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THE EFFECT OF WESTERN MATERIAL GOODS
UPON THE SOCIAL STRUCTURE
OF THE FAMILY AMONG THE SHIRISHANA

by

John Fred Peters

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Philosophy

Western Michigan University
Kalamazoo, Michigan
December 1973
ACKNOWLEDGEMENT

The writer wishes to acknowledge the guidance and encouragement of his advisory committee, Dr. J. Ross Eshleman, Dr. Charles Keely, Dr. Chester Hunt and Dr. Robert Jack Smith. Suggestions in terms of theory and subject development, organization, style and scope were most appreciated.

Thanks is also due to the many professors and students, who, during the writer's graduate school years provided intellectual stimuli in a variety of ways.

The writer is indebted to the Shirishana and the personnel of the Unevangelized Fields Mission and the Missionary Aviation Fellowship who helped to make this research possible. Similarly the writer wishes to acknowledge the financial assistance provided by Western Michigan University during the field work, and Canada Council during the writing of this document. Gratitude is also expressed to Rudolf Neufeld, who applied his skills in the editing of the entire dissertation.

This work would not have been initiated or consumated, were it not for the understanding and forbearance of the writer's family, and in particular his wife Lorraine. Her assistance and encouragement in the exchange of ideas and in the actual writing have been immeasurable, and greatly appreciated.

John Fred Peters

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CHAPTER I
RELATED RESEARCH AND RELEVANT THEORY

A. Introduction

The purpose of this research is to study the consequences of the introduction of Western material goods upon the social structure of the family in a small primitive tribe located in northwest Brazil (see Map 1). The Shirishana, who numbered 115 in 1958, had sporadic and limited contact with Westerners and Western goods until missionaries established residence in the area in November of that year. The presence of these Westerners made it possible for this primitve society to obtain many Western items which would be useful in the culture of the Shirishana. The initial items obtained by the natives included a substantial supply of knives, machetes, axes, fish hooks, matches and beads. The possession of such items, which formerly were either unavailable (fish hooks, matches, and plastic beads) or only crudely made locally (stone axes and carving tools), was found to have an effect upon the social system of the society.

The presence of foreign goods may be expected to alter the social structure and institutions of such a group. Foreign goods, for example, might enlarge the traditional trading system and change the trading relationships in any previously primitive, isolated society. This in itself may alter social relationships. The use of more efficient tools usually lessens the time required in survival activity and makes time available for new means of leisure (Lenski,
MAP 1

SOUTH AMERICA WITH YANOMAMA REGION
The traditional functions of the family as an institution in such a society may be altered by access to Western goods. The status of various family members may be shifted, for example, due to possession of these Western goods. Various status differences among family members may be distinguished due to specialization required in labor in order to obtain Western goods, and as a result of acquisition and use and control of the new items. In societies where brides are purchased principally by means of service, payment with Western goods offers an alternative to the traditional pattern. Other patterns which could well be affected include the matrilocal rules of residence (Murdock, 1949:201) as well as polygamous or polyandrous marriage forms. Similarly, it can be anticipated that authority patterns may be altered.

The chief concern of this study is to investigate the effect which Western material goods, treated as an independent variable, have upon the social structure of the family in a relatively isolated society. The value of the study is twofold: (a) theories of social change will be discussed with the use of empirical data, and (b) the effect of Western goods upon a primitive group will be evaluated. The research is a case study of the historical experience of a particular tribe, the Shirishana, shedding light on the ideological question: "what social changes take place when contact between Western cultures and primitive tribes occurs?"

At this point it is imperative that three basic concepts significant to the research be defined. The first concept is "Western".

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Scholars spoke little of Westerners until the era of modernization. Historically, all the earliest and indigenously developed modernizing societies were European derived societies (Levy, 1966:89). Western societies are characterized by an emphasis on science, high levels of specialization, lack of self-sufficiency, materialistic orientations, object recruitment and bureaucracy. For the purpose of this study "Western" can be contrasted to pre-literate or primitive societies where there is no evidence of modernization. In the context of this research, Western goods penetrated the society under investigation by means of North American missionaries, Brazilian ranchers and farmers living some sixty miles downstream, as well as neighboring tribes who, on very rare occasions, traded pots and cutlasses.

The second concept crucial to our study is that of "primitive". The concept is not used in the context of "simple", "naive", or "backward". Primitive societies are often characterized by kinship structures of a viability and complexity far beyond those of highly modernized societies. Primitive societies are usually non-literate, with a quality of simplicity in whatever specialization they might have. For our purposes, a primitive society represents a group of non-literate people with an elaborate kinship structure, but without a high degree of role and occupational specialization and institutional differentiation.

For the purposes of this research Murdock's definitions of the family will be used (1949:1). The family is a "social group characterized by common residence, economic cooperation, and reproduction". This group includes "adults of both sexes at least
two of whom maintain a socially approved sexual relationship and one or more children, own or adopted of the sexually cohabiting adults". The nuclear family consists of "two adults of opposite sex living in a socially approved sex relationship, with their own or adopted children" (Leslie, 1967:13). In some cases the nuclear family consists of one parent and a child or a brother and a sister (Eshleman, 1969:22). When this unit includes married sons or daughters of the family head and their children it is referred to as an extended family.

The basic unit of solidarity found in primitive societies is usually the family. It is fitting, therefore, that our research should focus upon the change occurring in the social structure of the family. Any phenomenon which alters the family unit will alter the social structure of the entire society. "To undermine the stability of family control is to undermine, at least initially, the prevailing structures of control of the entire society" (Levy, 1966:122). The family serves as the prime agent of socialization for new members of the society (Levy, 1966:120). Prior to the development of relatively modernized societies, training and education have been the responsibility of some family organization. Levy postulates that one of the fundamental differences in non-modern and modern societies is the proportion of socialization taking place outside of the family. A second distinction between modern and non-modern societies is that in the latter the behavior of the members is oriented toward family considerations. Thus, the family plays an inclusive and central role in the structure and integration of pre-modern societies.
This research focuses upon a non-modern society which came in contact with a modern society after a history of almost complete isolation. It is worth noting the reasons for structural change in such situations as outlined by Levy.

If there is contact, some set of members of that society will always attempt to take up some of those structures even if those structures are not forced upon them. They will do it for the following reasons: (1) There is no society whose members are in general unaware of material factors. (2) There is no society whose members fail to distinguish between being relatively better off and relatively worse off materially. (3) There is no society whose members in general do not prefer to be better off rather than worse off materially. (4) Peoples do vary widely, both within a given social context and from one context to another, with regard to the prices they are prepared to pay in order to be relatively better off materially and - even more importantly - in their horizons of such possibilities. ... One reason why increased use of money, as well as travel, is broadening is that the increased comparisons which result always extend the horizons of the possible. (5) ... the one respect in which the relatively modernized societies are always superior to the relatively non-modernized societies ... is the inordinate material productivity of their members following their ways. Once contact is made, therefore, there is always motivation for some of the members of a relatively non-modernized society to try to take over some of the elements of the relatively modernized societies regardless of whether the initial contacts and the ensuing relations are imposed or voluntary. ... (6) Furthermore, the elements common to all societies and the appreciation of some form of tools and inanimate sources of power by the members of any society guarantee that members of relatively non-modernized societies will never be completely unable to comprehend at least some of the elements of greater material productivity with which they come in contact. In the desire to try these new methods the sources of instability inherent in the society concerned may be highly relevant. It may well be those members of a society who are most frustrated by the ordinary prevailing state of affairs who are most motivated to try the new, but someone would try something in any case.

Once the contacts are established, there will be some transfer of the relatively modernized structures to the
relatively non-modernized society. When such transfers are made, they are inevitably subversive of the status quo of the relatively non-modernized society, and usually explosively so. After these contacts, in addition to gradual erosion of some existing structures, many structures with long pedigrees of stability begin to change with great rapidity (Levy, 1966:125-127).

Relatively few primitive societies still exist in the world today. A great number of preliterate tribes have been absorbed by non-primitives in the past century. Miners, oil drillers, rubber gatherers, animal skin dealers, government agents, wood cutters, anthropologists and missionaries have contacted isolated communities for selfish, material or humanitarian purposes. In many cases, the penetrators have lacked consideration of the culture, showing scant respect for the social structure and relationship patterns of the indigenous society. The very presence of foreigners creates a stimulus for change. Bright red cloth, mosquito repellent, shot-gun, shoes, or a sparkling ring have initiated or perpetuated a desire to accumulate goods. The Westerner has often given opportunity for an exchange of goods with the preliterate; at times he has requested the primitive's labor for pay, thus providing an avenue for at least partial fulfillment of the primitive peoples' stimulated desires for Western goods.

Many Westerners currently urge that cultural isolates be left alone. One of the reasons for this insistence is the knowledge that societies have been annihilated socially or physically due to the influence of Western diseases and Western ideology (Bodard, 1971). Factual information regarding rubber and skin traders, exploitation of Indians in North America during the 18th and 19th century, the
massacring of innocent Indians by fazenda owners or road workers in past decades in South America, and the distribution of infected clothing has raised a legitimate cry of indignation.

This concerned humanitarian segment of Western society often considers the non-Western isolated tribe as content, self-sufficient and functional. This perspective is usually utopian. The "happiness" of the native is frequently visionary on the part of the Westerner, stemming from a possible disenchantment with the latter's world of mechanization and impersonality. Furthermore, the Westerner frequently perceives contact between the two cultures as initiated totally by the Western world. It may be that the primitive society also exerts considerable effort to make contact with Western culture. It is possible that the native considers the manner of life or the items of the Westerner to be highly desirable. If that is so, would not the Westerner be playing the part of a god if he should refuse cultural contact or cultural borrowing? In such a case, has the Westerner the right to dictate cultural isolation? What of the primitive's rights?

B. Case Studies

It is appropriate in a research study concerned with changes occurring in a primitive society due to Western contact that reference be made to other similar instances. Consideration will be given to the Manus of the South Pacific, the Yir Yoront of Australia and the Tristans found on an island in the south Atlantic.
The change among the primitive Manus just north of New Guinea has been documented by Mead (1956). The Manus, a population of 2000, originally living in dwellings elevated on posts above the sea floor, have moved from primitiveness into the twentieth century in just 25 years. The Manus were first stimulated to notable cultural change because of the occupation of the Japanese, Australians and American forces during World War II. Associated with the presence of so many foreigners and their modern equipment as stimulators for change was the leadership of a Manus, Paliau, who had some understanding of the "New Way" (Mead, 1956:188). The "cargo cult", a belief that large ships or boats would arrive with an abundance of Western tools and clothing, also facilitated the gigantic change.

Mead indicates that much of the externality of the Western structure, such as the house arrangements in the village, the wearing of clothing, the village meetings, and marching, were imitated from the West without any understanding (1956:413). Court cases were held over very minor issues, seemingly for the sake of having court cases. Gambling was adopted but no one seemed to know how to handle this behavior which was supposedly deviant. Mead, however, does not reveal any regret in the loss of the traditional Manus culture. On the other hand, she does indicate the role of history upon the Manus and their corresponding determination to adopt the New Way. It is significant that what happened here "... points up the completeness with which a people may want to change rather than merely submit to being changed" (Mead, 1956:442). Though social scientists often attack Westerners for their influence
upon primitive areas, Mead suggests that possibly Westerners are egocentric in not desiring to admit people into our culture. In any event, the Manus case shows that there was a strong incentive among primitives to adopt many of the Western items and ideas. Change which might be considered as drastic and rapid did not lead to a breakdown of the functioning society.

Two further cases where contact between Westerners and a primitive or subordinate isolated culture also shed light on the impact on social structure due to the contact of technologically superordinate societies. The contact with the Yir Yoront resulted in a complete disorganization of the social structure. The Tristan case study, though not a primitive society, illustrates a successful resistance to modern Western influence, involving a degree of reorganization of the social structure.

Possibly no article on the subject of cultural change due to Western goods has received as much publicity as Lauriston Sharp's "Steel Axes for Stone Age Australians" (1952). The Yir Yoront lived their own self supporting life style until 1942. In an effort to introduce "efficiency" and "progress" to this society, steel axes were indiscriminately given to boys, women and men, sometimes as a payment for labor, and at other times as gifts during Western festivities, such as Christmas. According to Sharp, this introduction of the steel axe had an astounding effect upon the social structure of the Yir Yoront, resulting literally in the destruction of the group.

The additional leisure time enjoyed due to the introduction
of the steel axe was not used constructively, but rather for sleeping, an art already well cultivated. The manufacturing of the stone axe required considerable skill, and a complex network of trading relations as evidenced by the fact that pliable wood with bark and prepared gum were attached to a stone obtained from a distant quarry some 400 miles away. This process was carried out by using only a few cutting tools made of coastal shells. Furthermore the stone axe head was obtained via the neighboring tribesmen, in trade for the Yir Yoront spears. The trade associations often involved aboriginal fiestas, which included initiation rites or other totemic ceremonies. The steel axe took some of the excitement and meaning out of these festive activities.

There were never many stone axes and only the older men owned them. These men gained considerable prestige, not only because they owned the stone axe, but also because they controlled the trade network. Women used the axes, but only with the permission of certain culturally determined males. The steel axe, on the other hand, was distributed without discrimination as to age or sex. This weakened the value system and caused loss of respect within kinship relationships. The stone axe was no longer a symbol of masculinity and maturity.

It is therefore evident that the Western steel axe introduced to the Yir Yoront did not contribute to maintenance of the social structure. Social ties with the tribe and economic ties outside the tribe were threatened. The art of making indigenous axes was terminated. The altered prestige ranking system weakened the...
traditional authority kinship relationships.

Another problem of importance for this research is the consequence of conflicting values arising from Westernizing pressures illustrated by the experience of the Tristans (Munch, 1970). Tristan da Cunha is a community in the south Atlantic with a population of 270. The community was founded in 1817 by three British army men, who were later joined by sailors and whalers of mixed backgrounds, as a utopian community based upon the principles of communal ownership, absolute equality, and freedom from governmental control.

"...the core values of equality, anarchy, and personal integrity prevailed and crystallized into a system of norms that strongly discourage any man from putting himself forward in any way or manner and that promote and constantly reinforce the traits of dignity, kindness, and an alert but subtle sensitivity to the rights and feelings of others for which the islanders have so often been noted. But it has also resulted in a lack of community spirit. No one feels that he has an obligation whatsoever to the community as a whole" (Munch, 1970:1302).

Westerners perceived the islanders as living in extreme poverty and savagery. In October 1961 a volcano erupted, making it necessary to move the Tristans to a nearby island. Later they were taken to England (Munch 1964). It was the intent of the British government to keep the Tristans in England, thereby removing them from the "squalid" conditions of the island. The colonial office considered the evacuation a success, but the islanders, now in England, thought otherwise. As individuals and as small groups, they began to recognize their inability to deal with the dominance of the British government. Through community effort, including the persistent

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efforts of a few who became an action elite, permission came for the entire population to return to Tristan da Cunha. This Western dominance was overcome through community action, an activity previously foreign to the native Tristan.

The Tristans faced a second crucial confrontation with Western culture. Knowledgeable of the fishing resources near the island, a South African firm began to establish a fishing industry on the island. South Africans endeavored to hire Tristan men by contract for the entire fishing season or for a three week duration. This company met resistance because the islanders said they had potatoes to tend, sheep to graze or other duties, and, therefore, could not work for the South Africans. In reality, the values of the two societies clashed. The Tristans wanted the goods which wages would yield, but, at the same time, they appreciated their own independence and dignity. They preferred to work when they chose without the control or dominance of any type of boss. Despite continued pressure on the Tristans, the fishing company was forced to withdraw its concerted fishing efforts from the island of Tristan da Cunha. In this case, the modern Western influence was rejected by the Tristan society.

Three cases of the effect of Westerners upon isolated or primitive groups have been considered. The Manus were eager to adopt Western goods as well as Western ideology, and this resulted in little structural disintegration. Among the Yir Yoront the naive fashion in which steel axes were introduced by the Westerners demoralized the natives and caused serious cultural disruption.
In the case of the more civilized Tristans, organizational adaptation and persistence made it possible to reseat Western corporate structures, as well as the values which go along with them. This research will focus upon such phenomena as social structure, mate selection and bride service, marriage residence patterns, polyandry, ownership of property and status.

C. Social Structure

A central concern of this research is social structure. As human beings interact with one another over a period of time, there develop certain uniformities which tend to persist. These uniformities are orderly and systematic and can therefore, be recognized as a social system. The social system has identifiable and interdependent parts which we may term as a social structure.

The integration of the individual into the social system comes about via the socialization process (Parsons, 1966:12). In primitive societies, the basic agent in this socialization process is the kinship system. More advanced societies supplement this agency with formal education and master-apprentice teaching situations.

Parsons (1966:10) and Meggers (1971) also indicate that the social structure is affected or influenced by the physical setting or the environment of the society. This is particularly true of primitive societies where basic needs such as food and shelter are of primordial concern to the society. DeFleur and D'Antonio indicate that two other important variables in the study of social change are population and ideology (1970:177-180). An abrupt increase or
decrease in population density may alter relationships and means of government. Ideological change may introduce new value perspectives and goals, thus affecting the social structure.

Acts within a social system become standardized ways of doing things common to a particular culture. This is custom. Custom is defined as a "standardized and more or less specialized set of actions which are routinely carried out according to an accepted pattern in a given group" (Inkeles, 1964:66). Roles therefore become a set of expectations associated with specific acts that determine their sequence as well as the specific conditions under which the actions are expected.

On a higher level of analysis, a more complex structure of roles organized around some central activity or social need may be aggregated into an institution. Reuter defines institutions as "the organized system of practices and social roles developed about a value or series of values, and the machinery evolved to regulate the practices and administer the rules" (1941:113). Four institutions are commonly identified as basic for the maintenance of a social system. Political institutions are concerned with the exercise of power and the legitimation of force. The religious institution deals with the supernatural and moral belief system. The kinship institution, referred to as the family in the Western social context, is focused around the problem of regulating sex and providing a stable and secure environment for the young. In primitive societies kinship generally involves specific rights and obligations as well as mutual aid. The economic institution deals with the production and distri-
bution of goods and services. These institutions do not function independently of one another. Rather, they are highly integrated with one another, thereby making a collective contribution to the continued operation of the society.

Parsons indicates that there are two basic requirements for a social system to be continuous. The society must have a mechanism which functions to maintain the existing system, a mechanism of integration in which new ideas, values, forms and norms may be perceived and possibly used for experimentation purposes. Parsons feels that a society devoid of the mechanisms of maintenance and integration of the social system would result in chaos and cultural disintegration (1966:28-29).

Even as the absence of a maintenance and integration mechanisms within the society would lead to chaos, a totally integrated society would prove static. Change is inevitable, even if very slight. Parsons feels that on a theoretical level there is no difference between the process which maintains a system and that which changes a system. "The difference lies in the intensity, distribution and organization of the elementary components of particular processes relative to the states of the structures they affect" (1966:21).

It should be noted here that critics of Parsons such as Dahrendorf take issue with structural-functional theory's inability to deal with infra-societally generated conflict and its resulting social change. The focus of this study is extra-societal stimuli to change, Western material goods. Thus, on a theoretical level, the criticism of Parsonian analysis in regard to social change does
not focus on societal mechanisms for adaptation to environmental factors.

Any study of change can logically focus upon that which would enhance the adaptive capacity for the society. In a primitive society this may include sharper and more durable tools, improved marksmanship, better weapons, modified forms of festivity or more efficient food processing, to mention but a few.

Parsons also feels that the process of enhancing the adaptive capacity must include differentiation. The more skillful will be allocated to tasks which require greater skill. This process may create tension, because skill or achievement will take precedence over ascription. The traditional and static society operates more on ascription, meting out rewards on the basis of sex and age. On the other hand, the achievement oriented society, often geared toward enhancing adaptive capacity, favors the knowledgeable and the skillful. These two ideologies may clash.

In the process from ascription to achievement, full membership in the society is expanded to include members previously excluded. This extended membership may possibly include individuals of the female sex, as well as younger males. Inevitably new hierarchal structures will evolve. Those of the new "elite" may manipulate the social structure so as to perpetuate their status while suppressing those of lower status.

With a change from ascription to achievement, values in the society can be expected to change. These value changes could include such things as attitudes toward family, government religion, material

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possessions and so on. Values are an expression of the ultimate ends, goals, or purposes of social action. Values deal primarily with what ought to be rather than what really is. Values differ from culture to culture. The culture defines which purposes and interests are held in common for all members of the society. These purposes or goals are more or less integrated into the social system and form a framework of aspirational reference. Linton calls goals "designs for group living". They are considered as ends worth striving for. The basis for these drives are both biological and sociological in nature.

Along with a society's goals are the social regulations which dictate how one achieves these goals or ends. Each society "defines, regulates and controls the acceptable modes of reaching out for these goals" (Merton, 1957:133). These regulations have their roots in the values of the specific society. Traditional norms frequently conflict with the intent of technical or efficiency norms. It can thus be anticipated that the goals of a traditional or sacred society and its regulatory norms will create frustration and tension when confronted with Western culture whose goals are based upon rationality, efficiency and consumption. The sacred norms (taboos, etc.) may be seriously challenged (Hoselitz, 1963:352).

As already indicated, many preliterate and isolated communities and cultures have either sought or made contact with Western cultures in the past century. Most literature on the subject seems to indicate that considerable disorganization takes place in the primitive society, and that there is a gradual or abrupt loss of indigenous culture, as well as some anomie or alienation. Munch indicates that Western-Non-
Western contact has two strikes in favor of the Western society.
The Western culture is superior in prestige and the Western culture has material affluence. Aside from these two factors, it is strongly supported by the ethos of rationality, as well as by technical superiority and organizational skill (Munch, 1970:1308). Munch further states that

there are values that man, the rational animal, cannot easily dismiss or refute, no matter what other values his own cultural tradition may have given him in terms of integrity, emotional security, dignity and self fulfillment. The ethos of the Economic Man, therefore, always comes as a serious challenge to any cultural tradition that does not place material affluence and rationality at the top of its hierarchy of values. Besides, as often happens in social and cultural change, fringe values are easily compromised and even sacrificed; but the involvement of core values, which are usually more vaguely articulated and expressed in more general terms, becomes apparent only after the change has already been implemented (1970:1308).

In many Western societies today, the institution of kinship is superseded by the institution of the economy. In preliterate societies the reverse is true. For the most part, kinship dominates the economy. Economic activity is subordinated to the integrative function of the society (Hoselitz, 1972:57). While Western societies are continually concerned with the adaptive function within their structure, primitive societies are concerned with the problem of integration (Hoselitz, 1972:56). Thurnwald shows that wealth in primitive societies is social in character and not economic (1946:179). The primitive is not as interested in possessing as he is in giving and taking. This causes a large turnover of goods. The one who possesses is considered as the trustee of the community. He gains

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to give (Malinowski, 1922:97). Gain for the sake of profit in money values is, therefore, unknown. This is evident on specific occasions such as death when valuable items are destroyed (Thurnwald, 1965:180; Kroeber, 1923:303).

With the dominance of the economic institution and economic values in Western society, it follows that major social change will come about due to economic factors. This is precisely Karl Marx's view, that economic factors of life are the prime movers of history (Ryan, 1969:28). It is, therefore, anticipated that economic factors will affect the institution of kinship relations.

1. Cooperation in the extended family

Currently there is an increasing amount of research on the subject of industrialization's and urbanization's effects on kinship structure. Moore contends that most discussions on this subject tend to lump non-industrial societies under a single category of "extended family" and compare this with the "small family" system of urban society (1963:338). Such a dichotomy generally leads to a generalization that industrialization is an undermining influence on extended kinship systems. One must consider the type, degree and speed of change in a social system before assuming that the transformation is universal and immediate. On the other hand, Litwak has documented the fact that kinship family systems persist in a highly urbanized community (1960:177-187). Weber uses the distinction of traditional and rational action, a typing more acceptable to sociologists. Technical and economic change usually effects a society's change
from a traditional to a rational orientation. A rational orientation introduced through or in conjunction with Western goods can be expected to at least lessen the cooperation within the extended family.

Goode posits that the social forces of industrialization have the effect of changing the extended family toward a conjugal family (1963:1). Though Goode deals with the industrialized and industrializing societies, his research may indicate a parallel pattern that could conceivably occur in primitive societies when exposed to foreign goods. Individuals in primitive societies are usually known to be highly dependent on one another. Durkheim refers to this interdependence as mechanical solidarity in contrast to organic solidarity found in modern societies (1933). The mechanical solidarity is kin oriented and centers around the extended family. These extended family dependencies are often essential for societal survival. Because of crude tools, which are often inefficient, cooperation in gardening and hunting is essential. The absence of sophistication in weaponry also requires cooperation in intertribal feuds and raids. Manufacturing tools often requires the combined efforts of both sexes, young and old.

With the use of Western goods these extended family interdependencies could be reduced considerably. A tool as simple as an axe or knife is much more durable and efficient than a cutting instrument made of stone, bush rope and wood. With the personal ownership of such tools, borrowing can diminish, resulting in less cooperation among extended family members. Work essential for survival would take less time.

At the same time, to acquire these valuable tools it might be
necessary for a person to work for the Westerner. This may require an absence from the native village for a period of weeks or months. In such an event the individual is not available for traditional duties in the extended family. From the above it is reasonable to hypothesize that:

Hypothesis 1. An increase in material goods in a primitive society will lead to less cooperation among extended family members.

Along with the change in patterns of cooperation among extended family members change can be anticipated in the custom of bride service and bride payment.

2. Mate selection and bride service

The practice of bride price or bride wealth is found in societies where the bride and groom do not typically make the individual choice of the mate. If the choice in mate selection is free, individual motives such as romantic love, sexual desire, loneliness, desire for children and desire for status come into play (Stephens 1963:187). When choice by both sexes is involved, marriage is usually preceded by courtship.

Marriage partners are chosen in one of three ways: (1) by the parents of the spouses; (2) free choice by one or both potential spouses, subject to the parents' consent, or (3) free choice by the partners themselves. Bride price is found in either (1) or (2) and seldom, if ever, in type (3). Payment or service is usually made in type (1) to the parents of the prospective bride and in type (2) usually to the bride's parents or the bride's brother(s) (Stephens, 1963:187).
Bride price or payment is found in societies where the family takes precedence over the individual. The family has a significant vested interest in the choice of the mate. The criteria for choice may include the amount of the bride price, the reputation of the potential spouse's kin group, levirate and sororate obligations or the tradition of continuous marriage arrangements. The functions therefore of bride price can be several. Bride service or payment enhances the economic and sometimes social status of the bride's family. In some African tribes payment in goats increases the family wealth. In hunting and gathering societies where bride service is practiced, the contributions of the prospective groom's hunting supplies meat for the bride's family. This bond of payment facilitates an alliance between the two families which is convenient in times of warfare or in times of economic or social need (Chagnon, 1968).

The reputation of the potential spouse's parents and kin is also an important consideration in mate selection. The Kwakiutl make choices on the basis of similar position (Ford, 1941:149). The Arapesh deem it important that a prospective groom be a good gardener, or a good decision maker (Mead, 1935:99ff).

In many societies tradition has established patterns of preferred marriage partners. In some cases, for example, culture establishes the criteria of preference for mates who are cross-cousins.

The culture may also establish criteria for remarriage. Whenever sororate and levirate marriages are practiced, the concept of re-
ponsibility and family continuity are of prime importance. In the event that the bride dies prematurely, is barren, or runs away, the kin group may seek to replace the wife with her sister. This is the sororate arrangement. Any children of the widower are thus automatically cared for. On the other hand, in the levirate arrangement, should the husband die prematurely, the widow may be inherited by a brother of the deceased. Frake states that "in essence the sororate custom means the families of orientation of new spouses assume the obligation of guaranteeing the longevity of their married child by agreeing to substitute a sibling, or if necessary, another person, if their child dies" (1955:180). The sororate and levirate are considered more a duty than a right. Murdock found the presence of either the levirate or the sororate in about two-thirds of his World Ethnographic Sample, evidence that the practice is quite widespread (1949:29).

There are a number of ways in which marriages are financed. Stephens enumerates the following:

1. Bride price: payments to the bride's family and/or other kin, by the groom and/or groom's family and kin. This is the most common form of marriage payment.

2. Bride service: The groom works for his bride's family, as a substitute for bride price.

3. Dowry payments to the groom and/or his family and kin, by the bride's family and kin.

4. Gift exchange: Both the boy's kin and the girl's kin make payments or exchange gifts with each other, the boy's kin making bride price payments, and the girl's kin making dowry payment.

5. Women exchange: Two groups or individuals may merely trade women, no other payment being involved. (1965:210)
Murdock's World Ethnographic Sample indicates that only 30% of the societies in the sample have no marriage payment whatsoever. Two hundred and forty-seven of these societies have a substantial bride price and 75 societies practise bride service. Woman exchange is found in only 12 societies (Murdock, 1949:20).

It has been held that marriage payments serve positively toward family stability. Divorce is difficult, since the bride price entails a sizeable investment on the part of the male. Bride payment may also serve as protection for the bride. In some societies, a bride mistrusted by her husband may return to her father's home, obligating the return of the bride price. On the other hand, bride payment may have the effect of seriously binding the male even in the event of an unhappy marriage.

There has been a continual controversy among anthropologists as to whether the terms "bridewealth" or "bride price" should be used to identify the phenomenon in which a bride is given in exchange for services and material objects (Dalton, 1966:732). The term "bride price" implies that payment at marriage is a market or commercial transaction and therefore involves a commercial purchase of rights and services. Using the word "price" may be misleading because in the European economy it has the meaning of commercial transactions or market purchase. However, the participants in bride price do not regard this payment as a commercial transaction, even though the phenomenon does involve an exchange of goods. To the social scientist, the transaction involves a social situation unlike the impersonal market purchase.
Evans-Pritchard emphasizes the fact that bride price usage underscores the function of economics in the transaction rather than the importance of the social function. Westerners perceive the wife purchase in a similar fashion as the purchasing of commodities at a European market (1931:36). Evans-Pritchard prefers the term bride wealth to avoid the above connotation. The transaction of wife purchase serves a number of functions: an earnest of good intention on the part of the groom and his family, an indemnity to the girl's family for loss of her service, legitimation of children, and a solidification of new affinal bonds created by marriage (Dalton, 1966:732). In Evans-Pritchard's opinion bride wealth is a neutral term which does not overly emphasize the economic aspect of the transaction (1931:38).

Gray does not take the same position as Evans-Pritchard. His study of the African Sonjo, who herd goats, lead him to believe that the transference of wives is done in a manner identical to the transference of other economic commodities in the same society. Since there is a close resemblance, he argues that it is only legitimate to use the term bride price (1960:35).

Dalton does not disagree with Gray that the transference of goats and wives is similar in nature. His argument is rather that exchange in the pre-literate society is vastly different from the exchange found in Western societies. Market terms such as purchase, price, or sale are distinctly different in meaning in primitive societies as opposed to their usage in Western societies. Therefore the two phenomena are not so easily interchangeable. Primitive...
societies make distinctions between reciprocal gift giving, redistributive payments to central authority or commercial purchase. Furthermore, Dalton indicates that bride wealth payments are not as frequent as other purchases, and that the use of goats is seen as special purpose payment not used in daily exchange. In Sonjo land the purchase of a wife is not based upon a single cash item. Religion, sex, ancestry, and political affiliation are important factors in bride wealth. Commercial transactions have few status barriers while bride wealth transactions have many. Dalton's basic premise is the marked differentiation between primitive economics and the market language of the Westerner (1961:1962). The salient issue is that of distinguishing between the social phenomena involved in bride service or bride wealth in primitive societies and the market exchange found in Western societies.

Thurnwald states that the first capital goods of the primitive man was woman (1932:180). The husband profits because of her offspring, by her supplying his food, and from her skill in handicrafts. Often, only men in special positions, such as chiefs, can attain more than one wife. In many primitive societies the means of procuring a wife is through the pattern of wife stealing, wife capture, bride service or bride payment.

In societies where bride payment is practiced, material goods used as payment are items found in the culture as, for example, animals, bows and arrows, cotton or food commodities. It is natural to expect that "foreign" goods, when adopted by the society, will be incorporated into the practice of bride payment.
These "outside" items could be so highly valued that the payment of these commodities for the bride could decrease the expectations in terms of payment in labor. At the same time, the presence of the Western goods may depreciate the value or antiquate the utility of the native item. Such may be the case when metal pots are substituted for clay pots or knives take the place of animal tooth sharpening tools.

Should the prospective groom find it necessary to work away from the native village to obtain these Western goods, he would not be as readily available to assist in particular service projects, such as canoe making, fence building, or house construction. It is therefore hypothesized that:

Hypothesis 2. The adoption of an increasing number of Western goods in a primitive society will cause a change in the pattern of settlement for bride service, substituting Western goods as part of the payment in the place of bride service.

3. Marriage residence patterns

Where bride service is an important practice in terms of relationships and behaviors in the social structure of the society, the rule of residence also follows a culturally determined pattern. Murdock indicates that there is a relationship between residence and descent, and that each of these are dependent upon the kinship structure of the specific society (1949:221).

At the time of founding a new family of procreation, both husband and wife do not remain with their own families of orientation, except in those rare instances where both spouses come from...
families who have lived adjacent to one another in a communal house. The alternatives of residence for the new family of procreation are limited. According to Murdock, the culturally determined patterns of residence are limited to five rules of residence: matrilocality, patrilocality, bilocality, neolocality, and, the rarely found avunculocal residence (located near a maternal uncle's residence) (1949:16-22). In Murdock's sample sixty-one percent of the societies practiced patrilocality, while sixteen percent of the societies practiced matrilocal residence.

A society's general economic, social, and cultural conditions are reflected in the rules of residence (Murdock, 1949:17). When the kinship alignment of a society is in some way altered, a series of adaptive changes may be initiated which will reorganize the entire social structure. Lowie gives evidence that a change in residence rules can disturb the equilibrium of a relatively stable social system and initiate a series of internal readjustments, eventually leading to a new equilibrium (Lowie, 1920).

Lippert makes the observation that matrilocal residence is more likely to be found where the means of subsistence is primarily dependent upon the woman's activity (1931:237). Lowie contends that since agriculture is usually woman's work, matrilocal residence tends to be common among lower agricultural peoples (1920:160). Thurnwald confirms the latter position indicating that when a society advances from a collecting to an agricultural stage, the woman's property is augmented, and the food supply is often more abundant, thereby enhancing her position in the society (1932:193-194).
Murdock further notes that another characteristic of matrilocal locality is that a man rarely settles in a new community. He found a near universal association between matrilocal residence in sedentary communities and local endogamy (1949:214).

In terms of social structural change, the rule of residence is particularly vulnerable. "When any social system has attained a comparative stable equilibrium begins to undergo change, such change regularly begins with a modification in the rule of residence" (Murdock, 1949:221).

In a patriarchal ruled society which has practiced endogamy and has followed the matrilocal rule of residence, some patterns will inevitably change with tribal exogamy. According to Murdock's thesis, family patterns of authority are more resistant to change than is the rule of residence. When highly valued goods are introduced to a primitive society, and these items become more readily available to one tribe than to the others, it is possible that the matrilocal rule of residence may be violated in inter-tribal marriages involving men from the tribe with an ample supply or access to the desired goods.

It is reasonable to assume that the parents and brothers of the bride marrying into the "rich" tribe, would value Western goods as bridal payment, and would, therefore, allow the bride to move to her husband's family in order to have access to these items, especially if no husband were readily available in the bride's own tribe. It is therefore hypothesized that:

Hypothesis 3. When a primitive society practices the matrilocal rule of residence, this pattern may be violated in the case of tribal exogamy when Western
material goods are available. If these items become readily available to tribe A but are scarce in all other tribes, the matrilocality rule will be violated when intertribal marriage takes place with the men of tribe A.

As Western goods can have an effect in altering a society's rule of residence, it is plausible to assume that marriage form may also be changed. It is fitting, then, at this point of the research to discuss the subject of polyandry, the common marriage form of the Shirishana tribe at the time of contact with Westerners.

4. Polyandry

Monogamy is the marriage form most commonly found in the majority of societies. Polygamy, that is plurality of one of the spouses, may be one of three types. The most common form, polygyny, is a plurality of females to one male, a practice that is found in a wide variety of cultures and geographical areas. Murdock finds that in his sample of 238 societies, there are 43 which practice polygyny (1949:28).

A second type of polygamy is group marriage, where the marital union includes several men and several women. It is rarely practised, but on occasion this arrangement has been found, for example among the Kaingang of Brazil (Henry, 1941).

The third type of polygamy is the plurality of males to one female, known as polyandry. There are two kinds of polyandry. When the male spouses are brothers the marriage form is referred to as fraternal polyandry. On the other hand, two or more unrelated male spouses may share one wife. This union is known as non-fraternal polyandry. Murdock found two societies in his 1949 sample, which
practice polyandry, and therefore feels it is so rare that it should be regarded as an ethnological curiosity (1949:25). Moore contends that any type of plural marriage never forms a majority of marriages even in societies where it is permissible (1963:340).

Three polyandrous societies which have gained considerable attention are the Nayar of Kerala State (Gough, 1953), the Toda of India (Rivers, 1924), and the Marquesans of Polynesia (Linton, 1939). The practice of polyandry has died out among the warrior tribe of the Nayar. The culture of the Marques, which included polyandry, has been broken since contact with Western civilization (Linton, 1939:137-152). The Toda of India still practice polyandry (Petros, 1963:267-275).

Though relatively infrequent among the North American Indian tribes, polyandry is reported to have been found among the Shoshoni, Pavioto, Northern Paiute, Pawnee, Wichita, Kitsai, Arikara, Comanche, and Kaiangang.

Existence of polyandry has also been observed among the Kota (Mandelbaum 1938), residing adjacent to the Toda, and the Wahuma of East Africa (Lowie 1920:45). More recently, polyandry among groups in the northern part of India and Tibet where it is still practiced in relative frequency has received considerable attention (Gough, 1959; Majumba, 1960; Saksena, 1954; Petros, 1963).¹

A persistent problem in regard to the subject of polyandry is the definition of the term. In a general sense, the term refers to

¹For a more detailed list of areas in which polyandry has occurred, see Petros, Prince of Greece and Denmark, A Study of Polyandry, Hague, 1963:62-87.
a marital union of one female with two or more males. In the 1954 edition of Notes and Queries on Anthropology, polyandry is defined as the custom "by which a woman is permitted to have more than one husband at the same time" (1951:71). What is important, however, is the nature and duration of the relationship.

The term polyandry has been confused because it has sometimes been ascribed to societies (a) where a group of men sexually associate and live with a female and produce children and (b) where brothers enjoy sexual privileges with their brother's wife. In type (a), the attendant lovers are not related to the woman in marriage and are distinguished from husbands. This form of association is sometimes referred to as cisisbeism (Petros, 1963:22). The second erroneous usage of the word polyandry, that of sexual privileges on the part of the husband's brothers, is a practice common to many societies including the Haida and Trukese. Murdock records 41 societies in his sample where such sexual practices exist (1949:25). However, these sexual unions do not constitute marriage. Furthermore, the union does not include economic cooperation between the brothers and the female sex partner.

Cisisbeism and the practice of sexual privileges with one's brother's wife do not include economic cooperation, the recognized status of marriage, or the legitimate recognition of children by the male who sired the offspring. Cooper insists that the term polyandry should be reserved exclusively for referring to a form of marriage which is socially sanctioned and culturally patterned and which involves economic cooperation and residential cohabitation, as well
as sexual rights (1941:52-3).

Petros is of the opinion that an adequate definition of polyandry is contingent upon a redefinition of the term marriage. "Marriage is the union between man and woman in the form recognized by their society entitling them individually to the specific kinship status of husband and wife, jointly to that of spouses with reciprocal rights and obligations, and to the procreation of legitimate children within that union" (1963:23). Petros' position is that even if the spouses do not have coitus with each other, do not procreate children, or do not always live together, the definition is still applicable. The crucial consideration is the socially recognized status of husband and wife. Therefore, polyandry, a union of one woman and a plurality of men can be considered as marriage, if it is socially recognized as such.

Despite the controversy over the exact content of the concept polyandry, the topic has enjoyed a long history of research and discussion. Early anthropological studies of the family linked polyandry to a linear model of evolution. According to Darwin, the development of marriage systems had gone through four stages; (1) polygyny and monogamy, (2) polyandry, (3) promiscuity, and (4) polygyny and monogamy in recurrence. In the polygamy stage natural jealousy arose, leading to promiscuity which led to property of women.

Morgan does not specify the polyandrous marriage form in his ethical periods of change over time. His first stage consists of the inter-marriage of brothers with sisters in a group, then several
brothers to each others' wives, or several sisters to each others' husbands in a group. Morgan's third stage consisted of the pairing of a male with a female but with no exclusive habitation. The fourth period, known as the Patriarchal Family consisted of the marriage of one man to several wives. The final stage comprised a marriage of one man and one woman with exclusive cohabitation (Morgan, 1977:27-28).

On the other hand, McLennan contended that there was promiscuity in the earliest stages of man, which was succeeded by polyandry (1896:50). The significant change was from promiscuity to a more stable association between men and women. Spencer alters the perspective slightly, speaking of a linear development from promiscuity to group marriage, to non-fraternal polyandry (1904:645).

After World War I evolutionary theories of family structure were seriously questioned. It was felt that the institution of the family was more closely linked to a certain environmental factors and this perspective took precedence over the evolutionary perspective. Generally speaking this period produced little research on marriage form and more specifically on polyandry, except for one notable exception, that of Westermarck.

Westermarck saw a rather obvious inconsistency in linking polyandry to early stages of human development. It was inconceivable that the cultivated Nayar preserved a 'primitive form' of marriage while lower castes in neighboring regions had either moved to fraternal polyandry or other forms of marriage. Westermarck attributed polyandry to other social, biological, psychological, or
economic factors. He recognized that polyandry may be practiced among the more wealthy in a community in order to keep riches and influence under their control. In other instances, polyandry was found among those in poverty where cooperative labor could be maximized. In still other cases, the relatively high bride price encouraged the men to combine efforts for the purchase of a wife. Fear of male sterility where procreation is esteemed, may also have encouraged polyandry. Furthermore, for purposes of greater happiness, greater security or greater prestige, the female may have been encouraged to seek the polyandrous form of marriage (1935:Chap. III). Westermarck also found that polyandry was not found among hunting and gathering societies, but rather in horticultural societies, thus showing some linkage to economic function and other parts of the social structure (1935:221).

More recently discussion has centered around the reasons for polyandry as a form of marriage. These reasons include historical and demographic as well as economic, social and psychological factors. For example, a male may find the manual tasks of supplying food very demanding and thus welcome another male to share these labors. At the same time, the wife may deem it equally advantageous to acquire a second or third husband to help in food gathering when the supply is scarce. She may find that the presence of additional husbands gives her more security as well as prestige. A psychological orientation to the study presents numerous methodological problems. It is difficult to disprove the psychological perspective through empirical investigation. However, we can reasonably ask whether
"security" and "prestige" could not be attained through other means such as group marriage, extra-marital relationships, or through brother-sister emotional support. The more salient question is why polyandry was institutionalized.

Petros recognizes historical patterns as significant to marriage form (1963:563). If polyandry has been institutionalized as an acceptable marriage form, and the society has little or no memory of a previous more favorable social or physical environment, the practice of polyandry is likely to persist. On the other hand, if the society has been acquainted with a more favorable environment and again has this experience, Petros contends that polyandry is likely to diminish. This historical perspective faces some of the same problem of falsification associated with a psychological perspective.

Polyandry may be practiced for economic reasons (Petros 1963:558). Nomadic societies seldom practice polyandry due to their high mobility and low level of subsistence (Petros, 1963:570). Agricultural societies are more apt to practice polyandry because of the increased importance of lineage and economic cooperation.

Linton states that arable land holdings have become too small for subdivision and, therefore, polyandry is encouraged in Tibet (1935). Rockhill feels the desire to transmit the estate undivided encourages polyandry (1895). Others suggest that there is not enough productivity to yield the necessary resources for numerous families. Gough contends that polyandry was adopted by the Nayar because of warfare (1952). The insecurity of the family in the absence and possible death of a husband was lessened through the
plurality of husbands. Wheeler posits that polyandry is practiced in some societies because husbands are frequently gone in search of pasture lands (1874).

Petros posits that the physical and economic environment may bring undue stress upon the social organization (1963:569). In such conditions the unity and solidarity of the sibling group is of prime importance. Family cohesion may thus be perceived as strong with the practice of fraternal polyandry. Intra-family spouse jealousy is thereby lessened.

Opler argues that economic explanations of polyandry are not entirely adequate. He feels that the social status of women is an important variable in the marriage form of polyandry (1943). He contends that at least an egalitarian position for women is necessary for polyandry. His position, however, is not well substantiated. Of the eleven polyandrous societies he cites, only three show evidence of male-female equalitarianism in status (Burgess, 1943).

A further reason for the practice of polyandry may be demographic. Westermarck feels that life favors the male because there is a higher female mortality rate, due to pregnancy and child birth (1922). He also states that high male immigration as well as an accepted practice of polygyny within a society will increase the sex balance for the males, thereby encouraging polyandry. In the Western world, despite pregnancy and child birth, the female lives approximately three years longer than the male (McKee, 1969:616). During America's years of development and heavy male immigration, polyandry was not known to be commonly practiced, though non-marital or extra-
marital relationships may have been more common than would be found in a more balanced sex ratio society. In societies where polygyny is practiced, limiting the availability of females for prospective husbands, does not mean that polyandry will inevitably become the norm.

Westermarck also feels that the sex ratio of a society can be affected because of breeding between races, resulting in a higher proportion of female births (1922:Chap. III). Times of hardship and poverty produce more male offspring. However, these positions have not been substantiated. More recent research indicates that around the world the sex ratio at birth ranges from between 92 in Montserret and 116 in Gambia (Visarea, 1967; Rubin, 1967). Lerner (1968:121) and Lyster (1971) feel that physical or natural factors within the environment cause a greater number of male births. In any event, factors such as breeding between races or poverty conditions cannot be substantiated as casual factors for unusual sex ratios at birth.

The practice of female infanticide has been posited as a reason for polyandry (Rivers, 1906:518). Under normal circumstances, the practice of female infanticide would indeed increase a population's sex ratio. It is conceivable, however, that the institutionalization of polyandry and the status of the male over the female have lowered the position of the female in the society and precipitated female infanticide. One does not know whether female infanticide causes polyandry or whether polyandry causes female infanticide. The logic of neither position is conclusive. Furthermore, there are societies in existence which practice female infanticide but not polyandry.
Demographic arguments for polyandry center around one premise, that of having a population with more males than females. Common sense would seem to indicate that the sex ratio is an important variable for marriage form. However, polyandry is practiced even where the sex ratio is balanced (Petros, 1963:565), and where females exceed the number of males, as, for example, among the Nayar of Kerela. The Moslems of Moplas live adjacent to the polyandrous Nayar, and though the men outnumber the women 5 to 2, polyandry is not practiced (Petros, 1963:565). Similarly Germany and England did not practice polygyny after World War II, when females of marital age greatly outnumbered the males.

If an unbalanced sex ratio results in polyandry, or for that matter polygyny, we should seek to determine at what point a population's sex ratio is considered "unbalanced". Is the sex ratio of 105, 120, 150 or more most conducive to polyandry?  

It may be more appropriate to ask why polyandry did become institutionalized in some societies and not in others. Institutionalized polyandry may have preceded the current economic and demographic factors. In this case, the variables of the economy and demography characteristics become somewhat unsatisfactory variables explaining the origin of polyandry.

This discussion of polyandry leads one to believe that the

Footnote:  
1Sex ratio is a term commonly used by Demographers and Sociologists to indicate the number of males per 100 females in a population.
causes of polyandry are not simplistic or monistic. Important variables for the continuance of polyandry include institutional practices and demographic, economic and social considerations. An alteration of these variables may conceivably alter the marriage form of polyandry.

In a society where the sex ratio is high and the polyandrous form of marriage is common, thus making it difficult for some young men to marry, new means of obtaining wives will be sought. Should the tribe have access to Western goods, these items could conceivably be adopted as payment in the bride service payment tradition. Should neighboring tribes have a limited stock of these valued Western goods, it is highly possible that daughters or sisters could be exchanged for these Western goods. The introduction of immigrant wives would alter both the sex ratio and the practice of polyandry. It is therefore hypothesized that:

Hypothesis 4. In a society characterized by (a) a high sex ratio, (b) the practice of polyandry and (c) access to Western goods unavailable to but desired by neighboring tribes, Western goods will be introduced as a form of payment for immigrant women from surrounding tribes, resulting in a decreased sex ration and a decrease in the frequency of polyandry.

Intrinsic to the whole question of marriage form and bride service is the question of ownership of property. To understand changes in marriage, the social definition and norms surrounding ownership in society must be taken into account.

5. Ownership

Lenski has aptly detailed some common features of simple
horticultural societies (1966:119-125). These communities generally range in size from 100 to 200 in number, about double the average size of a hunting and gathering society. Demographic factors such as this will affect the social structure and economy of the society. Population size greater than the hunting and gathering society will yield an increase in productivity. The economic surplus will manifest itself in new "leisure" time for the members of the society. Lenski enumerates three different uses of this "leisure" time available to horticulture societies (1966:121-123). First, production of various kinds of non-essential goods is undertaken. Lenski cites several examples of houses 70 feet wide and 35 feet high being constructed, rather than the making of small shelters. Second, more time is devoted to ceremonial activity. An extreme example is the Zuni of New Mexico, described by Benedict (1934). Third, new "leisure" time is taken up in warfare, frequently involving the taking of captives.

The fact that simple horticultural societies are not as mobile as hunting and gathering societies permits some accumulation of possessions. Locally manufactured goods are usually available to all, since there is little specialization necessary in the production of an item. Furthermore, raw materials are often readily available for such products as ceramic pots, arrows and bows.

When societies become dependent on other groups for specific raw or manufactured materials, and contact is rare, the item becomes scarce and often valuable. One would anticipate that should the item be necessary in the general functions of the society, it would be

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shared by a greater number of people in the extended family, than when the item is plentiful.

In the second half of the twentieth century few societies are found that exist in complete isolation. When existing separately from the modern world these primitive societies commonly know of and have access to some metal goods by means of other tribes. A significant trade network is generally developed to assure access to these valued goods. When the Western item must be channelled through a number of primitive tribes, and the origin of the item is very distant, one would expect the object to be of considerable value. With increased availability and accessibility, the item will become more plentiful. Therefore, as the item becomes the property of a greater number of individuals in the society, the degree of sharing decreases and an individual's independence increases. It can, therefore, be hypothesized that:

Hypothesis 5. When scarce Western material goods become readily available to a primitive tribe, group ownership of possessions will decrease and individual ownership of goods will increase.

6. Status

If goods are increasingly owned by individuals rather than by groups, one would expect that the criteria of status might also be altered.

Status has reference to one's social position in the society. Status is closely related to esteem and prestige and is socially determined in relation to the rank of others. Status in primitive societies is often acquired through age and sex (Lenski, 1966:110-111).
The greater one's age, short of senility, the higher, generally, is one's status. Women usually occupy a position inferior to men.

However, not all women in a primitive society are equal in status. The wife of a headman or a woman with many children will have a high social position. A sterile or old senile woman will have low status.

The criteria for status mentioned above can be termed as "ascribed". The individual has little or no control in or means of affecting his social ranking. Should status, however, be affected, by one's personal endeavours, it is termed "achieved". Status in modern societies is termed achievement. Primitive societies are dependent upon achievement as a means of status to a relatively small degree. One's unusual skill in warfare or hunting or in the manufacturing of tools may contribute to one's status. Or one's skill in witchcraft and magic can similarly contribute to one's social position.

Should a primitive society place high value upon Western material goods, the individual in the tribe possessing these goods will be more highly esteemed. The means of obtaining these Western goods may very well be by achievement, rather than ascription. Payment in Western goods may come as a result of service performed as a guide or carrier for the Westerner (missionary, miner, explorer, etc.). The preferred guide is one who quickly acquires an understanding of the Westerner's desires and goals. Western goods may be obtained by manufacture and sale of artifacts such as spears, beadwork, ceramics, model canoes, etc. Such handiwork is dependent upon skill. Other Western goods could conceivably be purchased by
means of the exchange of game or processed food. These items
require skill in hunting or in food preparation, again stressing
achievement. These circumstances precipitate one further hypo-
thesis:

Hypothesis 6a. In the event that a primitive society
adopts Western material goods into its society, status
by ascription will decrease and status by achievement
will increase.

The availability of Western goods could plausibly alter the
status structure of the primitive society. Should one society have
relatively easy access to these goods, while other societies do not,
the status of the entire society may increase considerably.

As previously indicated, people in primitive societies obtain
their status principally because of sex and age. However, these
criteria may not be respected in the new era of increased Western
contact. The young men may be preferred as carriers because of
their endurance. These young men may also be at greater liberty to
leave the tribe for weeks or months, whereas older men may not.
The young may show greater interest in learning a new language or
new life styles. The young are usually more adept at hunting,
thereby supplying meat for extended exploratory trips a Westerner
may be making.

The Westerner might not discriminate by sex as the local person
does. Because a woman can produce a bead apron or necklace with a
carefully woven pattern, she is rewarded with Western goods. These
rewards often go to younger women rather than older women. It is,
therefore, hypothesized:
Hypothesis 6b. In the event that Western material goods become available and highly desirable to a primitive people, high status will be achieved by a greater number of individuals.

In summary, this study will test the following hypotheses:

Hypothesis 1.

An increase in material goods in a primitive society will lead to less cooperation among extended family members.

Hypothesis 2.

The adoption of an increasing number of Western goods in a primitive society will cause a change in the pattern of settlement for bride service, substituting Western goods as part of the payment in place of bride service.

Hypothesis 3.

When a primitive society practices the matrilocal rule of residence, this pattern may be violated in the case of tribal exogamy when Western material goods are available.

Hypothesis 4.

In a society characterized by (a) a high sex ratio, (b) the practice of polyandry and (c) access to Western goods unavailable to but desired by neighboring tribes, Western goods will be introduced as a form of payment for immigrant women from surrounding tribes, resulting in a decreased sex ratio and a decrease in the frequency of polyandry.

Hypothesis 5.

When scarce Western material goods become readily available to a primitive tribe, group ownership of possessions will decrease and individual ownership of goods will increase.
Hypothesis 6a.

In the event that a primitive society adopts Western material goods into its society, status by ascription will decrease and status by achievement will increase.

Hypothesis 6b.

In the event that Western material goods become available and highly desirable to a primitive tribe, higher status will be achieved by a greater number of individuals.
CHAPTER II
ETHNOLOGY OF THE SHIRISHANA

A. Missionary Contact and Practice

Government authorization for missionaries to contact the Yanomama Indians in the Roraima territory of Brazil was granted in 1956 to the Unevangelized Fields Mission after a number of unsuccessful attempts to gain the required permission. This missionary group whose North American headquarters are in Philadelphia, is evangelical and fundamentalist in doctrine, and has as its goal the propagation of the teachings of the Bible. Information about the opportunity of reaching the Yanomama was advertised in various churches in the United States and Canada. The result of this information was that twenty young people volunteered to contact the Yanomama and entered Brazil for this purpose in 1957 and 1958. The candidates had some Bible and linguistic training in North America and upon arriving in Brazil, studied Portuguese and techniques of jungle survival.

In May of 1958, the first Yanomama group, the Waicas, were contacted. In November of the same year, the writer, another Westerner and two WaiWai Indians made a visit to the Shirishana located on the Mucajai River. Residence was immediately established among the Shirishana and a second missionary couple joined the team shortly thereafter. There has been several personnel changes during the fifteen year history of missionary residence. The first married

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couple who took up residence among the Shirishana in 1958 returned to the U.S. in 1963 primarily because of health reasons. At that time, a single woman was recruited to work together with the writer and his family who had been in residence since 1958. The researcher and his family returned to the U.S. in 1967 to pursue an academic career. The single woman who came to work among the Shirishana in 1963, returned to the U.S. in 1968, primarily because of ill health. Since that time, a married couple and two single women have been in residence among the Shirishana. At the present time the single women are responsible for literacy, translation and store management while the married couple handle the medical work and general station upkeep. All personnel engage in Bible teaching, either formally or informally.

The primitive culture of the Shirishana has made it necessary for the missionaries to concern themselves with anthropological, linguistic and medical endeavors. Duties on the jungle station have included house and air strip construction and maintenance, as well as trading with natives. The missionary often finds himself overwhelmed by the degree of time spent in these "secondary" activities, when his goal is to "evangelize". This often creates serious problems in terms of the missionary's feelings of commitment and "calling". Some specific aspects of these secondary involvements will be discussed in the following pages.

Language learning was of prime importance to the missionaries. This required many hours of informant work to decipher grammatical structure and construct an appropriate alphabet. Anthropological
material, including history, ideology, practices and myths were also recorded through work with informants. Bible stories were written in simplified form, and later, portions of the Bible were translated into the Shirishana dialect.

Eventually, an informal literacy program was initiated in the native language. Groups of two, three, and sometimes more were taught the alphabet and introduced to common words and phrases in print. Simple stories depicting Indian life were then introduced and eventually some of the Shirishana were able to read Bible stories, as well as transcribed myths. Later arithmetic and Portuguese language study were added to this program. The Brazilian government saw the efforts to teach the native Portuguese as particularly commendable.

The missionaries have also been involved in medical work. Medicine has been dispensed to treat malaria, measles, whooping cough and snake bites. Immunization programs have been initiated, decayed teeth have been extracted and critical cases of burns, Parkinson's disease and tuberculosis were sent by plane to Boa Vista. One case of cervical malignancy was treated in the city of Belem for a three month period. A child born with meningitis was operated on in Rio de Janeiro. These trips for medical treatment were financed through the meager resources of the missionaries' income. By 1972, the missionaries had trained two young men of about 20 years of age to treat the most common illnesses by dispensing oral medicines and giving injections. The Shirishana accepted medicines readily and are now dependent upon this type of treatment. The Brazilian government has been helpful in supply medicine, especially for the
treatment of malaria.

In order to promote an atmosphere of Christian festivity and community, the missionaries instituted a "game day" which was generally held during the Christmas season. Indigenous and Western activities were planned by the missionaries such as archery and pole climbing contests, tug-of-war, barrel walking, bead threading, high and broad jump, racing and soccer. These games were followed by communal eating where the missionaries would supply bananas from the field and imported candy. The Shirishana were encouraged to supply potatoes, bananas, sugar cane and meat, but this type of support was limited. It was hoped that such festivity would eventually substitute for the Shirishana feasts which were held to commemorate the dead. These commemorations often lasted for two continuous days and nights and included drunkenness, sex and fighting. With the Shirishana's increased contact with other Yanomama, indigenous feasts have been held more frequently and with a greater degree of intoxication and quarrelling.

The missionaries felt that they could not avoid trading with the Shirishana, since other sources of trade for Western goods was initially nil. Clearing the airstrip and constructing missionary buildings provided ample work opportunity for the men of the tribe. Other earnings were made by selling sweet potatoes, bananas, manioc, and meat to the missionaries. Upon occasion some of the garden produce was sent by plane to other missionary personnel or to the market in Boa Vista.

Skin dealers in Boa Vista purchased deer, alligator, peccary,
ocelot and jaguar pelts (the latter yielding a sizeable income) from the missionaries who provided trade goods to the Shirishana.\footnote{This trade was eliminated in 1970 by international law which forbade the killing of species considered endangered by extinction.}

The missionaries were eager to make contact with neighboring tribes and periodically hired Shirishana as guides and carriers on such ventures. To facilitate continued income, the missionaries encouraged the construction of models of native artifacts such as bows and arrows, canoes, and spears, as well as beautifully designed bead aprons. These were sold in tourist shops in either Boa Vista or Manaus.

The introduction of Western goods to the Shirishana by the resident missionaries depended on such factors as the availability of an item, its cost, its source, the demand and need of the item, as well as the cultural and moral effect as perceived by the missionaries. As a result, such items as outboard motors, radios, watches and miner's lighted hats were never sold, although the Shirishana requested such items. On the other hand, goods such as grater boards made by the Carib Maiyongongs were traded because they facilitated the basic process of staple food preparation. Tobacco and alcohol were never traded. Because of the criticism made by some anthropology students who have done field work at a neighboring station in recent years, the missionaries reconsidered the advisability of continuing to trade blankets and flashlights. The author was seriously criticized by one of the missionaries for leaving fiberglass bows during...
field work in 1972 because it was considered a threat to the indigenous means of making bows. Gun shot however, was acceptable, even though it presented a greater threat to the life style of the Shirishana.

The introduction of Western clothing among the Shirishana developed in a rather strange manner. The Shirishana always had rigid norms requiring the covering of the genitals with a native loin cloth or apron for anyone over approximately six years of age. Upon the Shirishana's initial contact with Brazilians in 1957, they required a hat, two pairs of shorts, and a full length slip, all of which were worn by men as a symbol of prestige. When the missionaries came to reside in the community, the request for clothing was intensified. The pleas were refused because of: (a) a limited economy, (b) a lack of understanding about how to care for clothing, (c) the possibility of diseases being transmitted via unkept clothing, and (d) prestige being the motivation for desiring clothing. As contact continued with farmers on the banks of the Mucaijai River, used and torn clothing were acquired by the Shirishana. Since it was apparent that the wearing of Western clothing was inevitable, the missionaries decided to sell short trousers to those men who demonstrated their ability to weave a cassava squeezer made of reeds, an art which at that time was understood only by three men. Cloth was sold to women and those interested were taught how to sew simple blouses and skirts by hand. Later, trunks, trousers and shirts were included as regular merchandise.

Shot guns have also been adopted as part of the culture of the
Shirishana. In 1958 only bows and arrows were used. However, when the missionary accompanied the Shirishana on a hunting venture, he took his shot gun. Upon occasion he permitted the Shirishana to use it. By 1962, when there was considerable assurance that guns would not be used in raids, shot guns were traded. Shot was rationed at seven, and then ten per month, in order to assure the continued use of the bow and arrow. By 1968 the restriction on the amount of shot to be purchased per month was lifted.\(^1\) After 1971, guns were no longer sold by the missionaries because of a Brazilian law which prevented the Indians from purchasing guns.

Trading was first done on an exchange basis. The missionary kept accurate record of hours spent in air strip work or house construction. When sufficient work hours were accumulated, the desired object was given to the worker.

The Shirishana first became acquainted with money through the Brazilians. There was no understanding of the difference between a one cruzeiro or a 100 cruzeiro note. On occasion, the Shirishana returned from the farmers downstream with a 10 cruzeiro note, which was sufficient to buy one small fish hook. Not knowing the value of the note, a person might insist that he receive a shirt, but when it was not forthcoming the missionary would be called "stingy".

Instances such as these led to efforts on the part of the missionaries

Footnote: \(^1\)One informant indicated that the acquisition of such large quantities of shot facilitated the raid among the Hewakema in 1968 which resulted in 7 deaths.
to teach the "correct" use and value of money. Furthermore, the use of currency greatly facilitated missionary record keeping.

Initially "store hours" were held twice a week for about an hour in the late afternoon. In more recent years, the process of buying at the mission store has become institutionalized. On Tuesday afternoons, the majority of the tribe gather either to purchase their own "needs" of fish line, salt, matches and so on, or to observe what other individuals purchase.

Although the chief source of income for the Shirishana in the past has been the missionary, contact with the Brazilian downstream has increased considerably in the past three years. Remuneration from working with the Brazilians to this point has been small. In 1972, four men spent two and one half months with the Brazilians, but arrived back home with only a new shirt and shorts, and many promises of more pay. In November of 1972, two Brazilians visited the Shirishana by outboard motor for the sake of recruiting a labor force. Six Indians accompanied these men on their return downriver. Initially the missionary viewed the contact the Shirishana had with the Brazilians as undesirable, because of the unchristian and "worldly" atmosphere. There was also the danger of succumbing to communicable diseases, as well as the fact that the Shirishana were being exploited. On at least one occasion, a missionary accompanied the Shirishana on a two-day trip downstream for ameliorating relationships. More recently the missionaries view the continued Shirishana contact with the farmers downstream as inevitable. The missionaries still express concern regarding the effects this contact
will have upon the Shirishana, both physically and morally. The Shirishana are enticed into sexual relationships, drunkenness, and upon occasion, actual fighting confrontations with the Brazilians.

It may well be asked what effect and influence the Westerner in his role as missionary has had upon the Shirishana. Although eight Shirishana have been baptized Christians, it is difficult to indicate the extent of Christianization upon the tribe. A Sunday morning service is held regularly and from 75 to 90 percent of the people attend. Four of the tribal leaders are recognized by their own people and by the missionaries as committed to the Christian ideology. The missionaries are not clear in their own minds what a Christian commitment should entail in the non-western culture of the Shirishana. There is common agreement in terms of church attendance, prayer, integrity, and care of one's spouse and children. However, the effect that one's faith has upon tribal festivity and government, as well as in one's tribal association when it comes to the practice of shamanism and the observance of taboo, are areas of major concern to the missionary, though not to the Shirishana. Matters of polyandry and Sunday observance are not treated overtly by the missionary.

Since the dispensing of medicines and trade goods by the missionaries have become so great a part in the life of the Shirishana, it is likely that the role of the missionary, religious teacher or trade goods dispenser is not always distinguishable. It is the observation of this researcher that there was little or no evidence of preferential treatment shown to those who evidenced some interest in the Christian doctrine. Employment and trading opportunities were equally available

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to all. Although the Shirishana were relatively loyal in church attendance, their behavior was often inconsistent with the message given at such meetings.

There is evidence that the people act independently of the missionaries and at times contrary to their principles. For example, shamanism is still practiced. The Shirishana have parties which include hallucinatory drugs, excessive drinking and sexual permissiveness. Upon occasion the missionaries are invited to these events. The Shirishana also engage in hitting duels which often result in swollen eyes, cuts and severe bruises. Medical treatment in such cases is often obtained from the missionary. Extended trips are made to Brazilians or other Indian tribes even though the missionary personnel periodically discourage such ventures. In 1962 and 1968, unknown to the missionaries, raids were made on neighboring villages, resulting in the killing of 14 men and the capture of eight women.

From this information it can be concluded that although the influence of the missionary has penetrated the life ways of the Shirishana deeply in some areas, it has not changed the external life completely. It is not the purpose of this research to investigate the process of ideological change due to Christian teaching. Such a task merits concern but lies beyond the parameters of this study. It is, however, the goal of this research to indicate the effect that Western material goods have had upon the Shirishana.

The Shirishana introduction to Western goods was largely the result of missionary activities. This was a kind of directed social change which attempted to socialize the Shirishana in ways by which
they could adapt to some degree of cross cultural contact and at the same time was desirous as far as possible in preserving indigenous culture. Thus, the Shirishana did not undergo a random exposure to Western technology and customs but a process of adaptation which was to a large extent influenced by their missionary tutors. This missionary tutelage was modified but not destroyed by contact with non-missionary Westerners such as Brazilian farmers and traders.

B. A Brief History

The Shirishana live on the Mucajai River, in the Roraima territory of Brazil, 100 air miles directly west of the city of Boa Vista. (See Map 2). They are located approximately three degrees north latitude and 62 degrees east longitude. The tribe presently consists of 185 members who sustain themselves by hunting, gathering, and horticulture.

The language spoken by the Shirishana is a dialect of the Yanomama language family. Yanomama was first classified as isolated, but some (Greenberg, 1960; Wilbert, 1963; Voegelin, 1965) classify it as a family of the Macro-Chibcha phylum. Further language research is necessary to show conclusively its classification (Migliazza, 1972:26).

The population of the Yanomama language speaking peoples has recently been estimated at 12,000 (Migliazza, 1972), although previous estimates are considerably higher. The Yanomama are located in the northern region of Brazil and in Venezuela, roughly between two degrees and five degrees north latitude, and 61 degrees
and 67 degrees west longitude. This includes the regions of the headwaters of the Uraraquera and Orinoco rivers. (See Map 2). Villages range in population from sixteen people to two hundred, although these extremes are very rare. It is more normal to find forty to sixty people living in one village.

Various name designations for these peoples have been made. Steward makes reference to the Kasarapais, Waicas, and Xilianas. Recent literature more often uses the latter two terms (Steward, 1963). In reality, these names are actually village names, and thus do not represent the entire language family. Migliazza gives substantial evidence that the term Yanomama should be used (1972:25-33), and the present researcher will use this term in referring to the language family.

The term "Shirishana" is reported to have originated with the Brazilians during the 1957-1958 period, when the tribe under investigation made two trips downriver in search of knives and axes. The term is not native. The Shirishana refer to themselves as "ninam". They reserve this name for themselves and a closely related tribe, the Shiriana, while all other Yanomama are referred to as "Waica". Shirishana village names are "bola pak" (people of the falls) and "Amnas pak" (people of the Amnas place). The Amnas pak are also locally called "Kasalapai pak" (long lipped people). The term Shirishana has already been used in recent literature. It is understood by the native population as referring to themselves, and is commonly used by the neighboring Brazilians. The writer has adopted this term in this research.
The Yanomama peoples have four main dialects which Migliazza classifies as Yanomam+, Yanomam, Sanuma, and Yanam. The estimated number of speakers in each of these dialect groups are 6,500, 3,850, 1,350, and 420 respectively (Migliazza, 1972:21,35,36). The smallest group, the Yanam, currently have more contact with Brazilians than any other group. They are found in three locations; (a) on the Uraracaá River in Brazil, (b) on the upper Paraqua River in Venezuela, and (c) on the Mucajai River in Brazil. (See Map 2). The bands residing in (a) and (b) are known as Shirianas, with a population of 235.

The Shirishana had infrequent contact with the Maiyongong and Maku Indians who often contacted the Brazilians to obtain metal goods. Some time between 1938 and 1941 there was a series of raids between the gun-possessing Maiyongongs and the Shirishana, who had no guns. Ten Maiyongongs and four Shirishanas were killed in these raids. The Shirishana stole five women, one of whom was later shot by her own people. The remaining four have Shirishana men as husbands and have each borne from five to nine children. As a result of these raids, the Shirishana obtained several axes and cutlasses. However, they were also forced to flee south nearer to the Mucajai River in an effort to escape retaliation.

Some time between 1945 and 1950, the Brazilian boundary commission made a visit up the Mucajai River. At the mouth of the Kolokonai Creek, in the region where the Shirishana lived, men from the commission hung red cloth, one axe, and five cutlasses on trees. There was much excitement among the Shirishana when they found these
This important event precipitated a search for the source of the steel goods. A trip was made southward to the headwaters of the Apiau. (See Map 2).

On a second trip the Shirishana headed in a south-easterly direction. On the Apiau River, the Shirishana saw the Aica fields and houses. Desiring to contact the "civilized" peoples, they ignored the Aicas. They found a camping spot of Brazilians, likely rubber gatherers or lumbermen. While there one native picked up a basin and scissors, an act for which he was later strongly criticized by his fellow tribesmen. It was felt that this act, considered as theft by the Shirishana, would result in acts of revenge by the "civilized" peoples. The Shirishana hopes of meeting the "foreigners" were heightened in 1956 when, during an aerial population survey of the area, a missionary plane dropped fish hooks, matches, red cloth and beads over their houses.

The Shirishana made a third trip the following year down the Mucajai by canoe. The Indians encountered some Brazilian farmers with whom they left many arrows and canoes. In return, they obtained some discarded clothes and one or two well-used axes and cutlasses.

Upon returning to their homes one person died of a cold and other complications. Despite this death, a subsequent trip downstream was made in 1958. Numerous hammocks had been woven for the purpose of trade with the Brazilians. The Shirishana left these hammocks, many arrows and some canoes with the Brazilians and received some clothes and metallic instruments in return. They were
disappointed at the few goods received, unaware of the fact that these frontier settlers had little to give. Due to the generous giving of canoes, approximately eighteen Indians were forced to walk the long journey home. Again one of them died of cold complications.

In October of 1958 the Unevangelized Fields Mission in cooperation with the Missionary Aviation Fellowship surveyed the region by plane for the second time and made a friendship drop of beads, fish hooks and red cloth to the Aicas on the Apiau, as well as to the Mucajai Shirishana. The gift drop was met with hostility by the Aicas. One Aica aimed a drawn arrow at the plane.

The reaction of the Shirishana contrasted sharply. There was obvious glee and excitement. One man appeared in the yard just outside the Indian communal house raising a stock of bananas into the air as a reciprocal gift. Preparations were made by the missionary team (consisting of the writer, Neill Hawkins, and two WaiWai Indian guides) for a canoe trip to the Shirishana. After fourteen days of travel from Bonfim, Brazil, contact was made on November 25, 1958. The foreigners were warmly welcomed.

It is obvious from the above report that these primitive people faced considerable frustration and disappointment, involving the killing of non-Shirishana, as well as the deaths of their own tribesmen, in their efforts to obtain metallic instruments. The Shirishana had made every effort to establish a contact with the outside world, in order to obtain simple tools such as the axe and knife which would facilitate their hunting, gathering and horticultural means of subsistence. Little did they know that this contact would also
bring colds, and later measles, tuberculosis and smallpox: diseases
to which they had no resistance. Such contact could seriously affect
the Shirishana population of 115, as it has affected other peoples in
similar circumstances, even to the point of obliteration. Also
unknown to the Indians was the fact that this contact would modify
the Shirishana culture considerably, affecting their religious views,
medical practices, trading system and their family living.

C. Kinship

The heart of the Shirishana social structure is the kinship
system. It is this network of relationships that dictates which
individuals are eligible to become marriage partners, who is to be
socially avoided at all times, from whom one may anticipate assistance
or favors, and to whom one is expected to show respect in a given
situation. The kinship system is of the "bifurcate merging type",
that is to say, an individual's paternal relatives are distinguished
from his maternal relations by using specific terminology. The
Shirishana have adopted the Iroquois cousin terminology which uses
the same terms for ego's siblings as it does for his father's
brothers' offspring or his mother's sisters' offspring. They are
considered as brothers and sisters to ego. Father's sisters'
offspring and mother's brothers' offspring are considered as ego's
cross-cousins, or "wanima", and if of the opposite sex, are preferred
sex mates.

Each individual in the social structure fits into a kinship
classification and interacts according to this identification.
A simplified listing of the kinship terms would be father, mother, sister, brother, son, daughter, father-in-law, mother-in-law and "friend". This last term will be discussed more fully below.

The Shirishana term "baje" is used for an individual's father or his paternal uncles. A person says "naba" in referring to one's mother as well as to one's maternal aunts. The reciprocal term used in the above relationships is "ulu", meaning child.

A person's paternal aunts are known as "jaba", while his maternal uncles are known as "shwaje". The children from these relationships will be referred to as "sama" by the older generation. The offspring from either one's maternal uncles or paternal sisters, that is, one's cross cousins, are known as "wanima". This term is reciprocated among cross cousins.

A male or female individual's (a) blood brothers, (b) male cousins from his maternal aunts and (c) those males born from his paternal uncles, are all referred to as "awoj", if they are older than he. The term awoj means "older brother". The males in these relationships who are younger are called "sama" meaning "younger brother". In the case of one's (a) blood sisters, (b) female cousins from one's maternal aunts, (c) female offspring from a person's paternal uncles, all are referred to as "ami" meaning "older sister". The females in these relationships who are younger are called "tuosh" meaning "younger sister". A husband refers to his wife as "betasi" which is reciprocated by "yaloho" when the wife refers to her husband.

Figure I illustrates the relationship terms among the Shirishana. The figure may seem to indicate that the tribe consists only of
FIGURE 1

Relationships in the Extended Family
members of the nuclear or extended family. This is not the case. With subsequent generations, wife stealing, and immigration, this network is expanded considerably.

Immigrants in the society must establish themselves into this kinship structure. It must be remembered that in tribes which do not number more than 200 people, this terminological system is quite functional. In fact, Chagnon found it in use in a network of 2,000 people (1968).

The Shirishana, when pressed for distinctions, will differentiate between one who is a consanguineal relative and one who is not. The suffic "-mubo" after the kin terms designates a relationship established apart from the consanguine family. In other words, one's natural father and all paternal uncles are "baje". However, there may be others in the tribe whom one calls "baje", and acts towards as "baje", though they are not his natural father or his paternal uncles. These men are referred to as his "baje-mubo". This is also done with other non-consanguineal persons who may be referred to as sister, brother, mother, or "wanima". The suffic "-mubo" indicates that though the actual relationship is not really consanguine (sister, brother, etc.), the behavior between one another is consanguine. At times such relationships are changed to allow coitus or marriage.

When contact occurs with members of another tribe, the older men immediately establish kin relationships with one another. Usually these fictive relationships are established so that the brothers of single women will be called "wanima", or the fathers of unmarried women will be called "shwaje", thus allowing the opportunity of
marrying or practising coitus with the immigrant or visiting young female who is past puberty. During the writer's visit to a neighboring tribe, one young Aikamtheli insisted that he call me "shwaje". The writer complied because the native initiated this relationship and the terms did indicate respect. Little did the writer know at the time that the term also means "father-in-law". Two days later the Aikamtheli returned and asked to have the writer's daughter, who was six months old, as wife. As payment the young man promised the writer many years of faithful bride service.

The only persons who are eligible to marry each other are those found in the "wanima" relationship. This preference is always given to one's paternal aunt's or one's maternal uncle's offspring, that is, one's cross cousin. The type of mate selection process is an indication that this society is patrilineal in nature and exogamous. When cross cousins are not available, others in the "wanima" relationship are sought.

There is no term which distinguishes one's wife from other women in the tribe that are in the "wanima" relationship. The writer was clearly told that since he called a certain elderly man "awoj" (older brother), this man's wife was the writer's "betasi" (wife). Similarly a younger man whom the writer called "sama" (younger brother) has a wife whom the writer was also asked to address as "betasi" (wife).

It must be re-emphasized at this point that anyone of the opposite sex in the "wanima" kin category is eligible for sexual relations. However there are mechanisms in the social structure which restrict sexual unions. A male will treat a female in the
"wanima" kinship category who is not his wife in one of three ways. First, he may have sexual relations with her, with full knowledge by members of the tribe and without their disapproval. This may be the case when the man is single, and the married woman consents to this sexual relationship without her husband's approval. Should the single man have no other prospect of marriage, the relationship may result in a polyandrous marriage, particularly if the men involved are brothers. Second, it may be commonly understood that a man is having coitus with a woman, but it is met with disapproval by certain tribal members. The husband may be jealous of his wife, or, in the event that the suitor is married, his wife may be jealous of him. It is also possible that the girl may be single, and her mother or maternal grandmother dislike the male because of his personality or character or they may simply dislike his family. As a result, their gossip may fan any dormant feud into a face or chest hitting duel, involving the respective families. In instances of this type, sexual relationships must be carried on clandestinely. The third type of behavior between male and female in the "wanima" kinship category is simply the choice of no sexual relations.

There are three other kinship terms besides "wanima" used by males toward females. These are "amij" (sister or parallel cousin), "naba" (mother or mother's sisters), or "jaba" (father's sisters, grandmother, or wanima's mother). Should coitus take place between the males and one of these kin, the relationship would be treated as incestuous. Incest is considered a major deviance and is severely punished. Generally a face or chest hitting duel erupts.
In a face hitting duel a male will clasp the hair of his opponent in one hand, and wing his clenched fist with all possible force, hitting the opponent in the lower jaw. The opponent makes no attempt at protecting himself. After three blows the opponent takes the offensive position and also hits three times. The cycle is repeated till one of the "fighters" becomes exhausted or weakened, when a substitute takes his place. In a chest hitting duel the pattern is identical, only participants do not grasp one another and the blows are aimed at the chest instead of the face. With the rise of tension and anger, stones, flashlight batteries, or lead moulds are placed in the fist and left to protrude one half inch, in order to increase the wound on the chest. Such duels result in severe pain of the chest, swollen eyes and cuts.

Continued gossip by middle-aged and older women creates such tension that the male seeks refuge with his family in the woods for several weeks. If the feud continues, the group will build themselves another dwelling some distance from the other tribal members.

Incest mores are reinforced by Shirishana folklore. A group of Shirishana ancestors were said to have lived incestuously. While travelling through the woods one day, they stopped to rest. After a brief period of time, one Shirishana felt his buttock and became aware of the growth of a short stub which grew to a tail. All the other members had the same experience. So the wind blew, and this group of Shirishana became the wild pig of the forest in punishment for their incestuous ways. Today, young girls are warned, "Don't practice incest or you will turn into a pig."
Acquisition of a wife is one of the major dynamics found in the social organization of the Shirishana and Yanomama as it is to be expected in a society where the kinship system is so developed. The three recorded raids of the Shirishana between 1940 and 1968, in which at least 24 men were killed, involved the capture of women. Countless numbers of chest hitting and face hitting duels have erupted because of illicit sexual affairs or wife stealing. Chagnon, in his study of the Yanomama, confirms this point (1968:59). These feuds have even resulted in a segmentation of the members in a communal house.

Leach is of the opinion that consanguine relationships are stronger than any other ties (1955). Our Western kinship structure suggests that brother-brother ties, or father-son ties are stronger than cousin or non-kin ties. However, the strongest possible tie among Shirishana men is the bond between wife-giver and wife-receiver. This relationship is even more binding than the brother-brother tie. The bond is particularly strong when there has been sister exchange. Of the thirty-three marriages among the Shirishana since 1958, eight have been sister exchanges. Such a transaction carries a high possibility of a second sister being given, either to another brother, or as a second wife in a sororal polygynous relationship. In at least one of the five villages at Mucajai, the group is solidly bound together in sister exchange marriages.

A male who has given his sister can ask favors of the wife-receiver, which he could not ask of his brother. After Joao's wife had borne him two sons and a daughter, his brother-in-law (wife-giver)
requested and received a gun from João, a weapon highly prized among the Shirishana. The same male asked for shirts and a pair of shorts from another brother-in-law (wife-receiver). He could not have asked for and expected to receive this kind of giving from his own brothers. A wife-giver expects the wife-receiver to assist him in making canoes and in paddling a canoe. Though he makes his need for cooperative help in a specific project known to his own brothers, he cannot anticipate their cooperation. Upon one occasion the writer helped four Shirishanas drag a newly made canoe through the jungle for over a mile. One brother and two wife-receivers (brothers-in-law) helped the owner. Even though the owner had two other brothers who were capable of helping and who knew the canoe was going to be dragged, they did not assist.

In the event that sister exchange is not possible, older married men are known to have exchanged one of their offspring for another's offspring, provided the men are in the "shwaje" relationship toward one another. In one case, a middle-aged man received a young pretty girl as wife in exchange for giving his younger son as husband to the mother of his newly acquired young wife, in other words, to his mother-in-law. In this case, the woman who married the younger man was some twenty-five years older than her husband, a rarity among the Shirishana. This is the only case where the wife is more than three years older than the husband. On the average, the husband is 13 years older than the wife.

Brothers are competitors in the marriage market once they are past fifteen years of age. Therefore brother relationships may
become strained. Men prefer women who are single, strong, ambitious, young and who have well developed breasts. The fact that a brother already has a wife does not limit the competition. In at least one case known to the writer, a younger brother stole his older brother's wife even after the latter had performed three years of bride service. In this case, the young bride had initially been purchased from a neighboring tribe. She flirted with her husband's younger brother and the latter reciprocated, and eventually took her as his wife, even though he had not performed bridal service. The young bride's brothers and parents did not live among the Shirishana and so could not apply social pressure to prevent her deviant behavior. The younger brother and the young bride built a single dwelling apart from the communal house. After the older brother stole another wife, the young couple abandoned the small house to live again in the communal residence.

Not all marriages follow the ideal mate selection pattern. On one occasion a male who had married a previously widowed woman also married that woman's daughter from her previous marriage, although this was done with considerable resistance on the part of the young female. In another case a certain male was about to marry his wife's grand daughter. This was considered acceptable since the older wife had been stolen and that particular daughter was sired by a male of another tribe killed in a raid. The marriage to the daughter was never consummated because the male died at thirty-eight years of age, before the young female reached the age of puberty. The young female, however, was considered a widow.

It seems evident from these incidents that the Shirishana have
an ideal pattern of mate selection which is not adhered to rigorously. Even among consanguineal relationships, only a person from every second generation is acceptable as a marriage or sex partner. All consanguineal relatives are in the "shwaje" or "jabe" non-eligible relationship, or the "wanima" or eligible relationship. But it is highly likely that even if brother-sister relationships have been established, particularly by members of immigrant groups, such relationships can be changed to accommodate specific sexual desires or marital concerns. Therefore established fictive relations can be violated for the sake of more functional purposes.

Even within the parallel cousin categories, violations do occur. One young man was told to call his paternal uncle "shwaje", a definite violation of the kinship structure. This made the young man eligible for his paternal uncle's daughter, whom he later married. The researcher is aware of a second similar case. The change of terminology is more easily done in non-fraternal, polyandrous marriages where the man responsible for impregnation may not be precisely known.

Marriages are sometimes arranged on the basis of political or economic convenience. Chagnon reports that among the Yanomama, marriages are the means of political alliance between friendly groups (1966). This, however, was not the case among the Shirishana, because they lived in isolation between 1940 and 1960. Since that time wives have been acquired from three neighboring groups.

Marriages may be arranged simply because the male desires a mate. In other cases a man may want his male friend's sister for his wife, but he can only obtain her by giving his own sister in
marriage to his friend. At other times it is feared that a male member of a neighboring group will ask for a certain girl. Instead of allowing the girl to marry an "outsider", she is hurriedly given to some local male.

A potential father-in-law may desire his child to marry a certain individual, because this union will bring him material goods in payment. When the writer arrived among the Shirishana, he was offered two young, single girls because he had a bountiful supply of pots, pans, knives, cutlasses and axes. The fathers-in-law would thus have had a claim to these goods. In at least one case, the father-in-law asked that his daughter be given in marriage to a certain man because he knew the prospective husband was an exceptionally good hunter, and he would thus be the recipient of much game.

Bride service and payment is required of a prospective son-in-law. This may consist of working in a father-in-law's field, hunting game, building a canoe, and giving arrows and other native artifacts to his father-in-law.

A girl is often betrothed before she is three years of age. In one case a young man requested the offspring of a pregnant woman, should the expected child be female.

The prospective husband usually negotiates with his brother-in-law concerning the possibility of marriage with his potential brother-in-law's sister. On occasion the male may even ask the future father-in-law or mother-in-law. Usually this is done upon a festive occasion, when the male has become intoxicated by a native fermented drink. In
this state he feels free to talk to his mother-in-law. Otherwise strict mother-in-law avoidance is observed.

The male initiates the bride service or progeny price with the periodic giving of game to the prospective bride's parents. A few years before his future wife reaches puberty, the young man supplies game more frequently. By the time the young girl is ten or eleven years of age, she is preparing her future husband's tobacco, as well as supplying him with cooked food from her mother's hearth. This increased interaction between the couples prepares the young girl socially for the eventual cohabitation.

Normally the male will reside with the bride's parents after co-habitation begins. More recent marriages which have been exogamous, that is, outside of the local tribe, have all violated this rule. The preferred place of residence in these cases has been with the Shirishana tribe.

The common form of marriage in 1958 was polyandry. Of a total of 17 marriages, 14 had or were practicing polyandry and only one was polygynous. It is felt that the practice of female infanticide and the tribe's isolation since 1941 were factors contributing to the high frequency of this marriage form. Each marriage would begin as monogamous. Later, should the husband's younger brother be unable to acquire a wife, he would join the older brother's spouse. This relationship benefited the first husband, in that he would be relieved of most of the hunting responsibility. There were two cases in which four brothers were joined in a polyandrous relationship.

It is not known what the predominant marriage form was prior to

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1950. There is evidence of the practice of both polygyny and polyandry. Polygyny is very common in other Yanomama tribes.

In 1972 the researcher recorded thirty-eight marriages. All were monogamous with the exception of one case of polyandry and two cases of polygyny. The decreased rate of female infanticide and the heavy immigration of women among the Shirishana are considered as factors which have diminished the frequency of polyandry. (See Chapter IV).

D. Activity in the Communal House¹

Shirishana communal dwellings are large, circular structures housing from 12 to 65 permanent residents, depending upon the size of the structure. Each family has its own specific location around the circumference of the house, while the center is used to walk or dance, and occasionally as a place to roast meat.

Each household has its own fire, more or less in the center of its living area. Hammocks are hung to three posts arranged in a triangular formation around the fire so that it may give warmth to all family members at night. It is the task of the wife to keep the fire burning throughout the night. The husband has his hammock hung above his wife's while the children sleep near by. Very young children sleep with their parents, the younger one with the mother and the next oldest with the father. Once a child reaches the age of

Footnote: ¹See Appendix for a description of the construction of Shirishana dwellings and shelters.
three or four he sleeps in his own hammock near his parents. Older children often sleep outside of the triangular area of their parents, but still close by. In a polyandrous marriage the second and third husbands usually hang their hammocks at least four feet from the wife and first husband.

Most activities begin at day break, around six in the morning. Some of the men will gather bananas and cassava bread to eat, and then make their exit, followed by a dog or two, for the day's hunt. Hunting is sometimes done individually, but usually in groups of two or three. When fresh tracks of animals have been seen the previous day, the men form larger groups from six to fourteen in anticipation of much game. If a canoe is used, usually a minimum of two men will go. Hunting companions are most often brothers or brothers-in-law.

More people gradually awaken, leave the house to take care of bodily necessities and return to squat over the fire for warmth. By eight a.m., everyone is involved in some type of activity. More men may leave to fish, hunt, or work in the field or on a canoe. Other men remain in the house to repair arrows or carve bows. Some of the women will go to the fields for several hours to gather cassava roots and bananas, while others remain in or near the house to spin cotton, process food or care for children. Women work in the fields in groups of three to six, usually consisting of a mother with her daughters and daughters-in-law. Since the arrival of the missionaries, individual or groups of Shirishana will walk to the missionaries dwellings and converse with them while caring for their children or spinning cotton.

There is a general air of industry and few people remain idle.
Children occupy themselves by playing in or near the communal house. Young boys may shoot lizards and small birds with their miniature bows and arrows. Little girls often look after their younger siblings.

By three in the afternoon several of the Shirishana men will have returned from the hunt. Those who left in the late morning will not have gone too far away and may return with a bird or several small fish. The early hunters may not return until five or six in the evening, possibly bring back several birds, or when fortunate, a 25 pound monkey. Every member of the communal house takes notice of the game brought in by each returning hunter. The hunter's wife immediately cuts up the meat and cooks it in a pot over the fire while the hunters lies in his hammock. He is given bananas and cassava bread in a gourd or pot by his wife, daughter or sister. The hunter, as mentioned previously, does not eat the game he has shot.

Between four and six o'clock the wives take their wicker baskets and axes to chop fire wood from logs in the vicinity of the house and field. This wood is used to cook the evening meal, as well as to supply warmth during the cool nights.

At dusk, there is a general buzz of activity in the communal house. Children cry because they are hungry or crave attention. During this time the women give out meat, first to the male members of the nuclear family, and then, should there be sufficient, to members of the extended family, such as in-laws or brothers of the family head. Each piece of meat is accompanied by a piece of cassava bread. There is much lip smacking and burping during this main meal of the day. Animated conversations take place for at least a two hour
period. Conversations cover a wide range of topics. The adventures of the day are usually discussed and dramatized. The hunters describe the method and location of a catch, frequently imitating the calls of animals and sounds of nature in their accounts. The women will relate the children's activities to their husbands. People frequently discuss old times. There is also gossip concerning neighboring households or tribes. Often plans are made for the following day. Tribal legends are also retold during the evening. Dialogue may be held with a person just a few feet away, or with an individual who lives on the other side of the dwelling, some 50 feet distance. Conversations are generally quite emotional, with moods of both humor and joy, anger and sorrow. Later, individual members leave the house to take care of bodily needs and then retire for the night.

Most social activity of the Shirishana takes place in the communal house. Extended family members are adjacent to one another or generally in the same physical structure, making it possible to share food as well as experiences encountered throughout the day. Projected activities which require the help of several members are thereby known to the extended family members, and preclude cooperation without a specific verbal request for such assistance. Sharing of items among extended family members is common. At the same time there are activities which go beyond the boundaries of the extended family. For example, the community will cooperate in a wild bush hunt, fish poisoning or new house construction. Similarly, every adolescent and adult of the communal house participates in the preparation as

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well as the celebration of festival activities.

**E. Life Cycle**

According to the Shirishana, conception takes place only after frequent acts of coitus. The "making" of a child is said to be the activity of the male and not the female. Coitus continues until pregnancy is well advanced. Coitus is said to assist in the development of the fetus. If a woman has already borne several female offsprings, a necklace or bracelet charm, borrowed from another woman who has given birth to a number of male children, will be worn during the time of pregnancy. This action is to increase the possibility of giving birth to a male child. Food taboos are observed during pregnancy. More than one man may be considered as the biological father of a specific child. Each of these men will be addressed as father by that child.

When a pregnant woman reaches the advanced stage of labor, she goes to a wooded area approximately sixty feet from the house, and squats on a log some six inches in diameter. The woman's mother, mother-in-law, sisters, and other women friends can be expected to assist her. No men are in attendance at the birth scene because they consider the whole event to be unclean. It is said that a male observer may become ill. The only exception to this taboo would be a husband who assists when no women are available. When the baby is

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**Footnote:** The origin of pregnancy myths and taboos are unknown to the researcher.
about to be born, the expectant mother's upper abdomen is rubbed by one of the women. Leaves are placed in front of the log on the ground to catch the baby as soon as it is born. The baby is not touched until after the cord is cut. After delivery of the placenta, which also falls on the leaves, a bamboo arrow point is used to sever the umbilical cord. The cord is never actually touched. There is no tying of the cord.

Under normal circumstances the new born baby is picked up by one of the women, usually the grandmother, and water from a stream is splashed over its body. The mother is also doused with water. She returns to her hammock and is given the child. The father will not touch the child for at least five or six days because the baby is considered unclean and fragile. On one occasion a missionary who assisted in the delivery wanted to give the child to the father to hold. The male infant was placed in the hammock in which the father was sitting. The father moved to the other end of the hammock in disgust and had a young girl remove the infant. A newborn infant may be ordered killed for any of the following reasons: (a) it is considered physically deformed; (b) the male who is thought to have sired the child is not acceptable; (c) the baby is a female and the husband or other members of the tribe reject her. Though there is no absolute rule which determines the killing of the female under reason (c), should the previous one or two children born to the mother be female, the chances are high that the next offspring, if female, would be killed.

When the decision to kill the newborn has been reached, a stick
is placed on its throat and someone, often the grandmother, steps on both ends of the stick, causing the infant to choke to death. The corpse is either thrown in the river, or buried in the ground. In all cases, the placenta is wrapped in leaves and hung in some bushes, to be found and picked up by dogs later.

An infant almost always accompanies his mother wherever she goes. He is carried on her back in a sling or on top of a basket filled with garden produce or firewood. At times a sister or grandmother will look after the child during his mother's absence. The infant always sleeps in the hammock with his mother. He is nursed on demand, no matter what the occasion. If the mother is away for some time, it is not uncommon to see the grandmother nursing the young child in an effort to soothe him.

During the first few years of child rearing, there is little distinction in associations based upon kin or sex. Boys and girls freely play together, irrespective of kinship relationships, until they are about eight years of age. At that time children will be taught the distinctions in kinship role relationships. A boy will remain friendly with his blood sisters, but will learn reserve with those females who are in the "wanima" relationship to him, that is, those who are eligible to be given to him in marriage later on.

Beginning at approximately the third year, a male begins imitating animal sounds and starts shooting bugs and grass-hoppers with small bows and arrows which his father makes for him. This play shooting continues until the boy becomes 9 or 10 years of age, at which time he is permitted to accompany his father on authentic
hunting trips. The full responsibility for hunting, however, will not come until between the fourteenth and sixteenth year.

While the young boy is being socialized in his role as prospective hunter, the young girl accompanies her mother to the field, to the drinking water source, and to distant creeks to poison fish. At a very young age a girl may be seen looking after a small sibling or assisting in some other routine duties. She has much more responsibility than a young male at a comparable age. At ten years of age a girl already knows how to cook meat, prepare cassava bread, process tobacco, gather firewood and care for younger siblings. A young girl usually has already been promised in marriage to a male and occasionally assists him by bringing him cooked food from her mother's hearth.1

When a young girl shows the first evidence of menarche, her mother is informed of the event and immediately builds a small enclosure of leaves inside the communal house measuring four feet square. The young girl's hair is cut to the skull and she eats no meat except fish, turtle, and armadillo. She is not spoken to by anyone except her mother or sisters. She only leaves this enclosure to urinate, defecate, or to take her daily bath in the river. The bath is said to make her hair grow. During these "trips", others are notified,___________________________________________________________

Footnote: 1For details on mate selection see the author's article, "Mate Selection among the Shirishana", in Practical Anthropology, Vol.18, No.1, 1971.
so that no eye contact will be made with the girl. Should a male look at the girl, it is believed he will develop bush yaws (leish- meniesis), a tropical ulcer difficult to cure. Several Shirishana, as well as this researcher, were victims of this ulcer. It was believed to have been caused by a violation of this folklore.

After six or eight weeks, when the pubescent girl's hair is considered to have "grown", she again participates in "normal" activity. The actual cohabitation or marriage usually occurs when the families of the bride and groom have moved into the woods, to some ten miles or more from the more permanent dwelling, in an effort to obtain more meat. During the groom's hunting venture, the mother-in-law will untie his hammock, take it from its location and will tie it directly above her daughter's hammock. Upon the young man's return from the hunt, he notices the relocated hammock, and "moves in" with his wife. Coitus usually is not practiced immediately, due to fear experienced by the young bride.

No puberty rites are practiced for the males. Young men between fourteen and seventeen years of age receive their "sex education" from males in the same age bracket who are in the "wanima" or wife-giving relationship. Men have usually experienced coitus with someone other than their prospective wives prior to marriage.

During the age span of 16 to 35 years, the young man's major tasks are those of hunting and fishing, which he does about fifty percent of the time. Older men spend a great deal of time in the fields, either cutting underbrush, weeding, or planting tobacco, bananas, yams, sugar cane, and manioc.
The young married girl experiences a considerable amount of stress during her early marriage. Though she has been trained to do house and field duties, the added responsibilities of caring for a husband and trying to meet his sexual demands frequently create tension. Usually her first pregnancy is aborted, because becoming pregnant when very young is said to hinder the development of future fetuses. The abortion is performed by massaging or trampling upon the pregnant girl's abdomen.

By age 16 the young married woman is likely to have her own infant, and this responsibility will involve a good portion of her time. The baby will sleep in the same hammock with the mother until he is three, by which time the young mother will likely be pregnant again. This cycle repeats itself until menopause, though child bearing is not as frequent during the last fifteen years. After a man discovers that his wife is no longer fertile, he will often reject the older wife and marry a younger woman. The older woman is left to care for grandchildren, to assist her daughters in daily duties, or to gossip.

How much mourning takes place when a person dies depends upon such factors as the deceased one's age, sex, and status, as well as the number of his survivors. There is much more mourning for young people and shaman, than for infants or elderly women.

The mourning usually begins when death appears inevitable. With the expiration of life, the entire tribe may wail until the body is buried. Mothers or wives wail daily for their children or husbands for up to six months after the death.
The body is usually buried on the day death occurs. (In one case, because a child died while the family was travelling, the body was left unburied until after their arrival at the village five days later.) Burials take place on a hill, across the river from where the tribe lives. No one hunts in this area. The fierce "bore" spirits are known to roam in this region. (See the section on Shamanism below). Bodies are usually buried in a hole three feet deep, with the head pointing to the southwest. The head position indicates the direction in which the tribe desires the "hekula" spirits to go. If the deceased was a shaman, he will be buried with his head raised slightly. When Iro, the most powerful shaman of the region died, his body was buried face down.

If cremation is planned after the flesh has decomposed, a layer of sticks and large wild banana leaves are laid on top of the body at the time of burial and then two feet of fill is used to close the hole. Cremation is usually done if the deceased was a shaman, if he died between the ages of six and fifty, or if he has surviving relatives. Some six months after burial, a number of people return to the burial site for the purpose of digging up and cremating the bones. Upon approaching the area three or four men scare the "bore" away by swinging five foot long switches and shouting "hooh, hooh, hooh". The bones are removed from the hole by means of sticks and burned in a fire. The charred bones are then mashed to powder with a mortar and pestle. The human ashes are placed into two or three gourds the size of an average orange. These gourds are carefully protected in the house.

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F. The Supernatural World

The supernatural world of animal and ancestral spirits, as well as the powers of malevolent spirits in day to day activity, are a major concern to the Shirishana. Animal spirits haunt the deceased's living relatives. Ancestors are honored in the feasting. Some spirits serve as protectors during one's life time. Witchcraft plays a dominant role in the thinking processes of the Shirishana.

1. Shamanism

The shaman is always a male. The shaman has three functions: (a) he seeks revenge and curses enemies of the tribe; (b) he cures the sick; (c) he locates big game to facilitate hunting. He fulfills the services of a shaman along with his other tasks of hunting, planting and so on. He accepts his duty as a social obligation and does not receive payment, with the occasional exception of some food. He has no special instruments such as stones, roots or sticks.

The shaman usually passes on his ability and knowledge to his son. There is an obligation on the part of the son to accept this responsibility. However, in time, should another shaman prove to be more capable, the son will lose his function. On two different occasions young men of about eighteen years of age lost memory while hunting and were missing for almost two weeks. The entire tribe searched for the lost men. In the first instance, the young man never returned. In the second instance, the hunter eventually did return only to find his mother wailing. Because of his absence, she
expected that death had overtaken him. In the latter case, it was felt that the "hekula" (or spirits) were wooing him to become a shaman, to which he felt compelled to respond. There is, therefore, some sense of obligation when the "hekula" call a man.

At the time of the initial visit by the Westerners, every male over 16 years of age had some association with the spirits and considered himself a shaman. Due to the influence of Christianity and the introduction of medicine, the practice of witchcraft was almost totally ended between 1964 and 1967. Since then, it has again been revived. The researcher found seven shaman among the Shirishana during the time of his 1972 field work. The shaman's contact with spirits usually takes place during a tribal feast when hallucinatory drugs such as ebene are blown into the nostrils of the men (Chagnon, 1968).

All species of birds and animals have spirits known as "hekula". These "hekula" are said to be wild, fierce and dangerous. The most dangerous spirits are those of the jaguar, peccary and red howler monkey. They are closely associated with the shaman and are believed to reside in a spirit house within the shaman's chest. In seeking revenge upon a neighbouring tribe, these fierce spirits are sent by the shaman to kill the enemy. On other occasions the shaman may curse an enemy object which he might have in his possession such as hair or an arrow, causing the cursed person to die.

The "hekula" of a dead shaman are considered to be fierce. They return to seek entry into the shaman's son, who becomes embued with greater power. During a certain shaman's dying moments, he said his
spirits would return to eat (kill) his wife. On two other occasions shamans have said that their wives would die if they remarried. In the one case, the widow did remarry, and soon died. In the other case, the polygynous widow remained single, though experiencing coitus with other men from time to time. Such a curse would not apply should the widows marry their deceased husband's brothers. However, the researcher was informed that in a subsequent feast, in which this shaman's ashes would be utilized, his "hekula" would eat (kill) his two widowed wives. This feast was planned for 1973, 6 years after the shaman's death. An older widowed wife of the same man would not be harmed because she did not quarrel with the shaman husband during his life time.

In the shaman's function to locate game for hunters, he will converse or commune with the spirits during the night for a two or three hour period in soft melodic utterances while lying in his hammock. When searching for the location of tapir, he makes inquiry of the small bird, "kokoyoma", who in real life eats wood ticks off the back of the tapir. Early in the morning after the shaman has located the tapir, or in some cases the wild boar, he will give the hunters his information. The men will pursue game in the direction indicated by the shaman.

The Shirishana believe they have two categories of illness. One is the type of sickness experienced due to a cold, malaria, an infection from a cut, or a snake bite, in which case the shaman cannot be of any assistance. The other form of illness is spiritual and is caused because of a curse from a certain enemy or the loss of one's
complementary spirit, "rish". In such cases the shaman is sought either to draw out the offending spirit from within the body of the sick individual or to search for and retrieve the individual's complementary spirit.

In the former case, the spirit is located by the shaman. Through incantations, the offending spirit is encouraged to leave the sick person via one of the body's exits, the arms, legs, or mouth. If the complementary spirit of "rish" has departed, the spirit must return to the individual or death is certain. The shaman seeks to woo the "rish" back by means of the incantations.

2. Spirits

Beside the primary concern of the Shirishana for the "hekula" spirits, there are five other spirits. The "rish" or complementary spirit has already been mentioned in relation to sickness. Every Shirishana has a "rish". The women have a river otter as "rish"; the men's "rish" is either the eagle or the jaguar. These "rish" follow the individual wherever he goes. At night, when the people are in the house, the "rish" remain outside. When hunting, a man's "rish" may precede the hunter, dig his claws into the animal and hold him firm until the hunter arrives to shoot the victim. The "rish" have a time of festivity and dancing when the tribal people celebrate.

The "bole" spirit is large, resembling a huge black cougar. He roams the jungle soon after the death of some member of the tribe and seeks to capture (kill) some relatives of the deceased. The "bole" is greatly feared. Few of these spirits have actually been
"seen" by the natives. When the "bole" is perceived as being in the area, the women and children rush into the house, and the men, with bows and arrows in hand, run in flight after the creature. The writer was once awakened in his home at 2 a.m. by a frightened elderly woman and was asked to shoot the threatening "bole" with his shot gun. Although the trail was searched by flashlight for some distance, nothing was seen.

Another spirit is the "nihbolep": this is the soul of the human being. Upon a person's death this "nihbolep" ascends to the world of other departed spirits, which is located just above the communal house. At one point in the history of the Shirishana, these "nihboleps" visited the living Shrishana frequently, descending from their place of residence by means of a bush rope. Legend has it that one day an irritated "nihbolep" chopped down the bush rope as he was returning to his home, thus terminating these visits. The Shrishana express great sorrow over the fact that they cannot visit with the "nihbolep" any more.

The "okanap" and the "kanaima" are spirits of a different type. The shaman seemingly have no power over their activity. The "okanap" are spirits the size of the humming bird, who travel at excessive speeds and kill by choking. A 38 year old man and a two year old girl are reported to have died in this fashion during the past 11 years. The "okanap" are said to be spirits from the Carib Maiyongongs. The "okanap" attack in the early morning when the Shirishana leave the house to urinate or defecate. The "kanaima" are very small, human like spirits who cause severe tooth aches or pierce people's eyes.
They attack man or dog.

3. Food taboos and hunting ritual

A variety of foods are considered taboo by the native. A menstruating woman or a postpartum mother may not eat any meat except fish, armadillo and turtle. The armadillo is taboo for adolescent and middle aged men. Jaguar meat is not eaten by anyone. At one time venison was not eaten for fear that one's voice would become high pitched like the deer; but this taboo is not observed any more.

A person who has recently murdered someone will not eat any food for several days. A hunter may never eat any game he himself has shot. This taboo has been modified of late so that game seized by a dog or killed with a shot gun is permissible for the hunter to eat while game shot with the bow and arrow is not eaten. Should this taboo be broken the hunter will continually miss his target in future hunts.

There is considerable prestige in being a good hunter and a good deal of shame if one returns from a hunt without game. To assure marksmanship after a period of unsatisfactory hunting, the tail bone of a sting ray is daubed in the tacky liquid found on the skin of a certain species of frog. This coated tail bone is then pierced through the skin in the inside of the elbow joint of the unsuccessful hunter. On other occasions, stinging hornets or ants are permitted to bite the chest of the unsuccessful hunter. On a hunting trip, a small bulb the size of a very small onion is bitten off by the hunter and spat out in the direction of the game intended.
to be shot. This action slows down the movement of the intended victim, giving the hunter a better opportunity to hit his mark.

Before a hunt in which some ten or more men take part, chunks of wood wrapped in leaves may be placed upon a rack, with a mock fire built below. This imitation act is to assure a successful hunt with a bountiful supply of meat.

4. Preventative and curative measures regarding sickness

Some methods of cure exist which do not involve the shaman. In one instance, prolonged sickness was considered to be due to a one inch lump in a certain infant's abdomen. One man, particularly skilled in perceiving internal growths, was called to locate the offending lump, if in fact it existed. He found it and had some cactus-like leaves wrapped inside larger leaves and broiled on the fire. He then rubbed the course leaves vigorously on the child's stomach. The second day he returned, repeating the treatment, stating that the lump was diminishing in size and soon would be vomited out as blood. The child was being treated simultaneously with Western medicines and soon became well.

Prevention of illness is practiced. An infant may wear a necklace of a particular seed or wood as a prophylactic measure. During the commemoration feasts, the ashes of the deceased person's bones are rubbed on all members of the tribe under nine years of age in an effort to ward off illness.

The supernatural world plays a significant part in the behavior of the Shirishana. The spiritual power of the shaman, the belief in
a variety of spirits, the observance of taboos and ritual, together with curative and preventative measures against sickness, are matters of deep concern in the life styles of each tribal member.

G. Legends - A Sample

Legends play an important part in the life of the Shirishana. They link the past with the present. They explain phenomena which are not evident in a rational and visible manner. Legends are relayed in the communal houses as incidents of great entertainment as well as serving to support tribal solidarity. Three legends are described below.

1. The origin of fire

Years ago, people had no fire. Because of eating raw, bloody meat, some Shirishana had spells of dizziness and semi-consciousness. The alligator was always warm, because he had fire inside him. Other creatures had made attempts to obtain fire from him but were unsuccessful. On one occasion the humming bird entertained the alligator with a sexual dance. The alligator opened his mouth wide in laughter. The humming bird quickly flew into his mouth, snatched the fire, and flew away with it. The alligator became angry and threw himself into the water in a rage. Since then he has always been cold. At times he attempts to alleviate his chill by lying on the sand in the sun. The humming bird deposited the fire in a tree which has since been known as the "wak" or fire tree. The Shirishana now get their fire by rubbing together two sticks obtained from this tree.
2. The creation of the female

Omam and Jowao are brothers who have always existed. They are spirits, not people.

In the beginning, human beings consisted only of males. After some contemplation the brothers decided to make a female. Jowao was about to make an incision into the leg of a male, which was to become the female pubic area. Omam intervened by saying, "Make the slit here between the legs." Jowao followed his brother's directions with the result that this is the prototype for females up to this day.

Omam then placed some sweet scented material into the woman's vagina. He went to get another supply of the perfumed substance. During his absence, Jowao extracted the material and copulated with the woman. When Omam returned to the woman, he was angry at Jowao for his action. The Shirishana regret that Omam's sweet scented material was not left in the vagina, for then even today, women would be sweet smelling in the pubic area.

3. The origin of Indians and Western man

After people multiplied, Omam saw them dancing and became very angry. He sent down torrents of water from above, causing an enormous flood. People clutched at any floating object available as they were carried down river by the rushing current. The rivers that resulted from that flood are the Mucajai and Uraraquera Rivers in northwest Brazil, which are presently inhabited by the Yanomama. The descendants of the people swept away by the flood live further downriver, have steel tools and clothing, and are known as "naba", civilized.
Ommam went down river after the flood, but later returned. On one occasion he threw the fine skinned sheaves, "tabosi", of the palm tree to the ground. By that act the sheaves turned into people, the real Indians. "We are sheaf people", the writer was told. "We are different because we are darker skinned and smaller in stature, and we do not have metal goods or clothing."

In this chapter on ethnology, the writer has acquainted the reader with the culture of the Shirishana society. The contact by Western missionaries and a brief history from 1940 was reviewed. The kinship structure and life cycle were presented in order to provide a better understanding of the framework of social interaction in the Yanomama tribal group. The supernatural beliefs and some specific legends were presented to illustrate the cognitive patterns of the Shirishana. With this descriptive background of the history, culture and social structure of the Shirishana, the effect of Western material goods on the life of this relatively isolated Brazilian tribe will be investigated. The following chapters detail the methodology and findings of this research.
CHAPTER III
METHODOLOGY

A. Introduction

The writer established initial contact and took up permanent residence as a missionary under the auspices of the Unevangelized Fields Mission, with the Shirishana in November 1958. With the exception of a twelve month leave between October 1962 and October 1963, he permanently resided in the village until April 1966. Thereafter periodic visits were made by the writer until February 1967. During the nine year period the Shirishana language was reduced to writing, an ethnographic study was made, myths and legends were recorded, and a birth and death record was kept. As a missionary the writer also made contact with Indians in more distant villages, such as the previously uncontacted Kuatothelis, Hewakemas, Amokwathleteis, Malashithelis, and Mayopthelis, as well as the already contacted Aicas and Waicas. These visits increased the writer's familiarity with the Yanomama culture.

B. Data Gathering Procedures

On October 27, 1972, the writer, now in the role of professional researcher, returned to the Shirishana and remained with them until December 15, 1972. A brief visit was made to the neighboring Malaxithelis, Shabataukethelis, and Aikamthelis, who reside some 70, 85 and 100 miles, respectively, from the Shirishana.
The principal techniques of data gathering were recall, participant observation and informant work. The initial five days after arrival by airplane in October 1972, were spent exclusively with the Indians. This gave the researcher opportunity to refresh himself in the language, re-establish rapport with the Shirishana, and acquaint himself once again with kinship relationships of individuals in the tribe. The researcher slept in a hammock in the Shirishana communal houses and ate food prepared by his native hosts. After the fifth day, the researcher continued sleeping in the communal house, ate the morning and evening meal with the Shirishana, but spent the morning and afternoon at the mission station, eating the noon meal with the missionaries who were affiliated with the interdenominational Unevangelized Fields Mission. In this way, he was in the Shirishana dwelling during the time of maximum community involvement. (As mentioned in the previous chapter, during the day-light hours, most of the men were either hunting, fishing or clearing brush for fields, while the women often did duties outside of the house). The hours on the station permitted the researcher to check, record, and analyze data. The contact with the missionaries also permitted discussion of the data. There was no indication that the association with the missionaries hampered data collection in any way.

The chief informant was João Tuxau, a male of 33 years of age, and a recognized leader of the tribe. He is married and has three children. João also served as host during the researcher's stay in his house. João had been a very close friend of the researcher during his extended stay with the Shirishana from 1958 to 1967.
Other informants frequently used in varying degrees were Isaías (age 21), Palentins (age 30), Moseis (age 21), Santa (age 25, female), Noliwa (age 48, female), Baína (age 34), Baixinho (age 30), and Tikum (age 65). (All ages are approximate.) The informants' varied representation in age and sex allowed for greater reliability. The use of informants from the various households who were sometimes in opposition to one another helped reveal information which may have been considered threatening or secret.

It was important that this researcher attain a role other than missionary during his time of concentrated data collection in 1972. The only "non-Indian" roles comprehensible to the indigenous population are those of missionary, trader, medical practitioner, pilot, rancher, cowboy or farmer. The role of researcher is incomprehensible to the native. The closest acceptable role is that of kinsman, and it was this role which the researcher sought to achieve. As "son" to the older men, he was allowed to ask about traditional practices. As "brother" he could make inquiry concerning the amount of bride service paid, the nuptial residence pattern, as well as ask about deaths and what caused them. As "wanima" he was able to find out information concerning tribal travels and disagreements and learn more intimate information, such as sexual pursuits and sexual practices.

The nature of the research demanded that the researcher not be perceived by the Shirishana as a missionary. This was achieved in the following manner: (a) he was dependent upon the Shirishana for food, (b) he had no cooking utensils, (c) he had no trade goods that could be borrowed or purchased, (d) he resided in the communal house.
away from the mission station, (e) his behavior was not as restrained as that of the missionary, and (f) he did no Bible or moral teaching during the time of data collection.

However, the missionary-researcher association must be treated with respect in terms of the research project. In many aspects, the researcher was dependent upon the missionary. The missionaries had resided and will likely continue to reside with the Shirishana for years. The researcher's presence was temporary. The only feasible manner by which to enter the tribe was by means of a missionary airplane landing on an airstrip whose construction was supervised by the missionary. Another area of dependence was the fact that the researcher received nourishing meals from the missionaries during most of his stay there. At the same time, even though the native population may not accept the religious teaching of the missionaries, the Shirishana do respect them for their honesty, devotion, fairness, and integrity. A visitor who appears to be in controversy with the missionary personnel arouses suspicion on the part of the Indians. It is worth noting that an anthropologist arrived by means of a private plane among the Shirishana in 1964. He refused to accept lodging or even a meal from the missionaries. The rejection of food is a cultural symbol of hostility among the Yanomama. The Shirishana treated the anthropologist with extreme suspicion because of this behavior.

During the course of field work, the researcher made inquiry concerning the tribal origin of immigrant wives and the amount paid in bride price. When one respondent said he had paid nothing for his
wife, the researcher showed surprise and, at that point, another male volunteered some information. Several years previously, seventeen Shirishana men, on a revenge raid, shot or "butchered" a distant group of Hewakema men, and stole seven wives. This information had been kept secret from the local missionaries all this time - a period of over four years. This particular incident was related to the researcher during his fifth day of field work. This incident gave strong evidence that rapport had been established, and that even delicate data could be collected.

Since extensive field notes were not gathered on the social organization of the Shirishana during the 1958-1967 period, the researcher has resorted to recall when necessary. These data have been verified by the researcher's wife, who was also among the Shirishana for that time, and when deemed necessary, by local informants and missionary personnel. Participant observation served to stimulate questions for the informants concerning history, culture change and social structure.

The hypotheses tested have been presented in a general framework. In this research, which is a case study of the application of the stated hypotheses, the writer will apply these testable statements specifically to the Shirishana society.

C. Methodology for Specific Hypotheses

Hypothesis 1 is: An increase in material goods in a primitive society will lead to less cooperation among extended family members.

The principal method used in gathering data for this hypothesis
was participant observation. Through observation, the investigator studied the interrelationships of people both in the extended family and out of the extended family. Attention was given to the cooperation involved in making artifacts. The network of relationships concerned in hunting, gathering and processing of food were noted. The members concerned with and participating in special projects such as house construction, field clearing and canoe building were also noted. Social activities were similarly observed. These observations made in 1972 were contrasted with the findings in the earlier contact made with the Shirishana prior to 1960. The pre-1967 data were accumulated through recall and informants' statements.

Hypothesis 2 is: The adoption of an increasing number of Western goods in a primitive society will cause a significant change in the pattern of settlement for bride service, substituting Western goods as part of the payment in the place of actual service.

Data to test this hypothesis were gathered chiefly through informants. Seven male informants who were married after 1965 and two informants who were married between 1958 and 1965 were asked the extent of their payment and service for their respective brides. Information regarding recent bridal payment was compared with payment made for brides prior to 1958. These data were obtained through recall by informants.

Hypothesis 3 is: Where a primitive society practices the matriloclal rule of residence, this pattern may be violated when Western material goods are introduced. If these items become readily available to Tribe A, but are scarce in all other tribes, the
matrilocality rule will be violated when intertribal marriages take place with the men of Tribe A.

By means of observation and the use of informants, data were gathered concerning the amount of material goods among the Shirishana and among neighboring tribes. Residential patterns after marriage of the Shirishana were observed.

Hypothesis 4 deals with polyandry and is as follows:

In a society characterized by (a) a high sex ratio, (b) the practice of polyandry and (c) access to Western goods unavailable to but desired by neighboring tribes, Western goods will be introduced as a form of payment for immigrant women from surrounding tribes, resulting in a decreased sex ration and a decrease in the frequency of polyandry.

To test this hypothesis, it was necessary to collect data on the marriage form and monitor the sex ration longitudinally, including immigration to the Shirishana tribe. The combined methods of observation and informant work were used to obtain these data. The frequency of polyandry was observed between 1957 and 1972. A list of all marriages was made and divided into three time periods: (a) before 1958, (b) from 1958 to 1965, and (c) from 1965 to 1972. These data include the tribal origin of the spouses, the number and names of spouses, the marriage form, and the residence pattern. The three time categories showed certain trends taking place in marriage form and residence.

The circumstances under which an immigrant wife changed tribal residency were also recorded. The missionaries have kept records of
all births and deaths in the tribe since 1959 and these records were available to the researcher. Since the researcher was one of the two Westerners to make the initial contact with the Shirishama, he was able to reconstruct a record of births and deaths as well as polyandrous frequency as far back as 1957, by means of recall and through working with informants in 1972.

Hypothesis 5a states the following: When scarce Western material goods become readily available to a primitive tribe, group ownership of possessions will decrease and individual ownership of goods will increase.

The data concerned with this hypothesis were gathered chiefly by observation throughout the researcher's time in the field. In addition, with the cooperation of 23 men and eight women, the researcher developed an inventory of the major Western possessions these 31 persons had in 1972.

The research on the above hypothesis led to an inquiry into a related area.

Hypothesis 5b is: When material goods which at one time were scarce become increasingly available to a primitive society, group sharing of these items will decrease.

The data for this hypothesis were gathered chiefly by means of observation. A list of the kinds of possessions was made and the degree of sharing was measured on a three point scale in three different time periods. The years 1958, 1962, and 1972 were chosen because in 1958 sharing was similar to pre-Western contact times. By 1962 most Western items currently in use had already been introduced,
and 1972 was the latest possible date to observe these sharing patterns.

Hypothesis 6a is: In the event that a primitive society adopts Western material goods into its society, status by ascription will decrease and status by achievement will increase.

Observation was used as the principal means of gathering data to test this statement. Informants were also asked questions concerning their criteria of status in the Shirishana tribal structure.

Hypothesis 6b is: In the event that Western material goods become available and highly desirable to a primitive people, higher status will be achieved by a greater number of individuals. These data were gathered primarily by means of observation. From the local missionaries, the researcher was able to find out the amount of trade goods purchased in the eight month period prior to October 1972. With this information and an estimate of what the Shirishana earned while working for the Brazilians, the monthly per capita income was calculated. Before 1957 the Shirishana had no cash income.

During the period of field work, observation and inquiry was continually made of the customs and behavioral patterns of the Shirishanan. Through conversations and observation, rigidity of taboo regulations was witnessed. Spouse relations were observed. Areas of tension and cooperation between husband and wife, parents and children, family with family, Shirishana with the missionary, Brazilians, and other Indian tribes was observed. Inquiry was made about the change in belief systems, as well as the aspirations of the younger Shirishana. These observations often established the basis
for further interview probing.
CHAPTER IV
FINDINGS

A. Cooperation Patterns of the Extended Family

Propositions were presented in Chapter I which indicate that, when material goods are scarce, the items necessary for daily survival in a primitive society are shared extensively among members of the extended family. Intra-family cooperation decreases when goods become more plentiful. Furthermore, in order to attain valued Western goods it is often necessary for a family member to stay away from the extended family for long periods of time. The family, therefore, is periodically forced to function without this member. Therefore, the first hypothesis is:

An increase in material goods in a primitive society will lead to less cooperation among extended family members.

The following discussion shows the effect of Western material goods on the intra-family dependency which existed among extended family members in 1958. At this time the Shirishana had a total of three axes, five cutlasses and three knives. They had no Western clothing, mirrors, scissors, adzes, fish line, fish hooks, shot guns, pots, and no metal digging instruments. Hair was cut by using arrow points made of bamboo. Ground was tilled by means of wooden palm sticks. Fish and game were killed with bows and arrows. Loin cloths, aprons, baby slings and hammocks were made from locally grown cotton, which was spun and woven by the Shirishana. Clay pots were also manufactured locally.
All of this activity necessitated an interdependence of members of the extended family. A man's hair was only cut by his wife, mother or sister. Manufacturing a bow involved knowing where to find the right kind of wood for the bow and how to carve it. The bow required a strong string prepared from jute, a plant grown in the fields. At times a bow would be broken and one would be temporarily borrowed from a family member. Arrow making necessitated knowing where and how to plant arrow cane, the method of cutting and drying the arrow shaft, feathering and making the arrow end, and making the five types of points used as arrow tips. The arrows required a fine thread of cotton as well as resin for attaching the feathers and the arrow tips to the shaft. At times arrows would be lost or broken and needed to be replaced. If this were the case, completed arrow or specific parts such as the shaft or cotton string would be obtained from others in the extended family. The use of the bow and arrow, therefore, involved cooperation among a number of the members in the extended family, including the women (spinning of cotton), old men (rope manufacturing) and young men (obtaining the wood from the forest).

Men wore loin cloths and waist wraps, made by women who could only be the male's wife, sister, or mother.

Footnote: For information on bow and arrow making among the Shirishana, see Appendix I.
The manufacture of clay pots required some specialization as well. Clay, which could only be found at specific locations, was molded to make pots, then dried and fired. Usually middle-aged or older women were responsible for this activity. In most cases there was one clay pot to a household. These pots were borrowed from extended family members when a second pot was necessary.

The scarcity of metal axes, machetes and knives, which were owned by the males, created a high degree of lending and borrowing among members of the extended family. Knives were most frequently interchanged because they were used for a wide variety of activities. Women used them for peeling manioc, cutting bananas, butchering game and harvesting sugar cane. The men used knives in making arrow points, shaving bows and making flutes. Axes were used by women to gather firewood and by the men to cut fields and make canoes. Cutlasses were used to cut underbush in the forest and to carve bows and paddles. Again, a high degree of extended family cooperation was necessary.

Eating practices also included extended family interdependence. If food was cooked in one pot, all members of the extended family, as indicated in Figure 2, could participate. If manioc, yams, sugar cane, sweet potatoes or bananas were not yet ripe in one man's field, another man's produce was shared by the members of the extended family. Similarly, if only one member of the family returned from a hunt with game, it would be shared with others.

Canoe construction involved the efforts of at least three men, usually one's brothers or one's wife's brothers, for a period of twelve days. Other members in the extended family who hunted during
FIGURE II

Cooperation in the Extended Family System of the Shirishana

Code

\( \triangle \) = male
\( \circ \) = female
\(-\) = sibling
\( = \) = marriage
\( \backslash \) = descent

\[ \ldots \text{close and frequent cooperation and interaction with ego}\]
\[ \ldots \text{strained and limited cooperation with ego}\]
this time would share their game with the canoe builders. Figure II indicated the significant relationships in borrowing, trading and eating practices. These relationships include primarily ego's mother, father, paternal uncles, sisters, brothers, wife, offspring, and wife's parents and brothers.

Exchange of goods was most frequent with ego's brothers-in-law by his wife if they were approximately of the same age as ego. Exchange of food is frequent with ego's wife's parents, via his wife. Mother-in-law avoidance is practiced. No verbal communication takes place between ego and his wife's father. Ego will exchange tools upon occasion with his brothers, father or paternal uncles.

The researcher asked two informants in 1972 about the biological parents of 100 Shirishana children and adolescents. There were 29 cases where only one father was mentioned. The balance, 71 offspring, were reported to have at least two biological fathers. These patterns of sexual practices and views of conception had an effect upon the social obligations in the society. Ego would respect the authority of each male considered his biological father. Likewise, he would be obligated to make some type of bride payment to each male considered to be the biological father of his wife. On occasion ego's wife's brother, borne by another woman but sired by the same father as ego's wife, might ask ego for some goods and services as bride payment. It is thus evident that extended family relations are intricate and necessitate an extensive interchange of goods and services.

Festivities are held several times a year to commemorate specific deaths. These events are not restricted to the extended family, but
include the whole tribe.

When an individual shoots game it is taboo for him to eat what he himself has killed. It is believed that violation of this taboo would cause him to miss his mark in future hunting ventures. This custom, whereby one is dependent upon another hunter's meat, reinforces the exchange patterns among extended family members.

The increased availability of Western goods altered the above mentioned patterns of extended family social behavior. The source of axes, knives, and machetes became abundant, thereby removing the scarcity of these goods. Access to these tools was not limited by age, sex, or status. To obtain Western goods meant being exposed to a foreign culture. It sometimes involved an extended stay away from the family and often included an orientation toward service unfamiliar to the Shirishana. Furthermore, the fact that the Indian had experienced relative deprivation of metal goods, and now had access to them, could likely lead to possessiveness of these formerly scarce items.

During the first two years of the missionaries' residence among the Shirishana, Western goods were almost always given as a reward for physical labor. The missionaries kept a close account of the number of hours each Shirishana worked on the airstrip or in building construction, and paid him when sufficient hours had been worked to earn the desired object. There also were opportunities for the men to serve as guides or carriers for a missionary as he made contact with other tribes. The items most frequently requested at this time were axes, machetes, knives, fish line, fish hooks, metal pots,
scissors and mirrors.

As time went on, the necessity for labor at the mission station diminished, and the missionaries initiated the trading of native made artifacts as a continued means of economic income for the Shirishana. As stated previously in Chapter II, Brazilian skin dealers were requesting animal skins which proved to be a valuable source of income, especially for the purchase of more costly items such as shot guns. This skin trade was terminated in 1970 because of an international law requiring the preservation of rare species.

Beginning in 1962, the Shirishana re-established contact with the Brazilians downstream, a journey then of some three to five days by canoe. Clothes and Brazilian hammocks were often purchased from the Brazilians. These contacts became much more frequent between 1969 and 1972, when the Shirishana might work as long as three months for the Brazilian farmers. The latter also requested Shirishana canoes, thereby increasing their trade.

In late 1972, a Brazilian farmer with a small outboard motor arrived at the Shirishana village and said he was going to initiate a transportation service, so that able young Shirishana men could work for the Brazilians for long periods of time. Shirishana men are preferred to Brazilians because they are extremely industrious, require very little in terms of living comfort, and can be paid a wage less than the Brazilians. These conditions are particularly favorable to the poorer class of Brazilian farmers living quite a distance from civilization, who themselves had very little working capital. In many respects their life ways do not differ too greatly
from that of the Shirishana.

After 1960 when the initial desire for axes, knives and cutlasses had been filled, other goods such as beads, adzes, needles, flashlights, salt, kerosene lamps, soap, Brazilian hammocks, guns and gun shot were traded by the resident missionaries. Since the Shirishana had been receiving some used and torn clothing from the Brazilians downstream, pressure was placed on the missionaries to sell clothing. At first, short trousers were sold to the men, and skirts and blouses were sewn by the women from yard cloth sold in the store.

By 1965 Brazilian currency had been introduced by the missionaries. The Shirishana had already been given money periodically by the Brazilians, and it was felt by the missionaries that an understanding of the currency usage was essential.

By this time every nuclear family had at least one axe, a cutlass and knife. In one case, one had eight cutlasses. Most nuclear families had at least one metal pot. It was not necessary for a female to borrow a brother's or father's axe; her husband had one. She did not necessarily have to borrow a knife; she may have had her own. By 1972, every female had her own grater board as well and therefore, did not have to borrow one from an extended family member. Usually she did not receive these goods as possession from other members of the extended family, but earned them by cutting grass at the mission station, selling them garden produce, or bead necklaces and aprons which she had made. She thereby reduced her dependency upon the extended family.

By 1965, almost every male between the ages of 16 and 40 had his
own shot gun. Bow and arrows were not used as frequently and usually only on occasions when the arrows were not likely to break or be lost. This reduced the necessity for reliance upon the extended family for the components of the bow and arrow. Each male could earn his own cutlass and knife and therefore did not have to contact family members to borrow one, as he might have had to do prior to 1958. Every male had his own matches, and therefore did not have to ask extended family members for fire. Table 1 shows that the tools most frequently owned are the cutlass and the knife. Both are very utilitarian and much more flexible in usage than the axe. It is difficult to rank these items in any reliable manner, since the value of any specific item varies in terms of the age of the owner and the number of similar items he already possesses. Items were evaluated differently in 1959 than in 1969. In 1958 every adult male wanted a cutlass, axe and knife, usually in that order. These goods were highly prized because of their previous scarcity. Within a four year period, the shot gun was more highly prized than any other object. After another six year period a number of guns were not functioning and shot was expensive. After the above mentioned tools had become sufficient for the Shirishana, clothes become the craze. They served to protect the body from insects and provided warmth. Equally important was the fact that wearing clothes symbolized being a civilized person. Clothes were always worn on special occasions such as the arrival of some visiting tribe, a feast, a church service, or a visit to one of the other Shirishana houses. A shirt was purchased in some cases, even when the young Shirishana did not have a
knife. A knife could be borrowed, but not a shirt, unless it was torn and dirty.

TABLE 1
Major Items Individually Owned by Shirishana in 1972

<table>
<thead>
<tr>
<th>Items</th>
<th>No. of individuals possessing item</th>
<th>Total no. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>shot guns</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>axes</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>machetes</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>knives</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>aluminum pots</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>adzes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>metal dirt diggers</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>fish line</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>red loin cloth</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>shirt</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>pants or shorts</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

N = 13 males

Even though the availability of Western trade goods had changed the type of items traded between members of the extended family, individuals in this unit still remain dependent in certain respects on one another. For example, when men go to work downstream, they usually go in groups which represent the extended family. In their absence, other extended family members take over necessary responsibilities such as hunting and fishing. This same pattern occurs when
groups go to visit neighboring tribes. On these occasions travellers may include members of the extended family such as wife, children, brothers, grandmothers and grandfathers.

The function of the extended family relatives is still evident by the giving of some Western goods which still takes place. Items are at times brought by the individual to give to an extended family member. A girl of about 16, for example, worked as a maid for the missionaries for many months. She learned the cooking techniques as well as the cooking preferences of the Westerner. She has a husband, but many of the goods she purchases, such as cloth, pots and knives, are given to her elderly mother.

The custom of bride service reinforces the extended family bond. A young man sold a canoe to the missionary and received 250 Contos ($42.00). In turn, he purchased a bush axe, shirts, shorts, a pot and knife. The only possessions he kept were a shirt and the axe. All the other goods went to his in-laws, or more specifically his "wife-givers". Another young man informed the researcher that the next three things he was going to purchase would be two pots and a knife. One pot was for his wife and the other two articles were for his mother-in-law. Another young man wanted to earn a knife. When asked why he wanted a knife, he responded, "Because my father-in-law has requested one." These incidents give evidence that exchanges and dependencies are still the pattern in the extended family and that Western material goods have been adopted into this kin network of exchange.

Arrow cane is no longer as plentiful as it once was and, since
arrows are not used as extensively as before, this type of intra-family cooperation is not as great. Guns are often used for hunting. But gun powder, lead pellets, caps and gun shells are not as plentiful as the Shirishana would desire. On the eve of a hunting venture, the hunter often finds himself short of one of the necessary items. He will then approach one of the members of the extended family, usually a brother or a brother-in-law, for the necessary item(s).

Since many of the shot guns purchased between 1962 and 1965 have become rusted and useless, there is much borrowing of guns among young men of the extended family.

Cooperation between extended family members is also seen in a variety of other activities. Aluminum pots, owned exclusively by the females, are borrowed extensively by the males. Because older women did not know how to sew, young girls sew dresses for their mothers and older sisters and mend cloths for brothers and fathers. Visits to neighboring groups which may last for up to eight weeks, are often made in extended family groups. In tribal festivity extended family members still participate as a cohesive group, except in isolated cases where Christians exempt themselves from using hallucinatory drugs. Food is still exchanged among extended family members in the traditional pattern.

Harvesting the garden, particularly manioc, yams and potatoes, is the task of women. Harvesting, as well as food preparation, is not done by women individually. Groups of women who are of an extended family work together. Similarly, when fish are poisoned in the creeks by means of poisonous leaves, several women from an
extended family unit will venture out together.

Residence still consists, for the most part, of large communal structures. In 1957 there were two buildings which housed a total of 115 people. In 1972, there were six communal structures which housed 185 people. There were but two exceptions, namely two young couples who have each constructed their individual homes. However, these couples use these separate homes as places of residence less than 20 percent of the time.

The taboo of not eating meat that a person himself has shot, is not always strictly observed. Some men will eat any meat. Others will not eat meat if they have shot it with bow and arrow, but will eat it if they shot the animal with a gun or if a dog assisted in the capture of the game. Therefore, the less this taboo is observed, the less necessary is the dependence on another individual.

Generally speaking, cooperation among extended family members has changed in kind but not in principal. Where specific items for the manufacture of the bow and arrow were available from extended family members, gun shot, powder and caps have now taken their place. Where knives were once borrowed, flashlights or kerosene are now borrowed, particularly when the kin reside in the same house. Meat and garden products are still exchanged, depending upon the need. When certain members are working for several weeks at a time in order to earn Western goods, other extended members step in to assist with tribal duties. Among the Shirishana there are only two categories which are exceptions to the practice of cooperation found in extended family relations, and these are minor. These exceptions are the two
cases of nuclear family residence and the decreasing observance of hunting taboo. The data, therefore, do not sufficiently support hypothesis 1: increased material goods in a primitive society will lead to less cooperation among extended family members.

There are two strong social factors in the opinion of the researcher related to the cooperative patterns of Shirishana extended family members with one another. These would have to be altered before cooperation would decrease notably. These considerations are: (a) the present system of bride payment which reinforces the extended family importance, and (b) communal living, which encourages the extended family system, rather than the nuclear family orientation.

B. Western Goods and Bride Payment

Hypothesis 2 is: The adoption of an increasing number of Western goods in a primitive society will cause a change in the pattern of settlement for bride service, substituting Western goods as part of the payment in the place of actual service.

The rationale for this theoretical stance, taken from Chapter I, is that Western goods would deprecate or make obsolescent the indigenous goods generally used in bride payment. Furthermore, to obtain these goods, the prospective groom often finds it necessary to work away from the tribe. During such absences he is not readily available for bride service to his in-laws. Also, since the recipients will place high value upon Western goods, they are willing to forfeit some bride service for the ownership of the Western item.

Among the Shirishana, when brides are not captured or stolen,
it is necessary for the Shirishana to pay for his bride. The trans-
action is initiated at the time the bride is requested, often when
she is from three to five years of age. Payment is made to the
bride's father, mother and brothers. Payment does not terminate
until approximately 15 years after marriage. The bride's brothers
may also request some service or object from the husband after the
wife has produced three or four children on the basis that his sister
has borne her husband many children.

Nine men who had obtained wives after the introduction of
Western goods were asked by the researcher concerning the payment of
goods and services. Table 2 indicates their responses. As few as
two Western items and as many as five different Western objects were
given in payment. In some cases the payment included several indenti-
cal objects, for example number three's payment included four trousers
and two shirts while eight gave four cutlasses and three axes. Most
males are continuing with some type of payment.

The practice of bride payment involves an intricate system of
inter-relationships and interdependencies. While one is making pay-
ment for his wife, he may at the same time be receiving payment from
his sister's husband, or from a son-in-law who has contracted for
his daughter.

The intensity of the giving is dependent upon the demand by the
bride's parents and brothers as well as the amount of goods the
bridegroom possesses. The amount of service or payment is also
dependent upon the number of close relatives still living. If one
marries an orphan who has no brothers, there will be little or no
### TABLE 2
Types of Bride Payment, Sample of post 1958 Marriages

<table>
<thead>
<tr>
<th>Subject</th>
<th>Origin of Male Female</th>
<th>Year of marriage</th>
<th>Brazilian hammock</th>
<th>Metal pot</th>
<th>Cloth pants</th>
<th>Shirt</th>
<th>Gun</th>
<th>Knife</th>
<th>Cutlass</th>
<th>Axe</th>
<th>Other objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L I</td>
<td>post '58</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X(3)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I L</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X(3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>L L</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X(4)</td>
<td>X(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I L</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>L I</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>L I</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>L I</td>
<td>'58-'65</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X(4)</td>
<td>X(3)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>L I</td>
<td>'58-'65</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X(4)</td>
<td>X(3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>L L</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key:**
- L = Local
- I = Immigrant
payment. If one's wife has many brothers, he can anticipate making frequent payments in service or in goods.

Previous to 1958 bride payment included bride service and the giving of native artifacts. Bride service prior to marriage consisted primarily of presenting game to the mother-in-law. After marriage less raw meat was given. Bride service also included assistance in cutting trees for a new field, planting banana shoots and yams, and house and canoe construction. Native goods such as string, cotton, hammocks, arrow tips, arrow shafts, arrow, bows, paddles and food items were also given. The frequency of giving was greatest immediately before and after the marriage. In some cases bride payment involved sister exchange, but this did not exclude these types of other payment.

After 1958 when Westerners established permanent residence and the Shirishana obtained Western goods, these goods were adopted into the trading network of the existing culture, including use as payment for purchasing brides.

Table 2 substantiated the fact that Western goods are indeed used in bride payment. Native artifacts were not mentioned by the informants as being given, though the researcher is aware that they are used. Some native goods are even all but extinct. The knife has replaced the agouti toothed scraper and matches have replaced fire sticks. The native woven loin cloth and waist wrap are no longer worn, but Western cloth, dresses, shirts, and trousers have been adopted. Western made cloth and clothing are used in bride payment. There are other native goods not used in the culture as extensively
as previously, but which continue to serve as items of bride payment occasionally, such as hammocks, bows, arrows, and arrow tips.

Those receiving payment of a pot, axe, cutlass, fish line and books, or shot gun and powder are prepared to reduce their expectation in bride service. The Western product becomes a partial substitute for working in the field, especially since possession of an axe, for example, can mean greater efficiency in chopping trees in the wife-giver's own field.

The one making bride payment also has ability to reduce the amount of time required for bride service, while still accomplishing the equivalent amount of work. His axe, cutlass and file permit him to cut the trees and brush more quickly. These tools along with the adze help to carve a better canoe more rapidly. The shot gun is more accurate than the bow and arrow.

But the adoption of the Western goods introduces new responsibilities. A shirt, a pair of trousers, an axe or cutlass will require the Indian to work three to five days for the resident missionary. A large metal pot requires 6 to 10 days of labor. A gun, if earned through labor, will take up to two months of work. When the Shirishana works for the Brazilian downstream he is away from the Indian village for at least three weeks and up to three months. During these absences, he is not available to perform the service duties for his wife's family. In short, because of the use of Western goods as bride payment and the requirements of work to earn Western goods, bride service has diminished.

Since 1958 the isolated Shirishana have had contact with the
Aicas, Marashiteris, Palamithelis, Amokwathelis, Majopthelis, Aikamthelis and Shirianas. Visits consisting of three to ten weeks are periodically made with these tribes. The young single men are the ones who most frequently go on these travels and when away from their prospective bride's family they are not available for bride service. Also, a number of Shirishana have purchased non-Shirishana women. The fact that he resides away from the domicile of the wife's parents, and often begins payment when the girl is older than if she were from the Shirishana, are further indications that bride service requirements are changing.

No record of bride payment was made before 1958, to compare with current data. However, the above analysis does indicate a trend which substantiates hypothesis 2: The adoption of an increasing number of Western goods in a primitive society will cause a change in the pattern of settlement for bride service, substituting Western goods as part of the payment in the place of actual service.

C. The Rule of Matrilocal Residence

As discussed in Chapter I, any notable social change in a society will frequently be reflected in a modification of the rule of residence. Exogamous marriage in a society which previously practiced tribal endogamy will bring change in the rule of residence especially when one tribe is considered more prestigious than the other. For example, the bride's parents are from a tribe which has a scarcity of metal tools, they will not be as rigorous in demanding the observance of matrilocality if they desire to receive the valued metal goods as
bridal payment.

This reasoning led to the formulation of hypothesis 3:

When a primitive society practices the matrilocal rule of residence, this pattern will be violated in the case of tribal exogamy when Western material goods are available. If these items are readily available to tribe A, but are scarce in all other tribes, the matrilocal rule will be violated, when inter-tribal marriages take place with the men of tribe A.

The Shirishana have been and continue to practice matrilocality in tribally endogamous marriages. In the ten cases of tribal and village endogamy among the Shirishana, eight involved the male moving away from his parents' hearth, nearer to the hearth of his spouse. In the two exceptions, the female spouse simply moved nearer to the hearth of the male spouse, who was in the same dwelling.

In the nine cases of tribal endogamy but village exogamy known to the researcher among the Shirishana, eight followed the matrilocal rule of residency. The one exception was a case where the female spouse's Aica father had died and her mother moved with her family to the Shirishanas and married one of the local men. The mother did not have the degree of solidarity with the Shirishana group which would normally be found among Yanomama.

The researcher accepts these 19 cases of tribal endogamy as evidence that the matrilocal pattern of residence is practiced among the Shirishana. The pattern is also true for the neighboring Yanomama tribes.

Among the Shirishana violations in the practice of marriage matrilocality traditionally have occurred in wife capturing and wife stealing. These terms are distinguished in meaning by the researcher.
Wife capture has reference to a raid involving some killing, while wife stealing refers to immediate possession of a woman, without any killing, and without any bride service whatsoever. The woman must be considered as previously "owned" by a husband, brother(s) or father in wife stealing. There are two cases of inter-tribal wife stealing since 1958. Two raids have occurred since 1958 in which a total of eight women were captured. Our discussion of matrilocality will exclude these incidents of wife stealing and wife capturing.

There have been 11 inter-tribal marriages since 1959, four involving non-Shirishana males, and seven involving non-Shirishana females. In the four cases where Shirishana females married non-Shirishana males, there was only one case of violation of the matrilocal rule of residence. In this case the 20 year old woman had been involved in four marriages at the Shirishana village. She was considered a social deviant by the Shirishanas, not only for her marital misbehavior but also for her "running away". She is now living with an Aica 50 miles downstream from the village. In the seven cases of Shirishana men marrying non-Shirishana women, all couples reside with the Shirishanas. The matrilocal rule of residence, therefore, has been violated in every case that a Shirishana male has married a non-Shirishana. The matrilocal rule of residence has however, usually been observed in exogamous marriages when the spouse is a Shirishana female.

It would seem that since the Shirishana have continual access to Western trade goods, and the other tribes do not, this prestigious factor would attract couples to choose their residence among the
Shirishana. The access of the Shirishana to Western goods was not perceived by the Shirishana themselves as the reason for the violation of the rule of residency. If the immigrant bride was a widow, there was no desire on her part to remain in her own tribe. Some Shirishana men involved in exogamy indicated the reason of the violation of the matrilocal rule of residence is due to the intolerable degree of quarrelling found among members in the wife's tribe. Therefore the accessibility of Western goods for the Shirishana tribe is not perceived by some as the variable for the violation of the matrilocal rule of residence.

However, the fact remains that the Shirishana were introduced to the neighboring Yanomama by the missionaries. They accompanied the missionary, serving as guides and carriers, receiving Western goods as payment. These Western items as well as those acquired in their own village from the resident missionaries were used to sustain fellowship and eventually to make payment for women in these neighboring tribes where Western goods were scarce and highly desirable. Therefore, the hypothesis, where a primitive society practices the matrilocal rule of residence, this pattern will be violated in the case of tribal exogamy when Western material goods are available, is strongly supported.

D. Polyandry

Polyandry is frequently practiced in societies with a high sex ratio. Sometimes the high sex ratio is due to the practice of female infanticide. If females of marital age are scarce and
material goods are a means of obtaining women from other tribes, a sex balance will be more closely approximated and polyandry will decrease. It has, therefore, been hypothesized:

In a society characterized by (a) a high sex ratio, (b) the practice of polyandry and (c) access to Western goods unavailable to but desired by neighboring tribes, Western goods will be introduced as a form of payment for immigrant women from surrounding tribes, resulting in a decreased sex ratio and a decrease in the frequency of polyandry.

In Chapter I we indicated that polyandry can be practiced for psychological, economic, social and demographic reasons. The variables are difficult to isolate. A population with a high sex ratio practicing polyandry will seek to equalize the sex ratio imbalance in a fashion congruent to the tribe's ideology. Where brides are purchased, prized items which are scarce in the other tribes may be used in such exchanges. The hypothesis predicts that a decrease in the sex ratio, under these conditions will decrease the frequency of polyandry.

In the Shirishana tribe in 1957, nine of the 15 marriages were polyandrous (Table 3). By 1972 only one of the 37 marriages was polyandrous. During the intervening years, the Shirishana had accumulated Western material goods and had also made contract with neighboring tribes. These tribes had no direct access to Western goods and therefore these items were in short supply. It was customary to exchange goods and services for a wife. This placed the Shirishana in the advantageous position of being able to get women in exchange for their Western trade goods. The Western goods also made it possible for the Shirishana men to perform necessary services.
TABLE 3


<table>
<thead>
<tr>
<th>Year of marriage</th>
<th>Monogamy</th>
<th>Polyandry</th>
<th>Polygyny</th>
<th>Total marriages</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-1958</td>
<td>5*</td>
<td>9</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>1958-1965</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>1966-1972</td>
<td>17</td>
<td>1</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>all marriages of 1972</td>
<td>34</td>
<td>2</td>
<td>2**</td>
<td>38</td>
</tr>
</tbody>
</table>

*Three of these five monogamous marriages had a second husband who was deceased.

**Three more monogamous men are working for an additional younger wife.
such as canoe construction and tree cutting for their non-Shirishana bride's relatives more efficiently and quickly.

A total of 18 wives had been acquired from neighboring tribes by means of stealth, raiding, or bride payment. This female immigration helped decrease the sex ratio from 149 to 131, to 119 and finally to 107 in 1957, 1962, 1967 and 1972 respectively. Of the 18 immigrant women, eight were acquired by bride payment involving the transfer of some Western goods from the Shirishana to another tribe.

There were other contributing factors which facilitated a more balanced sex ratio by 1972. There is record of only two female infanticides since the missionaries arrived in 1958. Though there is no data on the number of female infanticides previous to that date, it is the opinion of the researcher that there has been a decrease in the practice. There is also reason to believe that the availability of antibiotics and other medicines has facilitated better health and longevity to infants as well as improving prenatal and postnatal care of women. Also during the 15 year span which this research covers, there have been more men than women who have died, absolutely and proportionately which has contributed to the decrease in the sex ration.

The practice of polyandry may have arisen prior to 1958 for reasons other than the sex ratio, and, conversely, Christian ideology may have influenced the marriage form after Western contact. In one case, the male in a monogamous marriage was offered his wife's younger sister, but refused to accept her because this did not seem

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to be consistent to him with Christian teaching. During the field research in 1972, in at least two cases, married women have said they would leave their spouse should he obtain a second wife. Aside from Christian ideology, this may be because the Shirishana women see Westerners as having a greater degree of equality between the sexes, a characteristic the women may envy.

The usual marriage cycle begins when a prospective groom 15 to 30 years of age makes a request for marriage to the parents or brothers of a three to eight year old potential bride. Bride service and bride price are transacted and cohabitation begins usually within the first year after menarche. It is culturally permissible for the husband's brothers to have coitus with his wife, although such behavior is tolerated in varying degrees, depending upon the situation. Should the husband have a younger brother without a potential wife, he can be allowed to join the family and share the wife. This would not usually occur until the first husband has two or three children. No bride service or bride payment is expected in such cases. This polyandrous relationship has a dual function, in that the first husband is relieved of the major responsibility of hunting, and the younger husband has someone to cook for him. There was one case in which four brothers were married to one woman.

The first husband is considered the prime husband with a greater degree of authority as well as right to food and sex. Secondary husbands are not as permanent in the family unit as are others. They may acquire a wife later by means of payment, or through a raid, and leave the polyandrous relationship. The fact that they still reside
in the communal house makes it possible for them to reciprocate responsibilities and favors with any children they might have sired from the polyandrous relationship. Fathers will give their children borne of the polyandrous relationships special items of food, and make their sons small bows and arrows, even after they have established their own nuclear family. The children of a former polyandrous marriage will reciprocate by doing small chores for the father such as carrying water or running errands.

The polyandrous form of marriage is not perceived as the most desirable by the second and third husbands. On one occasion, a second husband indicated that he wished he had his own wife like the researcher. In another instance, a third husband complained that he was not receiving adequate attention from his polyandrous wife. It has already been indicated, that whenever possible, second and third husbands seek wives of their own. The graphic reduction in polyandry between 1958 to 1972 seems to be primarily due to the availability of young women from other tribes. There is little indication that missionary teaching has measureably influenced the form of marriage, except in the three cases mentioned.

Table 3 presents data on the incidence of marriage form found among the Shirishana. The statistics in Table 3 should not be misinterpreted. Though the figures do show a sizeable decrease in polyandry from 1957 to 1972, a further explanation is in order. Present monogamous marriages have the potential of becoming polyandrous, particularly since many marriages are recent. Though this is not anticipated by the researcher, except in one or two cases,
the potential exists. There are two cases in which married men are performing bride service for a second wife and there is rumor of two other cases where monogamy may change to polygyny.

From the above, we conclude that Western material goods have in fact made it possible for Shirishana men to acquire non-Shirishana women, thus decreasing the sex ratio and decreasing the frequency of polyandry. However, other factors such as medicine, ideology, voluntary and involuntary immigration as well as the age and sex distribution of the population, are variables which must also be considered as possible factors in the decreasing practice of polyandry.

Therefore, although hypothesis 4 is substantiated, there is substantial evidence to suggest that factors other than the availability of Western goods for use as bride payment to other tribes account for both the decrease in the sex ratio and the frequency of polyandry among the Shirishana.

E. Ownership and Sharing of Goods

Conditions in a primitive society are such that when raw or manufactured items important to a culture are scarce or difficult to obtain, such items would be jointly earned, jointly owned and jointly shared by extended family members. Generally when preliterates desire Western goods, their earnings are small and comparatively speaking, these commodities are expensive. Therefore, one would anticipate a sharing in the earning and ownership of such goods. It can be further anticipated that with an increased accumulation and
availability of goods, group ownership would be replaced by individual ownership. Therefore, hypothesis 5 is:

When scarce material goods become readily available to a primitive tribe, group ownership of possessions will decrease and individual ownership of goods will increase.

At the time the Westerners began residence among the Shirishana in November of 1958, the Western goods found in the tribe consisted of three axes, five cutlasses, three knives, one hoe, two old shirts, a cap, and a woman's full length slip. These goods were acquired through the raids of 1940-1941, the gifts left by the boundary commission prior to 1950, and the more recent contacts with the Brazilians in 1957 and 1958 (See Chapter II). The clothes were worn by the men. The hoe was left unused in the house because this means of tilling the earth was not consistent with the Shirishana form of agriculture. One old table knife had been so worn that its blade was one inch in length. The axes, cutlasses and knives, although used extensively by many members of the tribe, were individually owned.

As costly Western goods were introduced, the Shirishana were encouraged by the missionaries to jointly earn, own, and share these items. This principle was flatly refused. Upon occasion, a prospective owner might receive a small fraction of the payment for a cutlass or axe from a brother or brother-in-law, but never would the item be jointly owned or shared. After 1960, when guns were traded in the community, an extended family member might give a jaguar skin to another member, so that he could pay for a shot gun. Again, the gun itself was not jointly owned. The researcher has no evidence to show that a person had a special right using someone else's Western
article, even if he contributed to the payment of that item.

All Shirishana men owned their own bows and arrows. These items were never jointly owned, though arrows were traded extensively. Arrows did not become scarce until about 1965, due to an arrow cane germ in the fields. Clay pots, which were not considered scarce, were never jointly owned. Canoes were shared extensively but were always owned by one specific member. The researcher has no data on the number and kinds of goods possessed by each individual during the fifties or sixties, though he does have a list which shows how many Western goods were owned by each of a sample of 13 Shirishana in 1972 (Table 1).

The principle of group ownership is not part of the Shirishana culture. Kinship relations and reciprocity prescribe a pattern of extensive cooperative labor as well as extensive sharing of material goods, even though the specific items, whether indigenous or Western, are never jointly owned. The hypothesis was, therefore, found to be inappropriate.

However, the investigation of this hypothesis has led to a subsequent investigation into a related question, that of sharing. Ownership may not be the major concern in the culture. Responsibility patterns in sharing may be more germane. It would appear that sharing would be maximal when items are scarce, and that the degree of sharing would be minimal when items are plentiful. It is therefore hypothesized that:

Hypothesis 5b. In a society with strong patterns of sharing scarce and necessary goods, the amount of sharing will have an inverse relationship to the availability of
goods. Innovation will be adopted into the sharing patterns and will conform to the sharing pattern.

Before 1958, the very few Western tools which the Shirishana owned were extensively used by both nuclear and extended families. No type of reciprocal service was required to use these items. The very ownership of one of these tools necessitated the obligation of sharing. As these items became plentiful, less sharing was required.

Sharing an item among the Shirishana is dependent upon several factors: First is the kin and sex relationship between the owner and the one desiring to use the object. There is a much higher rate of sharing between members of the nuclear family, between brothers, and between brothers-in-law than in other relationships. The second factor is the cost of the item. Matches are readily shared, while a radio is not. The third consideration is the durability of an item. For example, since a fish hook may be lost while fishing it is seldom lent. On the other hand, since an axe is not likely to deteriorate or be lost it is more extensively shared. Fourth is the mood of the owner. If the owner is in mourning, he is not likely to lend his bow. Fifth is the scarcity of the item. Green beads are much more highly valued than red beads, the latter being much more plentiful. Therefore, green beads are less likely to be shared.

The concept of ownership by the Shirishana is not analogous with ownership in most Western societies. To acquire a Western item, the Shirishana usually has to work much longer before he owns it. Since many of these goods were scarce for a long time, they are not seen as being easily replaced. The article itself is often considered an
extension of the personality of both the giver as well as the owner.

Any Shirishana can readily inform an inquirer who gave him a certain object. There is often a manifestation of special care for an object because of the generosity of the individual who gave it. In the event that a person dies, his possessions are either smashed to pieces or buried with him. Exception so this rule are made in regards to the costly Western goods such as an axe or shotgun. Such items may be hidden for a few months and then used again.

Table 4 indicates the degree of sharing of specific items at three specific time intervals. Of the 26 categories of items listed, 12 items are new to the Shirishana since 1958. With the exception of arrows and possibly cotton, all the other items have become plentiful.

Of all the items listed in Table 4 sharing increased or remained at the same level, with the exception of four items (3, 16a, 18a and 19a). In the case of items 16a (clay pots), 18a (stone garter boards), 19a (clay skillets), the indigenous goods were substituted for imported and superior goods which, in turn, were shared.

Items 1 and 2, (shot guns and shot), when introduced into the tribe were gradually included into the sharing process. Even with a decline in availability due to the guns wearing out, the level of sharing was maintained. In no case has an item decreased in availability and simultaneously decreased in sharing.

Five items (6. fishline, 7. matches, 13. soap, 16b. metal pots and 18b. imported grater boards) have increased in number as well as in sharing. These goods were all relatively new in 1962, and, at that time, were highly prized. By 1972 the items were quite plenti-
### TABLE 4

Sharing by Individual to Someone Outside of the Nuclear Family

<table>
<thead>
<tr>
<th>Item</th>
<th>1958</th>
<th>1962</th>
<th>1972</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. shot gun</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. shot</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>3. axe</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4. knife</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5. cutlass</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6. fishline</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. matches</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. bows</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9. arrows</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10. canoe</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>11. radio</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>12. hammock</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13. soap</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14. clothing - a. male</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b. female</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15. dog - a. male</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>b. female</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>16. pots - a. clay</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b. metal</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>17. scissors</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18. grater board - a. stone</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>b. import</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>19. skillet - a. clay</td>
<td>3</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>b. metal</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>20. beads</td>
<td>-</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>21. cotton</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>22. money</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

**Scale:** 0 - no sharing  
1 - little sharing  
2 - a medium degree of sharing  
3 - much sharing  

**Key:** - indicates the item was not used.
ful, had been adopted into the culture, and were shared to a greater degree.

Item 3, the axe, was shared less only as the number of axes increased in the tribe.

Clothing, on the other hand, whether indigenous or Western, was not considered an item to be shared.

Thus, of the twenty-two items listed in Table 4, all or their functional substitutes, were accepted into the sharing patterns. The degree of sharing varied inversely with the supply, with the exception of the five items which were shared more freely as their supply increased: fishline, matches, soap, metal pots and imported grater boards. The frequent, in fact daily, use of these small items may be related to the degree of sharing. However, enough data is not available to test any hypothesis related to these exceptions. In short, hypothesis 5b was generally supported by available data.

One note of caution in interpreting this finding, however, emerges from the researcher's observations. The data indicate that in the sharing behavior patterns consideration should be made of the following: if a person considered himself relatively deprived before owning a certain item, he would be less likely to share the valued object once he acquired it. For example, the cutlass was a highly desirable item, necessary for the clearing of fields, not generally available until the arrival of the missionary in 1958. Upon initially acquiring the cutlass, the Shirishana was reluctant to share it, because of having been deprived of the item for several decades. A similar pattern was true with the introduction of the innovative
shot gun. There was a short period of "possessiveness" before the item was introduced into the sharing pattern. Thus, there is a certain "gestation period" with some items, particularly more costly ones, before introduction into the sharing relationships.

F. Status

This rationale led to the following hypothesis:

Hypothesis 6a. In the event that a primitive society adopts Western material goods, status by ascription will decrease and status by achievement will increase.

Western goods are frequently desired by members of a primitive society. Acquiring these Western goods often entails some skills. Therefore, the possession of Western goods and the derived status are based on achievement rather than ascription.

Traditionally status has been gained by ascription among the Shirishana. The two basic criteria for status are age and sex. An older age means years of experience which makes a person's judgment more reliable. At the same time age usually means that one has had many children, grand children, and sons-in-law which merited even more respect. The male has a higher status than the female. Abnormal and female infants were killed at birth, but never normal males. Female infants and even married women have been referred to as "bisiali", a female dog. Women cleaned up the excrement of dogs and infants, a chore men never did. It was legitimate for men to beat their wives with sticks or fire brands, but were a woman to do the same to her husband, she would be severely punished.

A Shirishana's status was also gained through his extended family,
another facet of ascription. If a male had a number of brothers or children, or his wife had a number of brothers, the individual had greater security, received more assistance, and had easier access to food and goods.

The position of shaman also brought status. The shamans were always male. His functions, which were to heal the sick, curse the enemy, and seek the location of game, were important services for the society.

The mode of becoming a shaman was often by ascription. It was expected that the son of a powerful shaman would pursue his father's profession because the older man's spirits would seek an abode with the son. In a case where a young man became lost in the woods, it was also felt that the spirits desired him to become a shaman.

The criteria of status just mentioned, attained through ascription, are the most fundamental in the traditional Shirishana society. In addition, achievement factors can also contribute to an individual's status. For example, one who is industrious, providing well for his children, wife, and wife's parents attains status. One who is generous with his goods is likewise esteemed. One of the worst social stigmas which one might receive is to be called stingy. One who is also skillful in hunting or canoe construction is respected. Older men prefer choosing good food hunters for their daughters to marry.

The basis for status since the introduction of Western goods has been altered. The traditional ascription criteria of status have been weakened as the achievement criteria have taken on added
importance among the Shirishana.

The Shirishana have no specific term for chief, in the sense of a headman of the tribe. The term which approximates the general definition of "chief" is "bata" meaning one who is mature and knowledgeable and, therefore, respected. The "bata" make decisions concerning feasts, fields and relationships with non-Shirishanas. In 1958 the "bata" generally consisted of the men over 40 years of age. Iro was considered a little more "bata" than the others because he was a powerful shaman, had several younger brothers and several grown sons. He had the respect of the tribe and was the only one with multiple wives. Even with the introduction and acceptance of medicines, there was no evidence of hostility by Iro toward the missionaries, arising out of the decreasing demand for his healing art.

As contacts with the farmers downstream became more frequent, the Brazilians referred to several of the Shirishana as "tuxau", the Portuguese translation of chief. The Shirishana have made some association between their term "bata" and the Portuguese word, "tuxau". During the writer's 1972 field research, five informants between 20 and 35 years of age were asked who was "bata" among the Shirishana. A young man of 33 was named more frequently than any other. For a man to be chief at this age is much younger than would be found in the traditional society. When asked why specific people were named as chief the responses always were: "Because he tells people what to do."

The respected qualities that João, the above mentioned 33 year
old man, has are generosity, industry, skill and an exceptionally
good relationship with the local missionary. João is seldom found
doing nothing. He is rarely involved in intra-tribal disputes. He
is not a shaman. He is known to be one of the best canoe makers and
his assistance is frequently requested. He supplies his family,
mother and mother-in-law with ample food. He is generous. A brother-
in-law asked for his shot gun and João gave it to him. João con-
structed a canoe and sold it to the missionary, receiving 250 Contos
(§42.00) in payment. He distributed all but a very small fraction of
the goods received from this money to in-laws and a few friends who
had helped in the carving of the canoe.

A further criterion of status is an established rapport with the
Brazilians, as well as an ability to understand and speak some Portu-
guese. Young Shirishana men often spend several weeks with the
Brazilians, and frequently trade canoes with them. One of the more
influential Shirishana men has a 15 year old son who has been with the
Brazilians on numerous occasions and has learned some Portuguese.
When in the presence of Brazilians the father will make inquiry con-
cerning the wishes of the Brazilians through his young son and care-
fully follow these instructions. The men who have returned from a
visit to the Brazilians are always the focal point of evening story
telling in the communal house. Incidents concerning their visit are
carefully followed.

Women are also increasing their status by becoming more skillful
in certain areas. Bead aprons, necklaces and wicker baskets are
traded with the missionary. Young girls who can be taught the
missionary's method of housekeeping are hired for extended periods of service. This activity creates a means by which goods may be obtained. Women who know how to sew not only make dresses for themselves, but also are asked to sew dresses for others. Girls who can make the beautiful bead aprons bought by the missionaries and sew the dresses desired by the tribe are preferred by young men. They are considered more like the "civilized people".

The criteria of gaining status among the Shirishana in 1972 is a combination of the traditional but weakened means of ascription, as well as the more recently augmented achievement behaviors. Status by achievement can be gained by: industry, generosity, skill, rapport with the local missionaries, rapport with the Brazilians, and an understanding of Portuguese.

Hypothesis 6a, in the event that a primitive society adopts Western goods, status by ascription will decrease and status by achievement will increase, has been substantiated. This increased possibility of achieving status by achievement will have an effect upon the social organization of the family. This trend will increase the authority of younger men in the tribe. Some traditional fashions and mores will be dropped and Western modes of behavior will be accepted. There will be greater independence on the part of younger family members. Women's rights will increase. Women will demand greater freedom in husband-wife relations, as well as possession of goods. In fact, all of these trends took place between the arrival of the missionaries in 1958 and the field observations carried out in 1972.
The subject of the pervasiveness of status is now addressed.

Hypothesis 6b is: In the event that Western material goods become available and highly desirable to a primitive people, higher status will be achieved by a greater number of individuals.

In the consideration of the previous hypothesis, it has already been established that the acquiring of Western goods is possible for any individual, irrespective of sex or age. The criterion is skill in certain areas. The present hypothesis investigates the scope of opportunity for increased status.

Variant degrees of status are found in all societies. The most basic form of status differentiation is by sex (Inkeles 1964:83). In the traditional Shirishana society, status was differentiated by sex and age. Being a man gave one greater status than being a woman. However, women could increase their status through producing many offspring, especially if they were male children. The greatest degree of respect and authority was given to the older men. They had the authority to make such decisions as choosing mates for their daughters, selecting the location of the next village, giving advice in regards to attacking another tribe, or the scheduling of a feast. Even greater status was given to one who was a shaman. The power vested in his person made him influential in the society.

As discussed previously, before 1958, one could also gain status by achievement. Skill and industry led to status and to the possibility of such characteristics as generosity which increased status even more.

Generally speaking, the status rankings among the traditional
Shirishana were restrictive and limiting. An individual could do nothing to alter his sex or his age. Work was not specialized to any high degree and so hunting or bow and arrow making were common knowledge to the men, while pottery and weaving were customary activities for the females.

By 1972, specialization had begun to take effect. The Western trader showed preference for the best made canoe and the better manufactured paddles. He enforced a standard whereby poorly made goods such as bows and arrows, miniature daggers and swords, bead necklaces, aprons and baskets were rejected, despite many hours of labor on the part of the Shirishana. Similarly, jaguar and ocelot pelts which were skinned and dried in a haphazard manner received less payment than well prepared skins. The one who was skillful in canoe making was often requested to assist in another's canoe construction. In this manner, the former became more prestigious. Therefore, the greater one's skill, the more abundant became opportunity for economic reward.

The Shirishana were encouraged to be industrious. If a native complained about not having a particular item, the missionary's response would often be, "Bring me some yams", or "Cut grass for me tomorrow and I will pay you so that you may buy the article." While working for the Brazilian, the hard working man was complimented and the lax worker was ridiculed. One of the few Portuguese words known to all young Shirishana men was "perguicoso" which means lazy, a term used by Brazilian farmers for an indolent laborer.

Being industrious brought Western goods to the Shirishana.
It was prestigious to own many such items. If an individual possessed a rare article such as an adze or a bush axe (foce), his loaning it to others would increase his status. Neighboring tribesmen were anxious that their daughters marry Shirishana men because such a contract meant payment in Western goods.

The wearing of clothes became a status symbol because the Shirishana viewed one who was clothed as civilized. Neighboring tribes no longer thought of the Shirishana as ordinary Yanomama but rather as "nababak" (civilized), because they were clothed, possessed metal goods, and had frequent contact with the Westerners. Because clothes were a prestigious item, they were carefully washed and kept by the young people.

Attaining prestige in the ways just mentioned, especially as related to skill and industry, was not as restricted by sex and age as in the traditional society. Young men who could work hard for long periods of time were preferred to older men. Men who had a quick grasp of the wants and needs of Westerners were hired as guides by the missionaries, the Brazilian or visiting botanists or anthropologists. Girls below 25 years of age proved to be able to make more beautiful and precise patterns of bead work and, therefore, received payment for this activity more frequently than older women. Girls who were under 17 years of age were hired by missionaries as maids and, therefore, had the opportunity to earn money, often larger than the earnings of their parents or husband.

Between April and November of 1972, the Western missionaries reported having spent 5,191 cruzeiros in payment to the Shirishana
for indigenous food products, artifacts, construction and station maintenance. This would be equivalent to $1,354 for a twelve month period, calculated at an exchange rate of 5.75 cruzeiros to one United States dollar. We shall estimate a total of $200.00 income to the tribe from work or trade with Brazilians downstream. This figure of $1,354 or total tribal income per year may be a little high, since it included a canoe purchased by the missionary and considerable house construction work, which is not a normal pattern. In addition, at times there are five Westerners on the station rather than the present three, and the purchase of native products might have been higher. Previous to 1970, there was considerable "cat" skin trade which brought income as high as $80.00 for one pelt.

There were a total of 58 males and 45 females 15 years of age or more in 1972. When this population of 103 is divided into the total tribal earnings of $1,354, each Shirishana over 14 years of age earns about $15 a year. This would range from a low of possibly $2 for very elderly women, to $80 on rare occasions for young men. Girls who are between 15 and 25 have a ready source of income from their bead work which is in continual demand by the missionaries. Their earnings, despite home responsibilities, compare well with that of men. Fifteen dollars income a year is a marked difference from the income of neighboring tribes, or from the income prior to the presence of Westerners in 1958. This income allows for the purchase of Western goods, which give status. For a list of Western items used see "Cultural Borrowing" in the Appendix.

In summary, it can be stated that status has been afforded a
large number of individuals in the society through three basic means: the acquisition of Western goods, the learning of certain skills, and the association with Brazilians. Young women have accumulated cloth, dresses, pots and beads through specialized skill in bead work or house work for the missionaries. At times these women would purchase goods and give them directly to their parents. The young men have been able to acquire goods through their special skills of canoe cutting or the manufacturing of small indigenous artifacts which were sold via the missionaries in Boa Vista. These accumulated Western goods are seen as desirable by fellow tribesmen as well as neighboring visiting groups. The associations established by the Shirishana men with Brazilians downstream are viewed as valuable, because of the opportunity to learn the civilized people's way of life, to satisfy one's curiosity regarding non-Shirishana life styles, and to acquire some additional Western goods.

Hypothesis 6b, in the event that Western material goods become available and highly desirable to a primitive people, higher status will be achieved by a greater number of individuals, has been substantiated. Status is less restrictive by sex and age in 1972 than it was before the introduction of Western goods. Nor is ownership of Western goods restricted by the age-sex status. Therefore varied degrees of status are open to a larger number of people. The Shirishana as a tribe have more status than other Yanomama tribes because of the easier accessibility and accumulation of Western goods.
G. Summary

In summary, the research among the Shirishana has led to the following results. Hypothesis 1, an increase in material goods in a primitive society will lead to less cooperation among extended family members, has not been substantiated.

Hypothesis 2, the adoption of an increasing number of Western goods in a primitive society will cause a change in the pattern of settlement for bride service, substituting Western goods as part of the payment in place of bride service, has been substantiated.

Hypothesis 3, where a primitive society practices the matrilocal rule of residence, this pattern will be violated in the case of tribal exogamy when Western material goods are available, has been strongly substantiated.

Hypothesis 4, in a society characterized by (a) a high sex ratio, (b) the practice of polyandry and (c) access to Western goods unavailable but desired by neighboring tribes, Western goods will be introduced as a form of payment for immigrant women from surrounding tribes, resulting in a decreased sex ratio and a decrease in the frequency of polyandry, has been substantiated.

Hypothesis 5, when scarce Western material goods become available to a primitive tribe, group ownership of possessions will decrease and individual ownership of goods will increase, could not be tested. It was inappropriate due to the ownership patterns existing among the Shirishana prior to 1958.

During the field research a related hypothesis was developed.
Hypothesis 5b, in a society with strong patterns of sharing scarce and necessary goods, the amount of sharing will have an inverse relationship to the availability of goods. Innovations will be adopted into the sharing patterns and will conform to the sharing pattern, was generally substantiated.

Hypothesis 6a, in the event that a primitive society adopts Western material goods, status by ascription will decrease and status by achievement will increase, was substantiated.

Hypothesis 6b, in the event that Western goods become available and highly desirable to a primitive people, higher status will be achieved by a greater number of individuals, was substantiated.
CHAPTER V

CONCLUSIONS AND IMPLICATIONS OF THE RESEARCH

A. Introduction

The Shirishana, a tribe of the Yanomama in North Brazil, first made contact with Westerners in 1957. The following year Western missionaries established permanent residence in this small tribe of 117 people, with the result that the natives were exposed to a foreign culture and numerous artifacts of the Westerners were adopted such as axes, knives, cutlasses, matches, medicines, beads, and, eventually, guns, clothing, flashlights, and so on. The Shirishana were found to be very dependent upon extended family members for survival. There was a high male-female ratio. Female infanticide and abortion were common. Bride service and bride payment were widely practiced as was the polyandrous form of marriage. As in most traditional societies, status was ascribed according to sex and age.

The focus of the research was the consequences which Western goods had upon the social structure of the Shirishana. It was anticipated that cooperation and sharing patterns would be altered, as well as bride service, marriage form, and the criteria of status in the society.

The researcher had the unique experience of being a member of the party which first made contact with the Shirishana. He continued residence with the tribe until 1967 and in this time was able to learn the culture, mores, myths, folkways and language. In 1972 he
returned to the tribe, was received as kinsman, and pursued a vigorous program of data collection. Actual residence in the Indian house and participation in Shirishana life provided a means of observation. Recall, informant work and records of myths, customs, births, and deaths kept by resident missionaries all served to augment data gathered by means of participant observation.

B. Theoretical Implications of the Research

This research has concerned itself with social change. The focus has been upon the family, and the orientation of the researcher has been functional and cultural. The independent variable has been the Western material goods. Levy has aptly outlined several reasons why material goods are such an important factor in societal change.

(1) There is no society whose members are in general unaware of material factors. (2) There is no society whose members fail to distinguish between being relatively better off and relatively worse off materially. (3) There is no society whose members in general do not prefer to be better off rather than worse off materially (1966:125).

The degree of motivation manifested by the primitive society when coming in contact with the Western or modern society is governed by the values of the society. In the case of the Shirishana, they recognized the utility of Western goods, and sought to acquire them.

As early as 1938 the Shirishana were aware of the benefits of metal implements. They knew that a steel axe could fell a tree quicker and easier than a stone axe. At that time they successfully obtained three axes by raiding and killing another tribe. After 1950, attempts were again made to procure metal goods, this time by
seeking to make contact with the Brazilians. These efforts were not successful until 1957. The history of the Shirishana substantiates Levy in regard to the primitive society's strong desire for Western material goods deemed valuable in their culture. Though conflict may arise between the values of the two cultures, as is indicated in the Yir Yoront case study, there is little evidence that the Shirishana were seriously disrupted. Changes did occur but possibly the respect the missionaries showed toward the Shirishana culture prevented social disorganization. At the same time, the acquisition and use of Western goods complied with the values of the tribe in 1958. At times, the missionaries resisted cultural change to some extent as, for example, in the introduction of clothes, blankets and radios.

In some ways, the change among the Shirishana paralleled that of the Manus. The incentive for change came from the indigenous society. It was stimulated by Western contact. Possibly this basis of cultural change, that is, the existence of initiatives by the primitive society, is a fundamental reason why neither the Manus, where the change was drastic and rapid, nor the Shirishana, where the change was limited, experienced chaos or social disorganization. Change was voluntary rather than enforced. At the same time it was relatively rapid among the Yir Yoront. The extent of change is not yet fully apparent among the Shirishana.

In primitive societies the basic agent in the socialization process is the kinship system. Already this is being altered among the Shirishana. The resident missionaries as well as the Brazilian
farmers are playing an increasing role in the socialization process. The Portuguese language, arithmetic, the written Shirishana language, religion and the use of medicines are learned by agents other than the kinship system. If the social structure of such an important institution as the family is altered, the entire society will be altered. Most studies on the effect of industrialization upon the family show a change from an extended to a conjugal family (Goode, Hoselitz). In no way is the Shirishana to be considered an industrial or industrializing society. However, it was anticipated that some trends found in industrializing societies might be seen in their embryonic stage among the Shirishana. The research however gave no evidence that Western material goods decreased the degree of cooperation among extended family members (Hypothesis 1).

Factors such as a higher level of specialization, greater geographic mobility, individual dwellings and a much greater consumption of Western goods might, in the future, affect inter and intra-family cooperation. At this point these factors have been negligible or minimal. It is the opinion of the researcher that among the Shirishana, geographic mobility and individual dwellings are more immediate cultural patterns of change that will affect cooperative relationships. Geographic mobility has increased notably in the past ten years since contact with other Yanomama tribes. Because of the distance from any center of industry, it is questionable whether any greater levels of specialization will develop shortly. A greater variation in the consumption of Western goods will only occur when the life style of the Shirishana changes considerably -
a pattern not anticipated in the near future.

Merton has shown that not only are goals peculiar to each specific society but that the means to attain the goals are defined by the society as well (1957:133). The acceptable modes of attaining cultural goals are regulated and controlled. These controls are interrelated with the values of the society. The traditional values may not correspond with the values of the Western society which are based upon rationality and efficiency.

Munch shows that when contacts between a primitive and Western society occur, the Western society has two distinct advantages: rationality and technological superiority and organizational skill (1970:1308). Frustration and tensions on an individual or societal level may erupt with such contacts. There is no evidence that this was the case in the Shirishana - Western contact, though this was not a focus of the research. Further discussion will be given to this subject below.

Parsons suggests two basic requirements for the continuance of a social system. These are a mechanism to maintain the existing system as well as a mechanism to integrate new ideas, values and forms into the system. This research among the Shirishana would suggest that cultural patterns such as bride service, communal living, sharing, cooperation, and festive activities changed little and served to maintain the social system. At the same time, other patterns such as the Christian religious system, the use of medicines, the use of Western material goods and the manufacturing of model indigenous items were integrated into the social system. These integrated

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patterns enhanced the adaptive capacity of the social system, allowing for differentiation. As an increasing achievement orientation was accepted into the system, the adaptive capacity of the society was facilitated, thus allowing for equilibrium, rather than disequilibrium.

Parsons' model seems to fit ideally into this study. However, this "fit" might be simply post factum. Parsons does not define what elements in the social system must be maintained or integrated, nor to what degree they must be maintained or integrated. One might consider the religious or family system as more essential to maintaining the system than possibly the economic or political system. This is not made clear in Parsons' position. If Parsons' model could predict what changing elements would produce a disorganization in the Shirishana society in the coming ten years, his contribution would be considerable. However, it appears that the model is satisfactorily applied only after the action.

Various specific hypotheses will be addressed in the following pages.

1. Cooperation in the extended family

Durkheim termed the cohesion and cooperation found in primitive societies as mechanical solidarity, a characteristic which has been borne out in this research among the Shirishana. Weber has used the terms of "traditional" and "rational" action as types for primitive and industrial societies respectively. This study indicates that the Shirishana could be typed as "traditional" in action orientation.
The proposition considered in hypothesis 1 was based on the position that scarce material goods, necessary for survival in a primitive society, were shared extensively among extended family members. When the material goods became more plentiful, intra-family cooperation decreased. It was therefore hypothesized:

that an increase in material goods in a primitive society will lead to less cooperation among extended family members.

The research has indicated that only a few Western material goods were possessed by the Shirishana in 1958. Since then, these items have become plentiful and readily available to that tribe. Patterns of cooperation were found to remain the same even though the actual items shared were different. New items introduced into the society were scarce initially, but later became more plentiful. Even though Shirishana spent days working for the missionaries, and weeks and months with the Brazilians, in an effort to earn modern tools, absence from the tribe did not decrease extended family responsibility. The acquired goods were shared with other tribal members. Taboos, particularly in regard to hunting and meat eating reinforced extended family dependencies and cooperation. Similarly, the custom of bride service and payment continued to support this cooperation. Hypothesis 1, an increase in material goods in a primitive society will lead to less cooperation among extended family members, was not substantiated.

2. Bride service and bride payment

Murdock has shown that bride service and bride payment are a general pattern in many societies in the world (1949:19f). Stephens
indicates that bride service or bride price is practiced in societies where parents or brothers decide the mate choice. He also states that bride service and bride price are found in societies where the family is valued much more than is the individual. The practice serves to give continuity and broader kinship bonds and responsibilities. The economy of the family is facilitated by such services and payment. Stephens suggests that bride service and bride payment, because of commitment and cost, contribute to greater family stability and to less divorce (1963:209).

The findings of this research almost totally confirm the positions held by Stephen. The Shirishana are family, rather than individual, oriented. Mate selection is controlled by the bride's parents or brothers. Bride service and bride price do have an economic function and do broaden kinship associations and responsibilities. This research questions, however, whether bride price results in a lower frequency of divorce. Though this was not a prime concern of the research, it did appear to the writer that numerous divorces had recently taken place, possibly due to a change in the status of women, and possibly due to a relatively brief betrothal period when compared to the more traditional pattern among the Shirishana.

In contrast to the period prior to Western contact, bride payment with the use of Western goods was extensive. The study gave evidence that bride service was being substituted in part by bride payment. Therefore hypothesis 2, the adoption of an increasing number of Western goods in a primitive society will cause a change in the pattern of settlement for bride service, substituting Western goods
as part of the payment in the place of bride service, has been substantiated.

3. The matrilocal rule of residence

In a discussion of the subject of the matrilocal rule of residence, Lowie states that the society cannot be migratory but will rather be a lower agricultural one (1919). Thurnwald confirms this position, stating that in an agricultural society the woman has the possibility of accumulating property (1932:193). Lippert contends that matrilocality would be found where the subsistence is primarily dependent upon the female (1931:237). Murdock found a near universal association between matrilocal residence in sedentary communities and local endogamy (1949:214).

This research showed that in the simple horticultural society of the Shirishana, matrilocality was practiced in endogamous marriages, confirming the propositions of Lowie, Murdock and Thurnwald. Since subsistence among the Shirishana is not primarily dependent upon the females, the position held by Lippert is not germane.

Murdock also found that in societies which were stable and undergoing change, such change often began with a modification of the rule of residence (1949:221). It is not clear whether Murdock would consider the Shirishana as a society with a comparatively stable equilibrium in 1958. Considerable change has taken place since that date and the rule of residence as relating to intertribal marriages has been altered. With an increasing amount of Western goods the Shirishana acquired wives from neighboring tribes. In these inter-
tribal marriages, matrilocality was not observed. The third hypothesis, when a primitive tribe practices the matrilocal rule of residence, this pattern will be violated in the case of tribal exogamy when Western material goods are available, was strongly substantiated.

4. Polyandry

From our treatment of the subject of polyandry in Chapter I, several observations can be made about this research. Murdock found polyandry in very few societies and therefore called it a cultural curiosity (1949:25). This study indicates that this marriage form is decidedly not uncommon. Moore states that the frequency of the practice of polyandry never exceeds another marriage form in a society (1963:340). This research gave evidence that polyandry exceeded any other form of marriage among the Shirishana until at least 1960.

Westermarck has noted that polyandry may be found in a society with at least one of the following characteristics: (a) where it is in the interest of the more wealthy to keep riches and influence in their control, (b) where poverty necessitates a maximization of cooperation, (c) where the bride price is high, (d) where the male have a fear of their own sterility, (e) where the practice of polyandry might be to the psychological satisfaction of the wife, and (f) where horticulture is practiced (1935, Chapter III). Petros expands the latter point, indicating that the geographic mobility necessary in a hunting and gathering or nomadic society mitigate against the polyandrous form of marriage (1963:570). This research reinforces this
position, in that the Shirishana are a simple horticultural society. The other societal conditions mentioned by Westermarck were not found as significant to the practice of polyandry among the Shirishana.

Linton indicates that polyandry may be practiced where land holdings are too small for further subdivision, a point not applicable to this research (1952). Petros suggests that family cohesion may foster fraternal polyandry (1963:569), a point not investigated in this research, but which may be significant. Opler argues that polyandry is found in societies where there is egalitarianism between the sexes (1943). This position is not substantiated in this research. According to Rivers, female infanticide is the reason for polyandry (1906:518). This demographic argument seems to have some relevance to the Shirishana study although it is not clear whether female infanticide encouraged polyandry or whether polyandry stimulated the practice of female infanticide.

The study showed that 9 of the 15 Shirishana marriages in 1958 were polyandrous. The sex ratio of the entire population was 149. Neighboring tribes had little or no access to Western goods, while the Shirishana had continual access after 1958. A total of eight non-Shirishana women were purchased by the Shirishana, using Western material goods as payment. Other women were stolen or taken captive. These factors contributed to a sex ratio in 1972 of 107. Other considerations in the more balanced sex ratio may be the decrease in female infanticide, a proposition which has not been tested. Of the 38 marriages in 1972, 35 were monogamous, two were polygynous and one was polyandrous. Hypothesis 4, in a society characterized by (a) a
high sex ratio, (b) the practice of polyandry and (c) access to Western goods unavailable to but desired by neighboring tribes, Western goods will be introduced as a form of payment for immigrant women from surrounding tribes, resulting in a decreased sex ratio and a decrease in the frequency of polyandry, was substantiated.

5. The sharing pattern

Lenski has developed several empirical generalizations about simple horticultural societies by contrasting them to hunting and gathering societies (1966). He notes that they are generally larger in size, ranging from 100 to 200 people. They have larger houses measuring at times 70 feet in width and 35 feet in height. The simple horticultural societies have more leisure time, due to their cooperative endeavors and, therefore, may spend more time in ceremonial activity, as well as warfare, which may include the taking of captives. The restricted mobility of a horticultural society may result in a greater accumulation of goods. These generalizations are all found among the Shirishana. The tribe now numbers 185. One communal house measures 80 feet in diameter. Ceremonial activity is frequent and warfare which includes the capturing of women has taken place. Because of the limitation of residential mobility, the Shirishana have accumulated many goods, particularly since the contact with Westerners in 1958. One of their current houses has seven small extended rooms jutting out from the outer wall, and these rooms are used specifically for the purpose of storing their possessions.

The research has shown that although there were few Western
goods owned by the Shirishana in 1958 these items became plentiful in a relatively short period of time. Articles not previously owned, such as shot guns, flashlights and plastic beads, were soon acquired. At the same time, some items, such as the stone grater, spear and men's waist wrap are not used anymore. Though there is evidence that the Shirishana possessed more goods in 1972 than in 1958, there is no evidence that there was a transition from group ownership to individual ownership of goods.

Scarce items such as cutlasses, axes and knives have become readily available to the Shirishana. Other new items were continually being introduced and were initially scarce because of limited availability or cost. The study showed that generally as items become increasingly available, the actual sharing of the specific item was decreased. Some indigenous items were replaced by imported items and these replacements increased initially in sharing as availability increased. This might indicate a "gestation period" in sharing some articles. A few items decreased in availability but did not decrease in sharing. Therefore hypothesis 5b, in a society with strong patterns of sharing scarce and necessary goods, the amount of sharing will have an inverse relationship to the availability of goods. Innovations will be adopted into the sharing patterns and will conform to this relationship, was generally substantiated.

There were several items such as matches and soap which increased in availability and ownership, as well as in sharing. These items might be considered in a separate category, in that they were adopted into the culture quickly, and frequently used. Some of these items
were relatively cheap. These considerations led to an increase in their sharing. Apart from the principle of the degree of adoption of the item into the culture, sharing depended upon relative deprivation and replaceability.

6. Ascription to achievement

It has been observed that status in primitive societies is ascribed, being determined by age and sex (Lenski, 1966:110). Women occupy a position inferior to men. Older persons have higher status than do the younger. This was true of the traditional Shirishana society prior to contact with Westerners. Western goods were desirable for the Shirishana and skills facilitated the acquisition of Western goods irrespective of sex or age. Status, therefore, became strongly dependent on achievement rather than the more traditional means of ascription. Hypothesis 6a, in the event that a primitive society adopts Western material goods, status by ascription will decrease and status by achievement will increase, was substantiated.

7. Status change

The trend from ascription to achievement provided higher status for a greater number of people. Young men acquired skills desirable to the Westerner and were rewarded with material goods, which meant higher status. Females became adept at bead work and were similarly rewarded. The researcher indicated that in 1972 Shirishana over 14 years of age earned the equivalent of $15.00 per capita. This is in obvious contrast to absence of earnings or the means to acquire Western goods in 1957. Most of the neighboring tribes still have
only minimal means of purchasing Western goods, other than by trade
with the Shirishana. Clothes were extremely scarce in neighboring
tribes but common to the Shirishana in 1972. This also increased the
status of the Shirishana.

Hypothesis 6b, in the event that Western goods became available
and highly desirable to a primitive people, higher status will be
afforded to a greater number of individuals, is substantiated.

C. Limitations of the Research

Though the researcher has spent a long period of time with the
population under investigation, a major portion of this time was spent
as a missionary. This orientation may have led to a greater degree of
subjectivity than if the writer were solely a social scientist. During
the time of the research in 1972 direct efforts were made to switch the
role from missionary to researcher. Though the writer feels this
transition was successful to a high degree, it is felt that a segment
of the population still perceived this foreigner in his previous role.

The measures taken by the researcher to avoid the "missionary
image" have been outlined in Chapter III. Two instances will serve to
illustrate the ambivalence in defining the researcher's role by the
Shirishana. Dancing has generally been discouraged by the missiona-
ries though no overt action has been made against such activity. On
several occasions during the field work the researcher danced in the
communal house in Shirishana style, much to the delight of the Shiri-
shana. One evening after dark the researcher entered the communal
house and found the women dancing. They stopped briefly to await the
researcher's reaction, but when nothing negative was forthcoming, they resumed the dancing. At this point the researcher tape recorded the dance tunes and played the music back to the Shirishanas, much to their delight. On another occasion, the researcher walked into the communal house about midnight to find a shaman performing his role as curer on an infant who had been sick for several weeks. The shaman expected the writer to condemn his activity as the resident missionary would undoubtedly have done. The researcher simply retired to his hammock which was located very near by. For approximately 15 minutes as the shaman squatted by the sick child's hammock, he verbalized his thoughts about the "intruder" by saying, "He must be angry .... In the morning he will ask why I quit witching .... I really don't think he is asleep." The young shaman did not resume his witchcraft that night and shortly, thereafter, retired to his hammock for the night. This is the only place where the researcher detected that his missionary association affected the interaction among the Shirishana, and this is not viewed as seriously affecting the research since medical practice was not the focus of the study. These illustrations serve to point out that the researcher was at times perceived in an ambivalent role. To the recollection of the researcher, there were no other instances of such questioning role perception. The data gathered, however, included topics generally considered taboo to the missionary, such as raids, local fights and sexual experiences, all of which were discussed without inhibition with the researcher.

Much of the data accumulated for the 1958-1967 period of time came by means of recall. Ideally the researcher would appreciate a
more reliable methodology, but in the circumstances it was impossible.

During the period of research in 1972, a portion of the population was working with Brazilians or visiting other Indian tribes. There were approximately four adults who were never seen and eight others who were seen only briefly. Data regarding sharing patterns might have been augmented if these members had been more accessible for the purposes of the research.

Some of the analysis was done in North America away from the population. Though some cross-checking was done by mail with the resident missionaries among the Shirishana after the field work, a second term in the field by the researcher would have facilitated some analysis of the research.

D. Further Areas of Study

Despite Western influence, the practice of bride service and payment have not been drastically changed. A study in approximately ten years may show considerable alterations in this practice.

Though polyandry was prevalent in 1958, the research indicated that it was almost non-existent in 1972. Further research could investigate this very sudden change. Polyandry is not found in the neighboring Yanomama tribes. A reconstructed ethnographic study is necessary to determine why the frequency of polyandry was so high before 1958. This study suggests that the high sex ratio and female infanticide before 1958 supported the practice of polyandry.

Other Yanomama tribes commonly practice polygyny, yet with the change of marriage form among the Shirishana, polygyny was rare in
1972. Are there social reasons for this change which are unlike other Yanomama? It is possible that the present pattern of monogamy will alter because couples are relatively young. The changed female status, on the other hand, may reinforce the change to the monogamous form of marriage. These areas require further research.

The research showed a significant change in the criteria of status, from ascription to achievement. This has already given the women increased status. Further research is necessary to determine this effect upon their role with husband, children, and the community. What effect, if any, will this have upon the population trends?

When social change is accepted by a society it is very likely that some individuals will find themselves alienated from the society because of an attraction to the novel culture. The study of the "marginal man" may yield some interesting information.

The Shirishana has rejected very few of the Western life ways. Given greater material means, the native would cement the floor of his house, ride a horse or bicycle, and use an outboard motor on his canoe. The life of the Westerner is generally perceived as much more acceptable than the native way of life. Should the Shirishana become fully acculturated to the Western way of life, he is not aware that he would be treated as a marginal man for a number of decades. He is not conscious of the fact that the strata of the "civilized" would be difficult to penetrate completely.

Some further research in perceptions of the Shirishana of Western society could prove to be fruitful. This study has reinforced for the researcher the importance of the ideological structure of a
Values are as fundamentally related to social change as are actual material items such as bows and arrows, cutlasses or beads. The aspiration and acquisition of material goods is associated. Ideology affects the adoption of "new" goods, but material goods also create new value orientations. Further research is necessary on the effects of Western goods on the values and attitudes of the Shirishana as well as resistance by the Shirishana to Western culture due to their value system. This research has dealt with the direct effect of Western material goods upon the social structure of the Shirishana. This focus invites a series of other related questions in terms of ideology. Some cultural characteristics must have existed to stimulate the strong desire the Shirishana had to obtain Western goods in the decades previous to 1958. Other tribes even when knowledgeable of Western goods have remained in isolation purposely. During the missionaries residence there was a general acceptance of many Western goods while a relative restraint existed toward his religious ideology. Despite the contact the social structure has not altered to any large degree. A study of these ideological factors would do much to help us understand existing behaviors as well as trends with relation to cultural contact.

E. "Applied Science" arising out of the Research

This study has shown that social stability can persist with the contact between Western and primitives. The contributing factors for the continuing equilibrium in the Shirishana were: its high degree of interdependence and mutual responsibilities, its openness to Western
goods, and the cautious avoidance of drastic cultural change by the change agent.

This study has also shown that primitive Western contacts are at times initiated by the primitive society (Chapter II). The Shirishana sought the knives and axes of Western man for two decades. The Western missionaries were initially accepted by the Shirishana in 1958 because of their possession of these goods.

Primitive peoples (and often Western peoples) are not knowledgeable of the effect of cross-cultural contact. Some effects are temporary and immediate. Other effects are gradual, more fundamental, and irreversible.

Because in some cases the primitive persists in making contact with the Western or the Westerner insists upon penetrating geographical regions held by indigenous people, it is imperative that the Westerner be prepared to take measures that will facilitate such contact. The utopian idea that isolated communities should be left alone, is unrealistic. Careful and methodical planning must accompany programs of cross-cultural contacts. Qualified personnel must be willing to spend more than two years to four years, characteristic of groups like the Peace Corps or officials in government or in international agencies.

During the researcher's field work experience, several observations of the Western missionaries' presence were noted. The missionaries had a commitment which was not short term.

They admitted to having a "spiritual work", but this concern involved many other facets of activity, generally foreign to typical
Westerners with academic or materialistic interest. The missionaries gave unrelentingly of their abilities and means in the dispensing of medicines. It is the opinion of this researcher that the Shirishana would have a maximum of 50 living people, the rest having died because of foreign epidemics, had medicines not been available. The present population is 185. Emergency medical cases were flown out to Boa Vista, Belem (1400 miles) or Rio de Janeiro (2600 miles). Two young Shirishana men have been trained to dispense medicines which includes the giving of antibiotics.

In some cases, attempts have been made to preserve the culture. (For similar efforts by the anthropologist among the Yanomama, see Ramos.) The language was reduced to writing and an intensive literacy program in the native language was initiated, aiding in the preservation of the culture. "Game days" encouraged marksmanship in archery. Guns and shot were restrictively traded to the extent that bows and arrows would not become extinct. Before men were able to acquire short pants, they were required to learn to weave the cassava squeezer, a skill fast becoming extinct.

When contact with Brazilians was increasing, the missionary taught the Shirishana some Portuguese, as well as elementary forms of arithmetic. Current plans include literacy classes for children and classes in hygiene for the women.

At the same time the culture has been modified due to the presence of the missionaries. Shamanism was almost extinguished between 1962 and 1966, but has since increasingly been practiced. Status has shifted from older men to younger men. The status of
women is increasing. Female infanticide is rarely practiced. The Christian ideology of the missionaries is encouraging a loyalty to God over the loyalty to the tribe, and to traditional practices. The exposure to Western ideas by the Brazilians and the missionaries has aroused a curiosity of other peoples and other lands, increasing the Shirishana's desire to travel.

The contact with Brazilians downstream has also affected the Shirishana. Because the Shirishana life style is very similar to that of the Brazilians living along the banks of the Mucajaí River, he is more susceptible to his life ways than to the missionary's life ways, which can be identified as middle class American. The Brazilian is dependent upon the soil and the forest, as is the Shirishana. The Brazilian plants the same crops as the Shirishana. Some Brazilian varieties of banana and manioc have been transplanted to Shirishana fields. Some Brazilian still use the bow and arrow. The settlers along the Mucajaí River have a minimum of possessions, which basically include a few garden tools, a few clothes, a canoe, and possibly a radio, but little else. The Shirishana were introduced to Western form of alcoholic drink, as well as prostitution by the Brazilian farmers and traders. They borrowed the style of mud wall house construction from the Brazilians.

Cultural borrowing from other Indian tribes has also been extensive. Some myths have been incorporated into the belief system of the Shirishana. Some forms of black magic have also been adopted. Festivities involving indigenous alcoholic beverages has become much more frequent. Duels using poles or cutlass blades to hit one another
on the chest have been adopted. The Shirishana are now using the methods of the Maiyongongs to construct canoes. They have also adopted a ventilation system in the roof of their houses similar to that of the Maiyongongs. (For an extended outline of cultural borrowing, see Appendix II.)

The research has focused upon social structural change due to Western goods. Alterations in the basic culture in terms of structure, values and order have been minimal, especially in terms of cooperation, and sharing and ownership patterns. On the other hand the practice of bride payment was increasing, replacing some bride service. Exogamous marriages were violating the traditional matrilocal rule of residence. The high frequency of polyandry has been replaced with the monogamous form of marriage. Achievement rather than ascription has proven to be an increasing means of gaining status. All these changes have resulted, at least in part, due to the adoption of Western goods into the Shirishana culture.

The Shirishana are changing. The contact with the missionaries, the Brazilian farmers and other tribes has led to cultural exchanges and alterations of their society. Their particular history of access to Western goods and a favored position relative to other tribes in this regard may lead these Shirishana to changes more rapidly than others. The ultimate outcome for this and other Yanomama tribes is not clear. It seems, however, that the trend is irreversible.
APPENDIX I

A. Ethnology (continued from Chapter II)

Appendix I will give additional ethnological information on the Shirishana culture regarding food and material. Food gathering and preparation will be treated under the general topic of garden foods, jungle foods and game, followed by sections on various aspects of material culture.

1. Food gathering
   a. Garden foods

   The staple foods of the Shirishana are manioc, meat and bananas. Whenever meat is served, it is always complemented with cassava bread made from the manioc root. Most other Yanomama serve bananas with meat.

   There are several varieties of both the bitter (manihot utilissima\(^1\)) and the sweet manioc (manihot aipi). Approximately one half of the field is planted in manioc. It is seeded by putting six to ten branches of manioc into a mound of soft dirt. Within a year, the plant is ready for harvest. The root of either type is gathered into baskets by the women, and then taken to the house in baskets where it is peeled, and then grated by means of stone slabs, or, more recently by imported grater boards. The mass is then pushed into the cassava

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Footnote: \(^1\)Latin names have been obtained from the work of Steward and Migliazza.

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squeezed (Figure 7) to extract the prussic acid which drips into a container below. The squeezed mass may be used immediately or stored in leaves for a period of a week. It is sifted, then sprinkled into a round skillet, and cooled in a manner similar to pancake making in Western societies. The resultant cake may be eaten immediately, or when it is dried in the sun, it may keep for as long as two weeks.

Sweet manioc may be eaten in two other ways. The root is peeled, boiled in water and eaten. The preparation and eating is much the same as Westerners' boiled potatoes. It may also be boiled, masticated by the women, spat into a container with water, and left to ferment. The alcoholic content is not high, but when large amounts are consumed at one time, drunkenness does occur.

The Shirishana have at least two varieties of plantains (Musa Paradisiaca), and six types of bananas (Musa Saprentum). Because of the recent contact with other groups, several new varieties have been added. Green bananas are rarely peeled and roasted on coals by the Shirishana, as is common with other Yanomama groups. Bananas are eaten raw, or they may be prepared as a cold or hot drink. The hot drink when left to ferment for more than 24 hours, can produce intoxication. Through cultural borrowing, fermented banana drink has become more common in the past three years. During a festivity, when bananas are eaten raw and as a drink, as many as one hundred stocks of bananas may be consumed in a matter of three days.

White or purple bell yams (dioscorea species or colocasia species) are grown in the fields. To plant yams the shoots are placed in a mound three feet in diameter with a teepee shaped, wooden frame-
work built above the mound, erected so that the growing vines will cling to this frame. Yams are either cooked and eaten or cooked and masticated by the women, and left to ferment in water to make a drink.

Giant purple yams (aracea species) sometimes weighing as much as 25 pounds each, are similarly planted. They are a little more fibrous in constitution and are cooked before eating.

The sweet potato (Impomoca Batatas) is planted in soft, moist soil and cooked before eating.

Sections of sugar cane one foot long are planted in mounds. Sugar cane serves as a supplementary food, which is peeled with the teeth, and then sucked and chewed. Upon occasion a press is used to extract sufficient liquid for a sweet drink. A mother may suck the cane, then spit it into a small gourd for the infant to drink.

Peach palm, papunha (Gulielma especiosa) is a starchy orange palm fruit smaller in size than a golf ball. The marble sized nut is planted in fields, but takes several years to produce. The fruit is cooked and the skin peeled before it is eaten.

A few plants of red pepper (Capsicum) are grown. They are picked, dried, and sometimes ground to a powder. This pepper is used to flavor broth, is sprinkled on cooked fish and meat, and occasionally on ripe bananas.

Other garden products which have been introduced since 1958, and are eaten by the Shirishana are papaya (carica papaya), pineapple (ananaz sativas), maize (Zea mays), squash (cucurbita species) and watermelon (citrullus vulgaris).
Other plants grown in the fields are cotton (Bromelicacea), gourds (lagenaria), tobacco (nicotiana tabacum) and the bixa tree (bixa orellana) which produces red seeds used as a paint for body decoration, and as a dye for cloth.

b. Jungle foods

The jungle fruit most frequently gathered is the purple palm fruit, bacaba (Oenecarpus bacaba and distichus). Bacaba is the size of a marble and is harvested November through January. A man climbs the tree to cut off the sheaves of fruit and drops them to the ground. He then picks the berries and puts them into a leaf basket. One tree may yield as much as four gallons of berries. After the berries are brought home, they are cooked in warm water, causing the fruit to soften and making it easy to separate the fruit from the seed. A liquid can be prepared by rubbing the seeds in water between the hands, thus separating the fruit from the seed. Often the liquid is used as a sop in which cassava bread may be dipped. Upon occasion it is used as a drink.

Apart from the bacaba just mentioned, there are three other types of palm fruit. Anaja (Maximiliana regia) is light brown in color, a little larger than a golf ball, grows in a cluster of some 40 seeds, and is eaten after being roasted.

The palm fruit asaí (Euterpe oleracea) is purple and oval in shape, and is sweeter and smaller than bacaba. It is eaten after being heated in warm water.

Burijí (Mauritia flexuosa and vinosa), the third variety of palm fruit, is larger than a golf ball, is purple-orange in color, and is
cooked before being eaten.

Hajuk, a sweet red berry the size of a pea is abundant in the jungle during the month of November. Branches of the tree are broken off and carried home. The berry is eaten raw.

The wild cashew (Anacardium occidentale) is much sweeter than the domesticated cashew fruit. The fruit is eaten raw and the nut is discarded.

Brazil nuts (Bertholletia excelsa) are eaten raw, and are sometimes rubbed over cassava bread to serve as a spread.

There are two types of sweet white pulpy food known as inga, which have black seeds and are found in pods either six or twelve inches in length. The white pulp around the seeds is eaten raw.

Cocoa (Theobroma cacao) is found occasionally. The white pulp is eaten and the seed and shell discarded. Upon occasion avocado (Persea americana) is also picked and eaten.

Honey known as "joi", is found high up on trees. The hives measure six feet in height and two and one half feet in width. A Shirishana climbs the tree, and when standing five feet below the hive opening he smokes out the bees. Then by means of an axe the complete hive is chopped and pieces of it fall to the ground, immediately being picked up and the honey eaten by the Indians below. When the honey is plentiful it is wrapped up in leaves, carried home and mixed with water to make a drink. Another variety of honey known as "oi" is found inside hollow trees and is generally not as large in quantity as is "joi".
c. Game

Meat is either roasted or boiled. When meat is butchered the blood is not necessarily washed off before the meat is placed into a clay or metal pot to cook. Smaller game and fish are sometimes wrapped in leaves and broiled in hot coals. Salt, when available from the Westerners, is used as seasoning on meat and other foods.

Hunting is often facilitated with the use of hunting dogs. Bows and arrows and now shot guns as well as fish lines and hooks are used to capture game. The Shirishana have the following hierarchical preference for meat; (1) tapir and peccary, (2) spider and howler monkey, (3) large fish, (4) other monkeys, large birds, or the paca, (5) medium sized fish, alligator and eel, (6) small birds and small fish, and other game.

The following game is shot in the jungle by the Shirishana:

- macaw parrot
- smaller parrot
- toucan
- partridge
- trumpeter
- guan (bush chicken)
- curassow (bush turkey)

Monkeys

- spider monkey

Footnote: For more detail on weapons see section in Appendix on material culture.
<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Howler monkey</td>
<td><em>Alouatta seniculus</em></td>
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<tr>
<td>Capuchin</td>
<td><em>Cebus appella</em></td>
</tr>
<tr>
<td>Woolly monkey</td>
<td><em>Lagothrix species</em></td>
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<tr>
<td>Larger game</td>
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<tr>
<td>Tapir</td>
<td><em>Tayassu tajacu</em></td>
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<tr>
<td>Collared peccary</td>
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</tr>
<tr>
<td>While-lipped peccary</td>
<td><em>Hydrochoerus hydrochaeris</em></td>
</tr>
<tr>
<td>Capybara</td>
<td><em>Cuniculus pacu</em></td>
</tr>
<tr>
<td>Paca</td>
<td></td>
</tr>
<tr>
<td>Armadilla</td>
<td><em>Folypeutes and dasypus</em></td>
</tr>
<tr>
<td>Agouti</td>
<td><em>Dasyprocta aguti</em></td>
</tr>
<tr>
<td>Deer</td>
<td><em>Mazama</em></td>
</tr>
<tr>
<td>Other large animals</td>
<td></td>
</tr>
<tr>
<td>Jaguar</td>
<td><em>Felis onca</em></td>
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<tr>
<td>Ocelot</td>
<td><em>Felis pardalis</em></td>
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<tr>
<td>Anteater (tamanu)</td>
<td><em>Bradypodidae Choloepus</em></td>
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<tr>
<td>Sloth</td>
<td><em>Constrictor</em></td>
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<tr>
<td>Boas</td>
<td><em>Eunectes</em></td>
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<td>Anaconda</td>
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<tr>
<td>Otter</td>
<td><em>Bteroneura braziliensis</em></td>
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<tr>
<td>Fish caught and eaten</td>
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<tr>
<td>Piranha</td>
<td><em>Serrasalmos species and pygocentrus species</em></td>
</tr>
<tr>
<td>Electric eel</td>
<td><em>Electrophorus</em></td>
</tr>
<tr>
<td>Sting ray</td>
<td><em>Dasyatidae</em></td>
</tr>
<tr>
<td>Mud fish (bodo)</td>
<td></td>
</tr>
</tbody>
</table>
pirapitinga (Port.)

traira   Macrodon species
paca     Mytelas species
matrinchao Characinus amazonicas
tucumaré Cichla species
mamori

2. Material culture and technology

a. Dwellings and shelters

There are three different dwellings used by the Shirishana, depending upon the specific intent of its use. The more permanent dwelling known as a "yano" (Figure 3) is a circular structure approximately eighty-five feet in diameter and two hundred and fifty feet in circumference, with a height of thirty-five feet. Twelve holes are dug in a circle, about twelve feet apart, and eighteen foot posts are placed into the holes. The tops of these posts are then joined together with horizontal beams. Sticks seven feet in height and two inches in thickness are then placed into the ground, eighteen inches apart around the entire circumference of the house. Longer sticks of similar thickness join the tops of these vertical sticks. All are

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FIGURE 3
PERMANENT DWELLING

FIGURE 4
TEMPORARY SHELTER

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tied with bush rope. Fifty foot peeled poles serve as roof joists. These poles are an inch thick on one end and two and one half inches on the other end. They are laid to rest at a $40^\circ$ angle on the horizontal beams, the butt end on the circumference of the construction, the center on the heavier beams and the tops joining together at the peak of the house. These long poles are spaced two feet apart at the base. A larger beam is now tied to the top of one of the heavier uprights inside the house, horizontally across the house to another upright, thus passing through the very center of the house.

The butt of a four inch diameter pole is then placed vertically in the center of the house elevated ten feet off the ground and there fastened to the already mentioned horizontal cross piece. The roof joists are fastened to the peak of this upright.

Bush rope, which is a vine growing wild in the forest, is gathered, peeled and split, and is now tied around each roof pole, going horizontally around the house. More of these horizontal lines of bush rope are tied, each being spaced about 8 inches from the line below it, until we reach the very top of the house. Cipa bush rope is similarly tied to the seven foot uprights around the circumference of the house. Leaves gathered in bundles, often at a distance of four miles, are woven into the bush rope of both the roof and the wall. The 8" stem of the leaf shaped like the tail of a dove, ubim (Port), is always folded inside and down, into the leaf in the rung below. Because these leaves would be readily blown away when woven at the very peak of the house, the four foot ends of palm tree leaves are closely woven into the peak. There is no opening for the escape

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of smoke.

There is but one door opening, 2½ feet by 5½ feet in size. An actual door never blocks the opening. Upright split palm slats line each side of the door passage for about 18 feet, toward the center of the house. This passage serves to keep the house dark, as well as assure some protection and privacy for the families dwelling on each side of the doorway. Apart from the door passage, there is no partition in the construction. The families locate themselves near the circumference of the house, tying their hammocks to upright house posts, and placing other 2½ inch posts into the ground in convenient places, on which to tie their hammocks. Palm slat shelves are generally attached to the walls, upon which the respective family members may place any of their personal items, such as cotton spindle and arrow tips. During the day, when more light is desired for arrow making, or the dressing of game, leaves in the wall are pushed aside to permit the light to penetrate. The large center area of the house is left vacant for dancing, trading, or smoking meat.

Upon occasion a similarly constructed house, though smaller and rectangular in shape, is built. A family or group of families, possibly varying between 12 and 25 people will reside in this "yano". The framework consists of two posts 15 feet high and 18 feet apart. A beam is placed on the top of these two, thus forming the top peak of the house. Four smaller six foot posts are dug into the ground as corner posts. Roof joists, one foot apart, are then tied in place, again with the butt end down. Leaves and bush rope are used as in the above. Walls are constructed similarly. The ends of the houses

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are constructed in a half circle. One small opening is left in the side wall which is covered with leaves to assure privacy, darkness, and some protection from the cold night air.

A third shelter, known as a "henahi" is readily constructed in an hour or two, and is used when travelling distances, when hunting, or when constructing a "yano" at a new location (Figure 4). The "henahi" is built in the shape of a triangle, with each side approximately five or six feet in length. If standing trees are appropriately located, no new post is set into the ground. A horizontal pole about nine feet in length is tied to two of the upright posts (or standing tree). Then two poles about nine feet in length are placed upon this cross piece, with the other ends tied at an incline of about 15° to the third corner post. Sticks are now placed in parallel fashion upon this incline and leaves placed upon the roof. The size and durability of the shelter will depend upon the number of people using it, and the length of its intended use. Wild banana leaves, as a roof, are adequate for a two or three night protection, while the dove shaped leaf, used in the "yano" is appropriate for lengthier stays.

b. The canoe

The preferred "canoe" wood may range in diameter from 15 to 30 inches. A tree is felled and the intended length peeled of its bark. Should the butt be checked or cracked, or rotten, this length is chopped off. The required length of the canoe is then estimated by squatting two, four, or the desired number of men on the log in
approximate sitting distance as in a real canoe.

The canoe length is generally between 18 to 24 feet in length. If available, axes, adzes and long-handled chisels shape the outside of the canoe. The canoe is then turned, and the inside is cut out, through the opening which is about 12 inches across. The walls of the canoe remain two inches in thickness, with the front somewhat thicker due to its future encounters with rocks in the river. The thickness is never accurate, but is only approximated by tapping the axe on the shell of the canoe. A wide trail is then cut to the bank of the stream or river, and the small trees laid across the trail, to facilitate the sliding of the canoe over the trail. Sticks may be placed crossways in the canoe to facilitate the men, women, and children who join to drag the canoe to the water's edge.

Dried palm leaves are now gathered, and bounded, then placed inside the canoe. The canoe is tilted to one side somewhat, and the leaves lit. The fire is fiercely fanned with green brushes, and the intense heat causes the wood to be pliable to expansion. Ten or twelve sticks two inches in diameter and 18 to 24 inches in length are firmly placed across the canoe to hold the wall further out. The canoe is then propped on the opposite side, and the process is repeated, with some sticks now placed directly across the opening.

Upon occasion the fire may burn a hole through the wood, in which case resin mixed with wood shavings or more recently, a piece of tin might serve as a patch. If the burned hole is of some substantial size, the canoe makers, in anger, may chop up the canoe, thereby totally destroying the labors of three men for two weeks.
c. Paddles

A crude $4\frac{1}{2}' \times 14'' \times 3''$ slab is cut from a standing white wooded tree with an axe. The slab is then reduced to a more appropriate size with a cutlass, and eventually carried home, where more carving with the cutlass, a knife and finally sand paper leaves give it its final form. The base of the paddle is semicircular in shape with a breadth of up to 13'' depending upon the strength of its user. The base is generally no more than 16 inches in length. The upper end is widened so as to place the hand perpendicular to the paddle. The shape of the upper handle may be about 5% off from the plane of the base of the paddle. The paddle is then designed with red or purple coloring and may be used by either male or female (Figure 5).

d. Fire making

Fire sticks are very rarely used, except on distant trips made by the men. In the house the fire is never extinguished, and when families travel into the forest, a female will carry a stick of fire. When fire is needed in the field, again a stick of fire will be taken from the house.

Every male over the age of twenty has his own fire sticks consisting of two pieces of wood, each $\frac{1}{2}''$ in thickness. One of the sticks is one foot in length, the other approximately 2 feet, both from the "wak" (fire) tree (Figure 6). When the fire is desired, dry shavings are made and placed close to some dry leaves. The shorter fire stick is placed upon the ground and held firm with the first and second toe. The longer stick is held vertically with the end placed
into a small notch of the horizontal stick. The longer stick is
twirled rapidly between the hands, while applying pressure. The hot
powder of the wood, created from this friction, is placed near the
dry shavings and leaves, and blown upon, thus producing a flame.

e. Cassava bread preparation

(i) Grater stones. Small rough slabs of granite rock generally
measuring about 6" x 9" are used for grating the bitter cassava.
These rocks have generally been found in some rocky area, and have
been used over a long period of time.

(ii) Container. A large brown leaf from the palm tree is sewn
up on the ends to form a container in which to place the ground
cassava. The container measures 4" x 4" x 12" and is also used to
store cotton, etc.

(iii) Cassava squeezer. Only four older men know how to weave
the sturdy reed squeezer which measures seven feet in length and six
inches in diameter (Figure 7). The reed is gathered from a ten foot
plant in the jungle, is carried home, then woven on the flat ground.
The reeds which have already been woven into position are squatted
upon, being held in place with the bare feet. Sufficient lengths of
reed are left at the two ends, so that strong loops can be woven.

To use the cassava squeezer, the grated bitter cassava mush is
pushed into the top of the squeezer, the latter having been pushed
together accordion fashion, to allow more room for the operation.
A plug of wood or of leaves has been placed into the bottom of the
squeezer. Then the upper loop is hooked upon a wooden horizontal
pole specially mounted seven feet off the ground for that purpose, while the lower loop is penetrated with a seven foot pole, the one end being held secure with bush rope secured to a vertical post standing parallel to the hanging squeezer (Figure 7). A woman sits upon the extended part of the lever, thus forcing the squeezer to become more taut and the liquid which is poisonous to drip down into the clay pot at the base of the squeezer. After about 25 minutes of this operation, the squeezer is lifted from the hook, is pushed together accordion fashion and the white cylinder extracted being broken up into 7 to 9 inch pieces. It is either wrapped in leaves awaiting the final cooking process, or soon rubbed to a coarse powder, then strained through a reed sieve approximately 15 inches square, then spread one inch thick upon a clay skillet, and packed down firmly with the hand. Periodically it is shifted, then turned over to avoid any burning. The cassava may be eaten in these flat cakes or broken into smaller pieces and made into a drink with water.

f. Tools

(i) Gardening tools

A stick about five feet in length is carved from the black palm tree for use as a tool to loosen the soil for planting. The stick is somewhat flattened, measuring one inch at the top and two inches in the width at the base where it has a blunt point. Men who are over 35 years of age often use this gardening tool, while younger men hunt.

(ii) Field tools

The writer was informed that sharp pieces of stone had been
attached to sticks by means of bush rope, and were used as axes. These were used in the lifetime of men who were approximately 40 years of age at the time of inquiry.

Three axe heads and several cutlasses were being used by the Shirishana at the time of the 1958 contact. These implements had been stolen from Macus or Maiyongongs in raids and killings 28 years previously, or been received as gifts from the boundary commission before 1950 (Chapter I).

(iii) General tools

The lower long tooth of the agouti is attached to a six-inch stick by means of a sisal string and resin. This tool is used for arrow point construction, particularly that of the jaguar arrow point.

g. Cotton and the manufacture of cotton goods

The spindle used for spinning cotton consists of a ten-inch sliver of wood, the thickness of a match. A three inch diameter piece of gourd is fixed four inches from the base with tree sap. Another short sliver of wood is attached with tree sap to the top of the spindle, in the form of a hook.

The cotton, grown in their fields, is picked by the women, dried in the sun or over the fire, then torn by hand from the black seed, and loosened, or fluffed, doughnut size, spiralled around a two-foot stick. When the woman is about to begin spinning, the fluff is wrapped around the woman's left arm. One end is then attached to the hook on the spindle (Figure 8), and the fluff lengthened to a string-like appearance. The spindle is set into a spinning motion, either
FIGURE 8
SPINDLE FOR SPINNING COTTON

FIGURE 9
HAMMOCK MAKING

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by twisting the bottom end of the stick with the thumb and middle finger of the right hand, or by rubbing the spindle with the hand against the thigh. The cotton fluff is pulled with the left hand and lumps of cotton are removed, or stretched, to become cotton string of equal thickness, by the right hand. When it appears to be uniform, the string is rolled onto the spindle, the end of the spun string being hooked onto the hook on the top of the spindle. The process is then repeated. Cotton may be spun to the preferred thickness, depending upon its purpose, for hammock, apron, or loin cloth. The women do the spinning at any time when they are not actively engaged in other endeavors.

(i) Hammock making

Two poles of one and one half inch thickness and 4 feet in length are placed into the ground at distances depending upon the desired length of the hammock (Figure 9). Another smaller pole is tied to the tops of these poles, to secure the uprights. Coarse cotton is wrapped horizontally around the two upright poles, gradually working up to the desired width. Four strands of cotton are then attached to the horizontal strand, and, taking two strands together, are woven in and out of the horizontal strands. The vertical strands are woven six or eight inches apart. The hammock is then taken from the framework. Ten or fifteen loops at the ends of the hammock are bunched together, and a cord of cotton or jute tied to these series of loops. This gives more spread to the hammock. These smaller cords are then tied to one stronger jute cord, which, in turn, is used to secure the hammock to the post in the house. All weaving
is done by the women.

(ii) Men's clothing

(a) The waist band

The same procedure is used in making the waist band, which every male over eight years of age wears. In this case, the cotton is much finer, and the vertical weaving strings number only two, woven at less than two-inch intervals. The length of the frame is dependent upon the waist of the male, which has been previously measured with a piece of bush rope, and the width of the band varies from three to five inches, depending upon the age of the male. The waist band often serves as a "pocket" in which to deposit or hold fish hooks, matches, tobacco or a knife or cutlass.

(b) Loin cloth making

The framework for the loin cloth consists of a rectangle one foot in width and six feet in length, depending upon the size of the intended user, and is worked when leaned against an object at a 60° incline (Figure 10). The cotton is wrapped from end to end, around the one foot sticks. Another strand which has been wrapped in a ball about the size of a golf ball is then taken and woven in and out of the vertical cotton. When a length of about twelve inches has been completed, the lower stick of the frame is loosened, split in half, and the woven cloth end tucked in this slit. The stick is then tied to the vertical sticks closer to the area of actual weaving in order that the lengthy cotton will again be taut. Upon completion, small balls of cotton the size of one's finger nail are tied to each of the four corners, then two strands 12 inches in length

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FIGURE 10
FRAME FOR LOIN CLOTH

FIGURE 11
FRAME FOR APRON

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are left hanging from each corner. Colorful toucan feathers are sometimes tied to the corners of the cloth for further adornment.

The loin cloth is worn by all men and boys about six years of age and up, with an even end of the cloth hanging in front and behind. The loin cloth is never wrapped around the waist since the waist band holds it in position. When the loin cloth length is unduly long for working or hunting purposes, the ends are tucked under the waist band.

(iii) Women's clothing

Apron making

A three foot stick is bent into a semi-circle, and the ends tied onto a sixteen inch stick (Figure 11). This size is generally for an adult, and would be appreciably smaller for a girl. Strands of fine cotton are secured across the arch in a horizontal fashion. Then, numerous strands are attached to the above, and around to the lower straight stick of the frame. The weaving is done until the desired length of the apron has been achieved. The lower two corners are left with several eight or nine-inch hanging strands of cotton. The other strands of cotton are cut leaving a one-inch fringe below the woven area. The apron is then colored red with berries. All females over four years of age always wear aprons. The apron is held in place with approximately twenty strands of cotton around the thigh. When black beads from the fields are available, these are woven around the thigh. More recently imported blue beads are threaded on about ten strands and worn around the waist.

Since beads have been introduced the aprons have become two inches wider and three inches longer than the conventional three by
nine inch apron previously worn. The frame is similarly constructed, though the vertical cotton strings are tied in groups of eight strands to the straight stick. These strands are woven into the double stranded and already beaded horizontal cotton. One strand is pulled between each bead. Again, a fringe and tassles, often decorated with more beads or feathers, are made on the apron.

h. Rope

In appearance, the sisal plant is similar to the pineapple plant. The leaves are cut at the base, and a knife is used to remove the thorns along the edge of the leaf. One leaf is tied loosely around a two or three inch diameter tree, and the other leaves are forcefully pulled through the loop to remove the green pulp from the actual strands. The leaf must be pulled with great vigor, and one end is often wrapped around one three-inch stick, which is placed in the hand, for a better grasp. The threads are then rolled between the right hand and leg, thus forming a strand. It can now be used for a bow string or the rope of a hammock. Sometimes three strands are braided and used as canoe ties.

i. The bow

The bow ranges in length from three feet, for a boy, to nine feet for the young adult. Likewise, its width varies from one-half inch to 1½ inches. Rarely is the palm tree "rasha" used for a bow, as in neighboring tribes. More frequently the "shuknahi" (bow) tree is used, and the native may walk ten miles to cut a ten-foot length and four-inch thick piece from a standing tree or log. He will then use
his cutlass to make the crude piece smaller, then use the teeth of the lower jaw of the bush hog to smooth the surface. It will take a man two long days to complete the making of a bow. The cross-section of the bow is a semi-circle, with the flat surface facing the target. Sisal string is looped over both ends. Before actual use, the string is twisted several times to make the string taut. Besides the customary use of the bow and arrow, the bow end may be used to stab snakes or jaguars.

j. Arrows and arrow tips

The eight foot arrow cane is cut from an old field, and dried in the sun or over the fire. Care is taken that the cane is not warped during this process. The pulp in the top end is pushed in with a blunt ended, six-inch peg, a heavy string wrapped around the end, and rolled to produce a more flexible end which will not split (Figure 12). The peg is then indented in the end, in which the bow string will be placed for shooting purposes. Split wing feathers of the marudi, vulture or bush turkey are bound to the arrow -- bound in four different locations of the feather. Small yellow or red toucan feathers are placed in this cotton string binding. The string is then coated with a resin. An arrow point is placed in the other end and bound with cotton or sisal string, and finally coated with resin. The blade is one to three inches in width, 6 to 12 inches in length, and is used for tiger, bush hog and taper (Figure 13a). The arrow tip used for small birds and fish is approximately eight inches long. Barbs are nicked with a knife (Figure 13b). The arrow tip used for monkey
FIGURE 12
NOCKING THE ARROW

FIGURE 13a
BAMBOO ARROW POINT

FIGURE 13b
ARROW POINT FOR SMALL FISH

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is eight to sixteen inches long, and covered with poison. Just before it is shot, it is often nicked with a knife four inches from the end. When the monkey is hit, the arrow tip will break off, and remain in the monkey. These points are carefully wrapped at all times (Figure 13c). The arrow tip most frequently used for large birds and fish is generally eight inches long, with a one-inch bone point tip. The bone is made from the leg of a bush hog, monkey, or sometimes from the rib of a taper (Figure 13d). The arrow tip used to stun small birds, in order to capture them is five inches in length and has a knot of several branches at its tip (Figure 13e).

Because of the abundance of arrow cane, the hunter generally takes ten arrows with him on a hunt. Arrow tips are rarely changed from one arrow to another. The choice of kinds of arrow taken on the hunt will be governed by the season of the year and the region in which the hunter will be hunting.

k. Spears

A thin black spear made from the palm tree, and measuring between five and seven feet in length is used to spear fish, or upon occasion, boar and jaguar. The spear is not meant to leave the hand. The blade is between seven and twelve inches in length and the head end has a flare. Red and yellow toucan feathers are decoratively wrapped around the base of the blade and the top end of the spear.

l. Pottery

The highly valued clay used in pottery is generally found in creeks. The clay is rolled between the two hands by the women to a
FIGURE 13c
POISONOUS ARROW POINT

FIGURE 13d
BONE-BARBED ARROW POINT

FIGURE 13e
"KNOTTED" ARROW POINT
diameter of one-half inch. With an approximate 12-inch length, the base of the pot is made by beginning at the center and working outward. When the desired circumference has been made, the women will circulate the roll of clay to form the walls of the pot. The crevices between the rolls are smoothed over with the fingers and the palm of the hand. In hot weather, the pot is left in the sun to dry and harden. Otherwise, it is placed near the fire. For several days the pot will be periodically rubbed with a flint rock to ensure a smooth surface. The pots range in diameter from 9 to 16 inches. They are thick, heavy, crude and not symmetrical. These fragile heavy pots are seldom carried on trips. Some improvements upon pottery making have taken place since making contact with the Apiau Waicas to the southeast. The U-shaped pots are used for cooking purposes.

Bake stones are also made from clay, and measure almost 24 inches in diameter. They are constructed from rolled clay, and are flat. They are used to bake cassava bread.

**m. Vessels**

**Gourds**

Gourds are generally found near the environs of abandoned houses. Large gourds may hold two gallons of water and are used for carrying water and water storage in the house. Only women make and use the gourd. A green gourd is picked, and a hole made into the shell on the neck of the gourd (Figure 14). By means of some sharp object such as a spoon, knife or bamboo stick, the pulp and seeds are loosened and extracted.
FIGURE 14
GOURD FOR CARRYING WATER

FIGURE 15
BONE FLUTE
through the 1-1¼ inch hole. The gourd is then rinsed and used. A string is often looped through the tip to facilitate carrying.

Gourds about the size of a cup are similarly prepared and used to store the ashes of the deceased.

Gourds of all sizes are cut in half and used as cups, dippers, or containers for bread, cotton and so on.

n. Musical instruments

The most common of the three flutes used is the one made from the hind lower leg of a deer (Figure 15). Three holes are burned into the bone at one inch intervals and a semi-circle burned in at the mouth piece. The flute is played by holding the bone to the mouth with the bone at a decline of 45 degrees.

The bamboo flute is approximately 16 inches in length and 1½ inches in diameter (Figure 16). Two to four holes are burned into the bamboo in a row and a semi-circle burned in at the mouth piece.

At times a five or six foot hollow bamboo rod is used. It measures about 1½ inches in diameter and has a natural joint in the center. A hole is burned into each section near the joint, a leaf wrapped around this division, and then the leaf is tied. The shrill sound produced by blowing directly into one end increases as increased air is forced into the end of the flute.

On the first two flutes described, the Shirishana produce three notes in minor thirds. Native songs are played by the young men in the evenings while resting in their hammocks. To announce their homecoming, hunters and kinsmen will play the bone flute when nearing the
village.

o. Baskets

Bush rope gathered from the jungle is peeled, then split. The women who do the weaving will place some 12 strands in star-like fashion on the ground, then weave other strands around them in a circular fashion (Figure 17). Other strands are added in the straight position as necessary. The basket will be U-shaped, capable of holding a little more than a bushel. A large sling made of bark is attached to the basket and is slung around a woman's forehead while the basket hangs against her back. The basket is used by the women for a variety of purposes such as carrying manioc root, sugar cane, potatoes, yams and fire wood.
APPENDIX II

A. Cultural Borrowing Among the Shirishana Since 1958

<table>
<thead>
<tr>
<th>Material Items</th>
<th>Clothing</th>
</tr>
</thead>
<tbody>
<tr>
<td>adze</td>
<td>mirror</td>
</tr>
<tr>
<td>axes</td>
<td>nails</td>
</tr>
<tr>
<td>beads</td>
<td>radio</td>
</tr>
<tr>
<td>blankets</td>
<td>scissors</td>
</tr>
<tr>
<td>combs</td>
<td>skillets</td>
</tr>
<tr>
<td>cutlasses</td>
<td>soap</td>
</tr>
<tr>
<td>fiberglass bows</td>
<td>watch</td>
</tr>
<tr>
<td>fish hooks</td>
<td>wire</td>
</tr>
<tr>
<td>fish lines</td>
<td></td>
</tr>
<tr>
<td>flashlights</td>
<td></td>
</tr>
<tr>
<td>face</td>
<td>blouses</td>
</tr>
<tr>
<td>grater board</td>
<td>cloth for loin cloth</td>
</tr>
<tr>
<td>hammer</td>
<td>dresses</td>
</tr>
<tr>
<td>hammocks (Brazilian made)</td>
<td>needles</td>
</tr>
<tr>
<td>kerosene</td>
<td>shirts</td>
</tr>
<tr>
<td>kerosene lamps</td>
<td>shoes</td>
</tr>
<tr>
<td>knives</td>
<td>skirts</td>
</tr>
<tr>
<td>matches</td>
<td>straw hats</td>
</tr>
<tr>
<td>medicines</td>
<td>swim trunks used as short pants</td>
</tr>
<tr>
<td>medicines</td>
<td>thread</td>
</tr>
<tr>
<td>metal pots</td>
<td>trousers</td>
</tr>
</tbody>
</table>

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Food
beans
corn*
oil
papaya*
 pineapple*
pumpkin*
other varieties of bananas*

Crafts
1. mud walls in the construction of houses
2. the use of windows on the roof for ventilation and light
3. separate room extension on house for storing possessions
4. basket making
5. a better canoe due to better tools and slow firing of the canoe
6. bead work on aprons, as well as the making of necklaces
7. Western hair styles
8. fish by means of hook and line

Ideological
1. violation of the taboo on eating deer meat
2. violation of some hunting taboos
3. acceptance of medicines
4. magical charms as necklaces

* grown in their fields
B. Glossary

amij - sister or female parallel cousin

anntas bak - people of the amnas place

awoj - brother or male parallel cousin, usually older

baje - father or paternal uncle

betasi - wife, and occasionally used by a male for his sister-in-law

bisiai - female dog but often used for female human at birth and occasionally for wife

bora - falls or rapids

bore - black spirits which are like a cougar in appearance, seeks to capture the relatives of the deceased

hajuk - type of small red jungle berry

hekula - spirits of animal considered wild and dangerous

henahi - temporary triangular dwellings

jabe - mother-in-law, paternal aunts

joi - honey

kanaiama - small spirits similar to a human in form, they attack man or dog causing toothaches

kasalapai bak - long lipped people

lish - one's complementary spirit

-mubo - suffix in kinship terminology, establishing consanguineous relations with a non-consanguine member

naba - someone who has taken "civilized" manner of life

nihbolep - soul of human being

oi - honey

okanap - small spirit similar to a humming bird which causes death by choking
sama - younger one
shwaje - father-in-law, or maternal uncle
tabosi - a fine skinned sheef from a palm tree used as a container
-theili - suffix meaning people in Yanomama dialect
tuosh - younger sister
ulu - child
wak - fire
wanima - cross cousin, or if of the opposite sex, one with whom you may have coitus
yaloho - husband
yano - permanent dwelling
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