | (A13 B1 C2b D2) (X1 Y1b) (Z1) | Sparkman, 1908: 215-7 |
| f. | (AlE B2 C2a D2) (X1 Y1a) (Z1) | Sparkman, 1908: 216-7 |
| g. | (AlE B1 Cl- D2) (X2 Y1a) (Z1) | Sparkman, 1908: 226-7 |
| h. | (A2l B1 C2b D2) (X2 Y1a) (Z1) | White, 1953: 569-77 |

### 19. Maidu (IVb)

| a. | (A13 B2 Cl- D2) (X2 Y1a) (Z1) | Dixon, 1904: 26-32 |
| b. | (A13 B2 C2a D2) (X2 Y1a) (Z1) | Dixon, 1904: 26 |
| c. | (AlE B2 C2a D2) (X1 Y1a) (Z1) | Dixon, 1907: 257-83 |
| d. | (AlE B2 C2b D2) (X2 Y1a) (Z5) | Gifford, 1927: 241-42 |
| e. | (AlE B2 C2a D2) (X1 Y1a) (Z1) | Beals, 1933: 379 |
| f. | (A13 B2 C3a D2) (X2 Y1a) (Z1) | Beals, 1933: 392-3 |

### 20. Miami (Vh)

| a. | (A23 B2 C2a D2) (X2 Y1a) (Z1) | Kineitz, 1940: 196-201 |
| b. | (A2l B2 C2b D2) (X2 Y1a) (Z1) | Kineitz, 1940: 209-10 |
| c. | (AlE B2 C1- D2) (X2 Y1a) (Z1) | Kineitz, 1940: 214 |
| d. | (AlE B2 C2b D2) (X2 Y1a) (Z1) | Kineitz, 1940: 215 |
| e. | (A23 B2 C2a D2) (X1 Y1a) (Z1) | Kineitz, 1940: 215-7 |
| f. | (A13 B2 C2a D2) (X1 Y1a) (Z1) | Trowbridge, 1938: 53-6 |
| g. | (AlE B2 C2a D1) (X2 Y1a) (Z5) | Trowbridge, 1938: 191-5 |
| h. | (AlE B2 C2a D1) (X2 Y1a) (Z1) | Trowbridge, 1938: 191-5 |
| i. | (A13 B2 C2a D2) (X2 Y1a) (Z1) | Trowbridge, 1938: 22-3 |
| j. | (AlE B2 C1- D1) (X2 Y1a) (Z1) | Trowbridge, 1938: 51-3 |

### 21. Micmac (Vj)

| d. | (A13 B2 C2a D2) (X2 Y1a) (Z1) | Wallis, 1955: 131-6 |
| g. | (A1l B2 C2a D2) (X2 Y1a) (Z1) | Wallis, 1955: 212-16 |
| h. | (A13 B2 C2a D2) (X2 Y1b) (Z1) | Wallis, 1955: 212-17 |

### 22. Mohave (IIIe)

<p>| a. | (A13 B2 Cl- D1) (X2 Y1a) (Z1) | Kroeber, 1925: 775-80 |</p>
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<td>a.</td>
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23. Montagnais (Vo)

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24. Ojibwa (Vn)

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25. Omaha (Vf)

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26. Papago (IIIc)

a. (A12 B1 C2a D1) (X1 Y1b) (25) Underhill, 1946: 61-50
b. (A12 B1 C2a D1) (X1 Y1b) (25) Underhill, 1946: 61-50
c. (A12 B1 C2b D1) (X1 Y1b) (25) Underhill, 1946: 68-84
d. (A12 B1 C2b D1) (X1 Y1b) (25) Underhill, 1946: 50-260
e. (A12 B1 C2b D1) (X1 Y1a) (21) Underhill, 1946: 85-103
g. (A12 B1 C1- D1) (X2 Y1a) (21) Underhill, 1946: 165-252
h. (A14 B2 C2b D1) (X1 Y1a) (21) Underhill, 1946: 165-252
i. (A13 B2 C1- D1) (X1 Y1a) (25) Underhill, 1946: 264
m. (A13 B2 C2a D1) (X1 Y1a) (21) Underhill, 1946: 263-79
o. (A13 B1 C2a D1) (X1 Y1a) (21) Underhill, 1946: 116-34
p. (A14 B1 C2a D1) (X1 Y1a) (21) Underhill, 1946: 116-34

27. Paviotso (IVa)

a. (A14 B2 C2b D1) (X1 Y1a) (21) Kelly, 1932: 202-4
c. (A13 B2 C1- D1) (X1 Y2b) (21) Kelly, 1932: 83-6
g. (A13 B2 C2b D2) (X2 Y1a) (21) Whiting, 1950: 33-54
h. (A13 B2 C2b D2) (X1 Y1a) (21) Whiting, 1950: 33-54
j. (A13 B2 C1- D1) (X1 Y1a) (21) Park, 1934: 102-4
k. (A13 B2 C1- D1) (X2 Y1a) (21) Park, 1934: 106
l. (A13 B2 C1- D1) (X2 Y1a) (21) Park, 1934: 108

28. Snuqualmi (IIId)

a. (A14 B2 C2b D2) (X2 Y1a) (21) Haieberlin, 1930: 55
b. (A14 B2 C1- D2) (X2 Y1a) (21) Haieberlin, 1930: 67-9
c. (A13 B2 C1- D1) (X1 Y1a) (21) Haieberlin, 1930: 69-75
d. (A13 B2 C2b D1) (X1 Y1a) (21) Haieberlin, 1930: 75-9
### West Alaska Eskimo (Ib)

- **a.** (A1l B2 C2b D2) (X2 Y1a) (Z1) Lantis, 1948: 193-9
- **b.** (A1l B2 C2b D2) (X2 Y1a) (Z1) Lantis, 1948: 200
- **c.** (A1l B2 C2b D1) (X2 Y1a) (Z1) Lantis, 1948: 200-2
- **d.** (A1l B2 C2b D2) (X1 Y1a) (Z1) Lantis, 1948: 200-2
- **e.** (A1l B2 C1- D1) (X2 Y1a) (Z1) Lantis, 1948: 201-3
- **f.** (A1l B2 C1- D1) (X1 Y1a) (Z1) Lantis, 1948: 201
- **g.** (A1l B2 C1- D2) (X1 Y1b) (Z1) Lantis, 1948: 201
- **h.** (A1l B1 C2b D2) (X1 Y1a) (Z1) Lantis, 1948: 202-3
- **i.** (A1l B2 C2a D2) (X1 Y1a) (Z1) Lantis, 1948: 204-5
- **j.** (A1l B1 C2a D2) (X1 Y1a) (Z1) Lantis, 1948: 204-5
- **k.** (A1l B1 C1- D2) (X1 Y1a) (Z1) Lantis, 1948: 205-8
- **l.** (A1l B1 C1- D2) (X1 Y1a) (Z5) Lantis, 1948: 205-8
- **m.** (A1l B1 C1- D1) (X1 Y1a) (Z5) Lantis, 1948: 201
- **n.** (A2l B2 C2b D2) (X2 Y1a) (Z1) Lantis, 1948: 227-9

### Winnebago (Vg)

- **a.** (A1l B2 C1- D1) (X2 Y1a) (Z1) Radin, 1916: 291-310
- **b.** (A1l B2 C1- D1) (X1 Y1a) (Z1) Radin, 1916: 291-310
- **c.** (A2l B2 C2b D2) (X2 Y1a) (Z1) Radin, 1916: 140-55
- **d.** (A1l B2 C1- D2) (X2 Y1a) (Z1) Radin, 1916: 156-9
- **e.** (A2l B1 C2a D2) (X2 Y1a) (Z1) Radin, 1916: 427-50
- **f.** (A1l B2 C1- D2) (X2 Y1a) (Z1) Radin, 1916: 310-11
- **g.** (A1l B2 C2b D2) (X2 Y1a) (Z1) Radin, 1916: 211
- **h.** (A1l B2 C2b D1) (X1 Y1a) (Z1) Radin, 1916: 270-6
- **i.** (A1l B2 C2b D1) (X1 Y1a) (Z1) Radin, 1916: 270-6
- **j.** (A2l B2 C2b D1) (X1 Y1a) (Z1) Radin, 1916: 318-28
- **k.** (A23 B1 C2b D2) (X2 Y1a) (Z1) Radin, 1916: 329-401
- **l.** (A23 B1 C2b D1) (X2 Y1a) (Z1) Radin, 1916: 329-401
- **m.** (A23 B1 C2a D2) (X2 Y1a) (Z1) Radin, 1916: 350-78
- **n.** (A23 B1 C2a D2) (X1 Y1a) (Z1) Radin, 1916: 350-78

### Yurok (IIg)

- **a.** (A2l B1 C1- D2) (X2 Y1a) (Z1) Kroeber, 1925: 53-61
- **b.** (A1l B1 C1- D2) (X1 Y1a) (Z1) Kroeber, 1925: 69-73
- **c.** (A1l B1 C1- D1) (X1 Y1a) (Z1) Kroeber, 1925: 69-73
- **d.** (A1l B1 C1- D2) (X1 Y1a) (Z1) Kroeber, 1925: 69-73
- **e.** (A1l B1 C2b D2) (X2 Y1a) (Z1) Kroeber, 1925: 46-7
- **f.** (A2l B1 C2b D1) (X1 Y1b) (Z5) Kroeber, 1925: 53-61
- **g.** (A2l B1 C2a D1) (X1 Y1b) (Z5) Kroeber, 1925: 53-61
- **h.** (A2l B1 C2b D2) (X1 Y1a) (Z1) Kroeber, 1925: 61-2
- **i.** (A1l B1 C2b D2) (X2 Y1a) (Z1) Kroeber, 1925: 63-6
- **j.** (A1l B2 C2a D2) (X1 Y1a) (Z1) Kroeber, 1925: 60-71
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and Gunther, Erna  

West Alaska Eskimo

Lantis, Margaret  

Winnebago

Radin, Paul  

Yurok

Kroeber, A. L.  