

TIME ODYSSEY IN PUERTO INCA

Economic, Kinship and Cosmological Modes of
Exchange in a Community of the Peruvian Rain Forest

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Logic is doubtless unshakeable,
but it cannot withstand a man
who wants to go on living.

Kafka, The Trial.

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ABSTRACT OF THESIS

This research aims at reaching those basic structural principles which preside over the synchronic and diachronic formation of various systems of exchange within a mestizo community of the Peruvian rain forest. Social structure is here defined as a total communication system comprising various transactional subsystems the formation of which rests upon the logical-dichotomizing organization of social reality. Hence the diacritic ordering of economic, kinship, and cosmological forms of reciprocity: their function lies in the logical distance which separates them from, and binds them with, other homologous and complementary values and systems of exchange.

The first chapters deal with the local processes of production and distribution of commodities. It is argued that the observed economic stratification stems not from a sectorial duality of forces, relations, and rationalities of production (swidden agriculture v. lumbering-and-commerce), but rather from that structure of dualities which underlies the circulation of exchange-values. An attempt is made to clarify the ambiguous concept "economic" and to offer a theoretical bridge linking economic exchanges to other forms of societal transaction.

Kinship alliances are examined firstly from the point of view of the concentric ordering of residential divisions, and of their economic correlates. This is followed by a detailed analysis of household units and village kindreds, of the interpenetration of economic and kinship solidarities, and of the structure and function of ritual co-parenthood (compadriazgo).

Puerto Inca's cosmological mode of exchange involves the primitive-like practices of herbal healing (vegetalismo) and witchcraft (brujería). Yet Puerto Inca dwellers also adhere to the modern myths of Science, Progress and Catholicism, and define the resulting duality of beliefs as the outcome of the March of Progress against Tradition. This discussion ends with a brief study of the functional relationships that exist between this "modern" symbolism and the coexisting circulation of both commodities and women.

INTRODUCTION

This anthropological research does not aim at giving a quasi-exhaustive description of a specific subsystem within a given society, nor does it offer a cross-cultural comparative study leading to the production of a kinship, economic or political scheme of classification. It aims rather at reaching those basic structural principles which underly the formation of various interconnected systems of exchange within a community of the Peruvian rain forest. I do not wish to question the usefulness of cross-cultural or intra-cultural analyses of single institutions, and to suggest that anthropology should deal mostly with the study of social structures. But I do object to anthropology's present tendency to fragment into various sub-disciplines and to end up with a piece-meal understanding of a Culture or of Culture itself. The comprehension of various institutional parts is not cumulative and does not automatically contribute to an a posteriori comprehension of the whole. Social sciences cannot of course refrain from postulating the existence of a certain tendency towards systemic closure within social reality, and therefore from making use of the indispensable ceteris paribus assumption. Yet it is also in pursuance of the latter scientific procedures that we are compelled to investigate those systematic connections that exist between various institutions within a given historical and cultural context.

Although quite familiar to the anthropological tradition, the notion of an overall social structure is presently not so fashionable. And quite understandably so, for it has often led anthropologists to undertake the impossible task of describing all aspects of a given society, to over-emphasize the uniqueness and incomparability of all Cultures, to advocate the structural priority (or greater causal weight) of one institution over all others, or to view Society as the agglomeration of fundamentally

distinct sets of sociological laws. However, it is my contention that a sociological expansion of structuralism can offer an alternative to the latter anthropological perspectives. Social structure can thus be defined as a total communication system or an overall mode of exchange comprising various transactional subsystems the formation of which rests upon the logical-dichotomizing organization (and not just "representation") of social reality. Hence the diacritic ordering of values and systems of exchange: their function lies in the logical distance which separates them from, and binds them with, other homologous and complementary values and systems of exchange.

This socio-logical interpretation of any mode of exchange, whether it be Culture, a Culture or a cultural subsystem, must oscillate between two basic principles: that of structural homology between parts and whole (and consequently between parts themselves), and that of structural complementarity between parts. The attempt to apply this methodology to the understanding of the social structure of a Peruvian community will be reasserted within each part of this threefold research: economic, kinship and cosmological modes of exchange will be seen as homologous structures the differentiation of which rests upon their mutual complementarities. Puerto Inca's overall social structure will be itself "explained" not only in terms of its similarity with a wider system of transactions, but also in terms of its contradistinctive position within this wider mode of exchange.

The study of Puerto Inca's economic mode of exchange begins with Chapter 1's description of the local processes of production and distribution of commodities. As argued in Chapter 2, the observed economic stratification stems not from a sectorial duality of forces and relations of production, but rather from a structure of economic

dualities which is concomitant to the production of "exchange-values". Chapter 3 seeks to clarify the ambiguous concept "economic", and offers a theoretical bridge linking economic exchanges to other societal transactions.

Puerto Inca's kinship mode of exchange is tackled firstly with an analysis of the concentric ordering (synchronic and diachronic) of local and regional space divisions, and of its economic correlates. This is followed, in Chapter 5, by a detailed analysis of household units and village kindreds, both of which are regulated by a combination of kinship and economic solidarities. Chapter 6 brings together the foregoing analyses by showing that residential, occupational and genealogical boundaries tend to coincide (again in both synchronic and diachronic terms), and that this general congruence is to be explained in terms of a structured interpenetration of both kinship and economic phenomena. The ensuing findings will facilitate our understanding, in Chapter 7, of the structure and function of ritual kinship alliances (compadrinazgo).

The primitive-like practices of vegetalismo (herbal healing) and brujería (sorcery and witchcraft) will be examined in Chapters 8 and 9, respectively; I shall point out, in Chapter 10, that Puerto Inca dwellers do also adhere to the "modern" myths of Catholicism, Science and Progress. However, I shall avoid resorting to a syncretistic explanation of the observed mode of cosmological exchange, and shall stress the fact that the observed duality of beliefs and values is itself understood (by Puerto Inca dwellers) as the outcome of the March of Progress against Tradition and the forces of the Past. This discussion will end with a brief study of the functional relationships that exist between this overall symbolism and the economic and kinship modes of exchange in Puerto Inca.

PART 1

ECONOMIC MODE OF EXCHANGE

CHAPTER 1: PRODUCTION AND DISTRIBUTION OF COMMODITIES

The economic activities of rural dwellers of the Peruvian rain forest usually comprise slash-and-burn agriculture, fishing, hunting and gathering, as well as gold extraction, lumbering and commerce. The purpose of this chapter is to give a general description of such activities and of the observed distribution of active population by economic sector, and to analyse the corresponding stratified allocation of both products and factors of production.

1. ECONOMIC PRODUCTION

A. Agriculture, Hunting and Fishing

1) Agricultural Production

Although tropical rain forest ecologies usually lend themselves to highly diversified agricultural productions, Puerto Inca's farming activities are restricted to the cultivation of a few versatile staple foods. A detailed study of the agricultural output of about 1/3 of the farming population of the community reveals, as shown in Table 1, that 42.5% and 22.5% of all cultivated plots are allocated respectively to the production of banana and manioc. Rice and corn account for another 27%, and only 8% of all cultivated plots (excluding pasture land) is devoted to cultivates other than bananas (101 Ha), manioc (54 Ha), rice (32 Ha), or corn (32 Ha).

Food-plants	Estimated Area of Cultivated Land (Ha)	% of Total Area of Cultivated Land	Estimated Average Production per Ha per Year (Metric Ton)	Local Market Prices (soles)
Bananas	101 Ha	42.5%	8 to 12 M.T.; or 200 to 500 stems	\$20 to \$35 per stem
Manioc	54 Ha	22.5%	2 M.T. of flour; or 500 <u>paneros</u> , i.e. 22.5 M.T. of roots	\$9 to \$10 per kilo of flour; \$30 to \$45 per <u>panero</u>
Rice	32 Ha	13.5%	1 to 2 M.T. with husk (30% reduction of weight if husked)	\$5 per kilo, with husk; \$9 per kilo, if husked
Corn	32 Ha (13 by Coop.)	13.5%	2000 to 3000 ears; 1 M.T. of grain corn	\$50 per 100 ears; \$4 per kilo of grain corn
Sugar-cane	7 Ha	3.0%	(No data)	\$1 per cane
Beans	5 Ha	2.0%	300 to 400 kilos (few cases however)	\$16 per kilo
Fruits	7 Ha	3.0%		
Total	238 Ha	100.0%		

Table 1: Agricultural Production in Puerto Inca (estimated figures based on a sample study of 38 farming units, or 1/3 of the swidden farming population of Puerto Inca) ¹

1. A general survey of land use in Puerto Inca was carried out by a governmental officer, and the results were almost identical to mine with respect to banana production (41.4%) and to sugar-cane, bean and fruit production (6.6%). The report estimated however that only 9.8% of all plots were allocated to manioc, a figure which considerably underestimates the importance of manioc as a vital staple food among small farmers of the Pachites Valley. As for corn and rice, the corresponding figures were 4.8% and 24.3%, compared to my 13.5% for both cases. Such discrepancies stem perhaps from the technician's lack of sufficient data and his explicit desire to promote cooperative rice farming.

Very few farmers have sufficient means to undertake large-scale animal farming for commercial purposes. Seven farmers, each owning from 10 to 15 head, are engaged in small-scale cattle-raising. Only two residents of Puerto Inca raise more than 100 head of cattle. One hectare of pasture usually supports two head, and the total area under pasture amounts to approximately 175 Ha. Milk production is almost negligible, and cattle-raising is exclusively oriented towards meat production; a kilo of meat sells for 45 soles at the local market.

Most farmers raise chickens, usually from 10 to 40 birds, with an average of 23 birds per farmer. They are however inadequately fed and their productivity is quite low. Only four to five individuals raise more than 40 chickens for commercial purposes, but with little success; one chicken is priced between 100 and 120 soles. A few ducks and turkeys are occasionally kept for family consumption. Pigs are also raised, but again their population is relatively low, i.e. less than 500; pork meat sells for 35 soles per kilo.

2) Slash-and-burn Techniques and Labour Requirements

The general features of slash-and-burn or swidden agriculture have already been described by agronomists and anthropologists. However, ecological and socio-economic variations give rise to significant differences in labour, technical and technological requirements. Puerto Inca's own version of swidden farming is given in the following summary.

Size and Location of Plot ("Chacra"): Puerto Inca farming households cultivate plots of an average size of two hectares. This figure varies from one household unit to another, yet it rarely goes under one hectare or above four. As for the location of the plot, revealed preference is determined by three factors: its distance from the village, its distance

from rivers or from forest trails, and the general quality of the land to be cleared. Farmers prefer to have their plot either at a walking distance from the village, or along the river (Pachitea, Zúngaro or Pintuyacu Rivers), usually less than an hour away by boat. The quality of the land is also important: although river banks are more fertile, the plot should not be endangered by possible river floods. Farmers also avoid recultivating young purmas or plots which have been left abandoned for less than 10 years and which have been invaded by weeds and luxuriant secondary vegetation.

These latter requirements are easily satisfied, since land is not yet a scarce resource in the Pachitea Valley. Only 238 hectares are presently cultivated by Puerto Inca swidden farmers, and another 175 hectares by cattle-raisers, giving a total of 413 Ha (estimated figures).

Bush Clearing ("Rozo"): The first step consists in cutting with a machete all shrubs, lianas, bushy vegetation, and small trees less than two meters high. This initial bush-clearing greatly facilitates the second step, tree felling, for it enables trees to fall freely to the ground.

One hectare of virgin forest land - including old purma plots which have been abandoned for more than ten years and which have been reclaimed by the forest ecology - can thus be cleared in 15 days by one man; a recently abandoned plot or young purma chacra will require one or two days less. Whatever the cultivate may be, bush-clearing is usually done at the beginning of the dry season, in May or June, in order to facilitate the subsequent drying and burning of the felled vegetation.

Tree Clearing ("Tumbada"): All large trees are cut with an axe, or with a chainsaw in the case of the few who can afford to own or rent

one. Trees with a diameter of less than 1.5 meter are the first to be felled. As for larger trees, a triangular wooden scaffold called barbacoa must be built on one side of the tree in order to make a cut above the stump, a useful time-saving technique since the stump is usually larger than the trunk itself. A cut is made half way through, and using the same barbacoa technique, another smaller cut is made on the opposite side. If two men are working together, a large triangular scaffold is built around the tree so that both men can work simultaneously on opposite sides of the trunk.

The tree-felling of one hectare usually requires 20 days of work for one man if it is virgin or old purma land, and 8 days if it is a one year or two year old purma plot.

Cutting Branches ("Pica" or "Pachqueo"): Branches which impede trees from falling completely must also be cut. This operation, called the pica or pachqueo, is done with the machete or the axe. Stumps are left untouched as well as everything which does not rise above one meter from the soil. A thorough pica, apart from allowing easier movement and more space for cultivation, will considerably accelerate the drying process needed for a successful burning of the felled vegetation.

One hectare of virgin forest or old purma can thus be cleared by one man in about 8 days, and in one or two days less if it is a young purma plot.

Clearing ("Despejo"): The three preceding operations can be replaced by a single task if the plot has already been cleared a year or two earlier and has just produced a harvest. This despejo clearing involves cutting down all branches and stems of whatever has been recently harvested.

If the plot in question used to be a purma before it was cleared

and cultivated, the despejo of one hectare will take one man 15 days to clear. If it used to be virgin land or a very old purma, then 10 to 12 days are sufficient. Again this type of clearing takes place at the beginning of the dry summer season so that both the drying and burning processes may be carried out successfully.

Drying ("Seca"): The subsequent task is left to Nature while the farmer busies himself with other activities. All felled vegetation is left to dry for more or less one month, preferably at the height of the dry season (June to August). The minimal drying period, consisting of two weeks of hot sun and three consecutive days of dry and sunny weather, must precede the next step, burning, or the quema.

Burning ("Quema"): Burning the cleared plot is a simple matter, it is just a question of waiting for the appropriate weather, a dry day with a fair wind. It is started at noon, and half a day will suffice for one man to burn the whole plot.

Piling of Debris ("Junta"): However simple the burning operation may be, it is often incomplete as a result of insufficient drying and/or branch-clearing (pica). It is then necessary to stack the remaining debris and burn them as soon as they have dried satisfactorily. Piling these materials for second burnings requires the same amount of labour as does the pica clearing.

Planting ("Siembra"): The quema is soon followed by the siembra or planting which is usually done in August, September or even in October, at the beginning of the rainy season. The increase in rainfall and humidity contributes to the successful germination of seeds. Manioc is more resistant to dry conditions and can be planted sooner.

It takes 10 to 12 man-day labour units to plant one hectare of rice,

sugar-cane, manioc, or corn; platanales (banana plantations) and porotales (bean gardens) require respectively 20 and 8 man-day labour units per hectare.

Weed Clearing ("Cultivo" or "Wactapeo"): After a few weeks, fast growing weeds must be cut to reduce unnecessary competition between food plants and other vegetation. The task is known as a cultivo, which is a very thorough cutting of weeds, or a more superficial and less time-consuming wactapeo.

The rice cultivo requires more labour input since rice seeds are planted at relatively close intervals, thus producing a dense botanical fabric. The task is still more time-consuming if the chosen plot is a young purma where weeds are much more abundant than in an old purma or virgin-forest (monte real) plot. Weed clearing in a young purma plot of one hectare can be completed in 20 days by one man, and will be repeated once or twice before harvest. A virgin forest plot requires only one cultivo (if any at all) and only six days of labour need to be allocated to the task.

Swidden farming as practised in Puerto Inca involves all preceding tasks, irrespective of the food-plant under cultivation. Rice, manioc, bananas, beans, sugar-cane and corn, all have their own additional requirements and are subject to varying yields and practical uses. For the sake of brevity, to analyze later on, a summarized description of such requirements is given below (see also Table 2).

- a) Rice: (Ortyza satival), plot called arrozal. Preferably virgin forest or old purma; relatively flat land and not too near river banks.

Planting: July to September; seeds at 30 cm spacing; 10-12 man-days per Ha. With a tacarpo, a wooden staff sharpened at one end. Planting cannot be done at new moon, otherwise it is believed that crop will be "infested".

Weed Cutting: 4 months after planting; if young purma, weed cutting is repeated once or twice before harvesting, 20 man-days each time; if virgin or old purma plot, one weed cutting is sufficient if any at all, and 6 man-days suffice if weed clearing is needed; with machete; young purma plots are more prone to insect and disease attacks; the casa disease occurs 3 months after planting and sick plants must be fumigated; the rancha insect (Ustilaginoides virens insect?) is allegedly counteracted by throwing rotten trunks into the river.

Bird Hunting ("Pajareo"): the whole crop can be eaten away by birds, just before harvest; children, and sometimes adults with shotguns, keep a constant watch for 3 to 4 weeks before harvest.

Harvest ("Cosecha"): at the end of the 6th month, 25 man-days per Ha (or about 35 woman-days); with knife or sickle; never done on new moon ...

Threshing ("Trilladura"): immediately after harvest; 1 metric ton threshed with blankets and feet in 12 man-days, or in one day if done with the local cooperative's motored thresher.

Husking ("Pilada"): 5 kilos husked in 2 hours with pestle and mortar, or a few hundred kilos in one day with the local cooperative's motored husker (.5 sol per kilo).

Preservation: maximum of 6 months, average 3-4 months; with aldrin, gunny bags, and dry storage room if available.

- b) Sugar-cane: (Saccharum officinarum L.), plot called cañal or cañaveral. Virgin forest land or old purma preferred.

Planting: with stem sections of sugar-cane, at intervals of 1 to 2 meters, 12 man-days per Ha, with machete.

Weed Cutting: every 3 months, 10 man-days for each cultivo; with machete; Gonoris worms multiply after 2 months of growth.

Harvest: from 6th month onwards if gradual consumption; for molasses, harvest on 12th month, 20 man-days per Ha; if attacked by worms, canes must be cut and worms killed one by one.

- c) Banana: (Musa paradisiaca L.), plot called platanal. Preferably virgin forest or old purma near river; yield of 1 stem per tree per year.

Planting: 400 to 500 malliques (.5 meter shoots with roots) are needed for 1 Ha, taken from old plantation, planted at 4 meter intervals; 20 man-days per Ha; with shovel.

Weed Cutting: Wactapeo only needed, 13 man-days for an old purma plot or virgin land, 16 to 18 man-days for a young purma plot; with machete; Platanero worms multiply after 5 months of growth, to be killed by hand.

- Harvest: from 12th month onwards; with machete.
- d) Manioc: (Manihot esculenta), called yucca, plot called yuccal, 5 varieties known locally.
- Planting: 2 small manioc stems per hole, at 1 meter intervals, 10-12 man-days, with machete, never on new moon ...
- Weed Cutting: in October or September, 8 man-days with machete.
- Harvest: not before 6th month and usually from 12th month onwards, 45 man-days, with machete.
- e) Corn: (Zea mays L.) called maíz, plot called maizal. Old purma or virgin land preferred, near river; yield of 2000 ears in a young purma and of 3000 ears in a virgin-forest or old purma; 6 months to maturity.
- Clearing: in July, never on new moon ...
- Planting: 1 meter intervals, seeds bought or taken from old maizal, 10 man-days, with tacarpo.
- Weed Cutting: after 3rd month, labour requirements as with rice; casa disease as with rice, but also grasshoppers, isoca worms (?) and purma insects.
- Harvest: after 6th month, 15 man-days; with machete; never on new moon ...
- Drying: 1 man-day per .5 metric ton; on blankets or with cooperative's cement-floor secadora; seeds kept for planting.
- Preservation: maximum 5 to 6 months, usually 4 to 5 months; with aldrin and gunny bags; in dry storage room if available.
- f) Beans: (Glycine ... ?), plot called porotal, climbing beans planted in wild-cane plot; bush-beans planted in pintal using canes as stakes.
- Clearing: since pintales are without any large trees, clearing takes very little time; with machete.
- Planting: dry summer; 10-20 cm intervals; 8 man-days if not in pintal, planted with quiruma or improvised wooden stakes for creepers, planted with tacarpo; Casa disease after 1.5 month of growth; worms after second month to be killed by hand.
- Weed Cutting: after 2 months; 12 man-days; with machete.
- Harvest: after 4th month; 30 man-days; gradual harvesting if only for family consumption; never harvested on new moon ...
- Drying: 7 man-days per 300 kilos; can be kept for one year if well dried; dried on blankets.

Cultivate	Practical Uses and Methods of Transformation
1. Rice	50 kilos of husked rice kept for domestic consumption; remaining kilos sold to merchants or to cooperative.
2. Sugar-cane	<p>eaten as it is;</p> <p><u>Huarapo</u>: juice extracted from sugar-cane through a <u>trapiche</u> or sugar-cane wooden mill operated by two men walking in two wooden wheels. The juice is left to ferment for three days. When added to <u>masato</u>, it produces a liquid called <u>veintecuatro</u>;</p> <p><u>Honey and chancaca</u>: the extracted juice is boiled in an iron pot for nine hours and afterwards cooled. Thicker honey (<u>chancaca</u>) is obtained by not stirring the liquid regularly as with honey;</p> <p><u>Ventisho</u>: extracted juice boiled for half an hour and then poured into jars and kept for three days.</p>
3. Banana	<p>eaten as it is;</p> <p><u>Chapo</u>: ripe bananas boiled and bruised and boiled again; served as breakfast;</p> <p><u>Harina</u>: green bananas ground and kept for 8 days and ground again; often mixed with milk and given to babies.</p>
4. Manioc	<p><u>Fariña</u>: roots peeled and kept in water for 3 days, then sieved, bruised, passed through a wooden manioc press called <u>barbacoa</u>, then toasted; 8 days of work;</p> <p><u>Tapioca</u>: toasted <u>harina</u>;</p> <p><u>Harina</u>: or <u>almidon de yucca</u>. Roots peeled, grated, put into water and almidon extracted after an hour;</p> <p><u>Masato</u>: roots peeled, boiled, sugar and spices added; left to ferment for one day and sieved before drinking.</p>
5. Corn	<p><u>Chicha de jora</u>: corn in leaves buried in earth for three days, then milled, boiled for two hours and kept for three to four days to ferment;</p> <p><u>Mote</u>: boiled corn;</p> <p><u>Tamal</u>: <u>mote</u> milled and mixed with pork meat, stuffed in small banana leaves and boiled again for half an hour.</p>
6. Beans	<p>Boiled;</p> <p>Medicine: boiled for 15 minutes and absorbed with pill; especially good for women who have just given birth.</p>

Table 2: Practical Uses and Methods of Transformation of Main Cultivates

3) Fishing and Hunting

Few farmers or lumberers devote more than a day or two per week to fishing and hunting activities. The immediate environment is however a constant source of additional food throughout the whole year, and especially in the dry summer season when river and forest game is more abundant.

As described in Table 3, the fishing techniques of Puerto Inca inhabitants involve the use of either barbasco venomous roots, the tarrafa sweepnet, or ordinary nylon fishing lines. Dynamite is resorted to only occasionally since it is expensive, and dangerous to both men and water life; hence the Peruvian law that prohibits its use during the summer season.

As for hunting, two different techniques prevail in Puerto Inca. The hunter may leave late in the afternoon and make his way to a colpa, a muddy marsh-like jungle site where various animals come at night to bathe and drink. A wooden platform called barbacoa is then built in a nearby tree, three to four meters above the ground, and the hunter sits there for a few hours with his rifle and flashlight. Dark nights are preferred, since animals come in greater numbers to the colpa on such nights.

One can also hunt during the day, walking along forest trails with a loaded rifle ready at hand. Animals however can be found only far away from inhabited centres and chances of coming back empty handed are greater than with nocturnal expeditions.

During the dry summer season, the river water level goes down and large turtles called charapas (Podocnemis expansa) lay their eggs on the beaches. These eggs are highly valued sources of food and many hunters travel along the river at night in search of long beaches where these eggs are buried. The turtles themselves are also hunted and eaten. One turtle nest can contain up to 50 or 60 eggs.

Techniques Detail	<u>Barbasco</u> or <u>Huaca</u> , (venomous roots of <u>clibadium</u> trees)	<u>Tarrafa</u> (sweepnet)	Dynamite	Line & hook	Larger fishing net
Frequency	Often, even though prohibited by law (too destructive of water life)	Often	Less often (expensive and prohib- ited in summer)	Often	Very rarely (few nets)
Season	Dry season: river more shallow and fish can be seen	Rainy season	Dry season and day- time	Any time	Dry season, daytime
Transport	Walking along river	Canoe or motored boat	Canoe or motored boat	Canoe or walk- ing along river	Canoe or motored boat
Number of persons	4 or 5	1 or 2	4	1	4
Location	Small rivers or streams (fish seen and caught easily)	Larger rivers	Larger rivers	Accord- ing to size of hook	Larger rivers
Cost (in soles)	\$30 per kilo of <u>barbasco</u> , bought from local producer	\$1200 per nylon net (but varies)	\$50 per 10 cm (2 blows)	Varies	Varies
Technique	Roots ground with rocks, thrown in river; floating fish killed with machete		Thrown where fish abundant; dangerous!		
Yield (very rough estimates)	Average 10 kilos of fish per kilo of <u>barbasco</u>	10 kilos per day	10 to 15 kilos per explosion	Varies	Varies

Tables 3: Fishing Techniques

B. Lumber Industry

1) Yearly Output

Contrary to agricultural production, lumbering in the Pachitea and its tributaries is entirely a market-oriented industry. Data pertaining to the quantity of wood extracted annually are difficult to obtain from lumber bosses. Some useful information has nevertheless been gathered from 12 cases and the results are shown in Table 4. This production probably amounts to about 40% of the total 1973 output involving Puerto Inca residents. It must be stressed however that such figures are only rough estimates.

About 90% of all extracted wood is either cedar (cedro and caoba) or moena wood (Lauraceae) which sell in Puerto Inca respectively at 5 and 3 soles per square foot. Other species are less valued and are usually priced at 1 sol per square foot. In 1973, lumber bosses of Puerto Inca extracted at least a million square feet of wood, 43% of which was cedro, 23% moena, and 27% caoba, for a total local value of 4,300,000 soles (or 100,000 American dollars if using 1973 exchange rates).

Only a small proportion of this wood goes to any of the three sawmills of the village for local use (boats, houses, furniture). The rest is floated down the river and sold in Pucallpa, the boom-town of the Peruvian forest.

2) Techniques

As with slash-and-burn agriculture, the extraction of wood for commercial purposes follows a yearly cycle which is determined by the alternation of dry and wet seasons.

Mateada: The first step, which is called mateada, can be undertaken at any time from January to June, as long as it is done before the

mid-summer season. It consists in finding and marking the trees to be cut. A montaraz, someone who knows the given forest area very well, is hired to perform this task for a daily wage of 60 to 100 soles.

Tumbada: Lumbering as such starts in May, June or July, with the tumbada or tree cutting operation. Trees to be sold are felled with an axe or with a chainsaw if available. Since logs must be pushed down to the river, an additional stretch of forest (vial) must be cleared in order to link the lumbering site to the river. As with all subsequent tasks, labour is valued at 50 soles per day or 1500 soles per month, with one or two daily meals included.

Trozada: Soon afterwards, trees to be sold are cut into logs measuring at least 12 feet in length. This can be an exceptionally time-consuming job if no chainsaw is available, especially with logs of a diameter of more than 50 inches.

Enviada: The vial or cleared path leading to the river must be cleared of all obstacles, including large tree stumps, so that logs may be rolled down to the river. A vial's length may vary from a few meters to 2 kilometers. The task is usually completed by the end of August.

Revolcada: Winches, levers and cables are then used to roll the logs as close as possible to the river. This task requires considerable labour, especially when hills have to be crossed to reach the river. Accidents occur frequently and heavy rains often delay the work, hence the lumberers' efforts to gather all logs near the river before the end of November and the arrival of the persistent winter rainfalls.

Cuidado: Logs are then thrown into the river. However, many weeks or even months often may pass before the river - usually a

Peruvian Name	Scientific Name	Average Diameter (inches)	Average Height (feet)	Price in Soles per square foot	Uses	Quantity Extracted (Square feet)	Total Value of Sales in P.I. (in soles)	% of Total Value
Lupuna	<i>Ceiba entadra</i>	36.0(max)	180(max)	1.0	(For Triplay)	20,000	20,000	1.16%
Cedro	<i>Cedrela</i> (Meliaceae)	23.0	55	5.0	Houses, furniture	150,000	750,000	43.66%
Caoba	<i>Swietenia Macrophylla</i> (Meliaceae) & <i>S. Mahogani</i>	37.2	70	5.0	Houses, boats	93,600	468,000	27.24%
Moena	<i>46 Different sp.</i> (Lauraceae)	17.9	54	3.0	Houses, furniture, boats	132,000	396,000	23.05%
Tornillo	<i>Nectandra Rodioci</i> (Lauraceae)	?	?	2.5	Houses, furniture, boats	33,500	83,750	4.88%
Cumala	<i>Virola</i> (Myristicaceae)	17.3	40	1.0	Boats, furniture, roofs			
Mashonaste	<i>Clarisia Sp.</i> (Moraceae)	22.0	54	1.1	Furniture			
Quinilla	<i>Humiria Sp.</i> (Humiriaceae)	23.8	46	1.1	Boats			
Bolaina	<i>Guazuma Crinita</i> (Esterculiaceae)	?	?	2.5	Houses, furniture			
Total						429,100	1,717,750 soles (= \$39,950 Am.)	
Estimated Total of overall Production (Based on a sample of 12 cases, or 40% of total cases)						1,072,750	4,294,375 soles (= \$99,869 Am.)	

Table 4: Lumber Production in Puerto Inca

secondary tributary - is sufficiently strong in flow to carry the logs to the main river. The less rain there is, the longer the lumberers must wait and look after (cuidar) the logs so that they are not stolen or lost due to a sudden increase of the river flow. It is believed that washing a forest turtle (motelo) with soap or burying it on a beach will produce heavy rains and that logs will thus float down towards the main river. The same results can be obtained by throwing salt at the river source or shooting a bullet at a Lupuna colorada tree. Much time is spent hunting and fishing during the cuidado.

Arreada: Given a bit of luck and a generous rainfall, the logs may arrive at the river mouth in December or January. They are then attached to a larger log raft which will eventually be floated down the Pachitea River and sold in Pucallpa.

C. Commercial Goods and Services

Puerta Inca is a relatively small community, yet it is commercially quite active. Typically of Peruvian villages, it has many general stores which serve not only the local population, but also the district and regional inhabitants. The community has 13 general stores, 9 of which are located in the central Bajada (5) and Loma (4) barrios. A myriad of modern commodities are bought from these merchants, and many of these articles are essential goods in so far as they are part of every family's daily consumption habits: manufactured shoes, clothes and fabrics, sugar, salt, milk, alcohol, canned foods, kitchen ware, kerosene, petrol, batteries, flashlights, machetes and axes, shotguns and ammunition, nets, dynamite, nylon lines and hooks, school material for children, cigarettes and medicine.

One successful merchant has about 70,000 soles (1,630 American dollars) invested in the following goods: alcohol (30%), fabric materials (30%), canned food (10%), medicine (10%), and other articles (20%).

The merchants buy most of these articles in Pucallpa. However, some of the locally produced staple foods such as rice, corn and beans, are bought by these merchants and sold back to other sectors of the community at dearer prices.

Prices are considerably inflated when commodities arrive from Pucallpa. Merchants make an average profit of at least 45% on what they sell. For example, a machete sold in Pucallpa at a retail price of 75 soles will be sold in Puerto Inca at double that price. Salt also costs twice as much as it does in Pucallpa. The overall cost of transport (by boat: 2 soles per kilo) or of storage accounts for a very small fraction of these price increases. Selling beer and alcohol is

an exceptionally lucrative business, and most stores invest a good amount of their capital in such articles.

In comparison to the latter commercial activities, trades involving manual skills are much less lucrative. These occupations are often held by women (seamstresses, washer-women, bakers, pensión-keepers, owners of small botica stores); the income thus obtained is rarely sufficient to sustain a family, but it is still an important source of additional income, complementing the husband's own earnings. Male trades tend in general to be more lucrative than female trades; these include the shoemaker, tailors, barbers, semi-skilled carpenters, river-carriers, and the local sorcerer.

One must also mention a Czech immigrant who runs a two-storey hotel in the lower Bajada barrio, a small store, and a repair-shop for chain-saws, water pumps and outboard motors. Having participated in large scale businesses elsewhere in Peru, he has accumulated an amount of capital easily comparable to the amounts owned by the general-store merchants.

D. Governmental Services

Approximately 11% of Puerto Inca's active population earn their livelihood as employees of the government. Most of these are teachers, either at the kindergarten, primary or high school levels. There is also a sectorista or regional information officer, and representative, of the Peruvian Department of Agriculture; and an enfermero or male nurse dispensing medicine and first aid. Two guardia civil also reside in the village.

As for the municipality of Puerto Inca, it employs only two people on a part-time basis, one as the secretary to the alcalde (mayor) and the other as a tax-collector and administrator of the village power

plant.

E. Wage-Labour

Wage-labour is another important occupational activity within the Pachitea Valley; but in contrast to other occupations, it constitutes a heterogeneous category in the sense that it crosscuts most of the economic sectors previously described, i.e. agriculture, lumbering, commerce, and religious administration. However, the cost of labour is almost always the same, and quite low: 50 to 60 soles for 8 hours of labour (1.16 to 1.40 American dollars per day).

Mission's Labourers: The governmental administrative sector seldom resorts to non-professional wage-labour: the educational system does not necessitate such labour and the municipality does not have sufficient funds to undertake any economic projects which would employ wage-labour.

Wage -labour is purchased on a regular or part-time basis by the resident missionaries. The Canadian and Spanish Missions are constantly offering occasional jobs, mostly menial, and employ three full-time labourers, one male jack-of-all-trades and two female cooks. The parish father is also the employer of a few farmers as members of a cooperativa agraria. This may seem self-contradictory, but it does correspond to an actual contradiction underlying the structure of the cooperative. The stated long-term goal of the project is to implement the cooperative principles of organization, but the actual functioning of the enterprise rests upon a strong centralization of the decision-making process in the hands of the parish father. The members receive their weekly wages from the father and they themselves consider such earnings as labour wages. This situation results mainly from the Mission's key role in obtaining and administering the Canadian donation

(from Développement et Paix) of \$20,000 (Canadian dollars) which represents almost 85% of the cooperative's capital input.

The cooperative employs 4 labourers on a full-time basis, seven on a half-time basis, and 15 other cashueleros or seasonal labourers who are not members of the cooperative. Most of this labour is allocated to the management of a farm consisting of 30 hectares of pasture, corn and rice, with 13 head of cattle, 2 horses and 100 chickens. The cooperative also maintains a four kilometer tractor trail linking its farm with the village. It owns a tractor, a sawmill, a rice-husker machine and a cement floor for corn and rice sun-drying.

One could roughly estimate the total amount of yearly wage-labour (1973) under the management of the Mission by adding up the foregoing labour inputs, as done in Table 5.

Labourers	Labour Input per Individual per Year	Total Input	Total Cost (60 soles per man-day)
1. 2 cooks and 1 jack-of-all-trades	312 days/year	936 man-days	\$ 56,160
2. <u>Cashueleros</u> for Mission	100 days/year	100 man-days	\$ 6,000
3. Cooperative: - 4 full-time lab. - 7 full-time lab. - 15 seasonal <u>cash-ueleros</u>	312 days/year 156 days/year 103 days/year	1248 man-days 1092 man-days 1552 man-days	\$ 74,880 \$ 65,520 \$ 93,120
TOTAL		4928 man-days	\$295,680

Table 5: Estimated Yearly Wage-Labour Input Purchased by Mission (1973)

Merchants' Labourers: General Store merchants also employ labourers on a full-time or part-time basis, either as store-keepers, odd-job labourers, or motoristas (river carriers). About 18 individuals are hired on a full-time basis, thus producing 5,616 man-days of work at an approximate total cost of 336,960 soles per year. No precise data are available with respect to part-time labour offered by such merchants. However, it probably does not increase the total figures to more than 400,000 soles and 6,666 man-day units of wage-labour.

Wage-Labour in the Wood Industry: The wood industry is by far the largest source of wage-labour opportunities in both Puerto Inca and the Pachitea Valley as a whole. As stated earlier, about 1 million square feet of wood were extracted in 1973 by Puerto Inca's resident lumber bosses and lumberers. Data gathered from 10 lumber bosses indicate that an estimated labour input of 1000 man-days was required to produce 100,000 square feet of wood, or 10% of all the wood extracted in 1973. Hence lumber bosses must have utilized a total input of 10,000 man-days. The latter estimate is confirmed by other available data. As indicated in Table 7, 54 lumberers were actively engaged in the wood industry in 1973, 40 on a full-time basis (about 208 days per year) and 14 on a part-time basis (about 104 days per year): the wage-labour input of these labourers adds up to 9,776 man-days, a figure almost identical to our first estimate.

One must include finally the labour purchased by carpenters: i.e., 3 full-time assistant carpenters and 3 other part-time helpers, for an approximate total of 1,404 man-day units of wage-labour.

Agricultural Wage-Labour: Labour is also bought as a commodity within the agricultural sector of the village's economy. Cattle raisers hire labourers on a full-time or part-time basis. Employment

in this sector is, however, quite limited and only three residents have permanent jobs as ranch helpers. Occasional jobs are frequently available at these ranches, but the available data are not sufficient to give an accurate estimate of the resulting wage-labour input.

Small farmers also resort to paid labour in order to facilitate and accelerate some of the agricultural tasks involved in clearing forest plots and in cultivating rice, corn, manioc or bananas. The distribution of this type of wage-labour is characterized by two notable traits: firstly, it is offered by many individuals and not by just a handful of well-to-do farmers; secondly, these jobs are offered only for a few days or a few weeks at the most. It is quite difficult to estimate correctly the total amount of man-day labour units purchased in one year within the swidden farming sector of Puerto Inca, yet some generalizations can be suggested on the basis of a sample study of 40 farming households of the community, about one third of the swidden farming population of Puerto Inca. The results show that one out of every three farmers resorted to paid agricultural labour sometime during the year 1973, and that each employing farmer purchased an average of 78 man-day units. Assuming that this sample is representative of the total agricultural population of Puerto Inca, we can estimate the total purchased man-day input for this sector at about 3,042 units, at a total cost of 182,520 soles.

Table 6 summarizes the distribution of wage-labour by economic sector. It shows quite clearly that at least 88% of the wage-labour factor of production is purchased by a handful of individuals, namely missionaries, merchants, lumber bosses and carpenters, who represent less than 18% of the total active population of the community.

Employers	Man-day Units Purchased in 1973	Total Cost (60 soles per man-day)	% of Total Cost
Missionaries	4,928	\$ 295,680	18.9%
Merchants	6,666	\$ 400,000	25.6%
Lumber Bosses and Carpenters	11,404	\$ 684,240	43.8%
Small Farmers	3,042	\$ 182,520	11.7%
TOTAL	26,040	\$1,562,400	100.0%

Table 6: Wage-Labour Input by Economic Sectors

2. ACTIVE POPULATION BY ECONOMIC SECTORS

Puerto Inca has a total population of 1084 inhabitants, 687 children (under 20) and 397 adults. Almost 2/3 of all adults are actively employed in the economic sectors previously described; the remaining 1/3 is composed mostly of housewives and includes, for analytical purposes, those farmers' wives who are engaged only in their own domestic agricultural production.

The distribution of the total active population by main occupations is given in column A of Table 7. However, the resulting occupational structure can be quite misleading for it neglects the existence of part-time occupations. A small farmer often seeks occasional wage-labour opportunities, a lumberer often cultivates his own swidden plot, a general store merchant is often a lumber boss, and so on. Column B in Table 7 gives the list of secondary or part-time occupations held by full-time farmers, cattle-raisers, etc. As can be seen, one working adult out of every two (128/244) is active within two economic sectors at the same time. The total number of secondary occupations held within each sector is given in column C: 52 adults are part-time farmers, 26 are part-time "occasional-labourers", etc.

This overlapping structure of occupational activities makes it difficult to determine with precision how many adults are "actively" involved in each economic sector. The last three columns of Table 7 overcome this obstacle by assuming that secondary occupations yield half of the average labour-time input and production output of the corresponding main occupations. Seven part-time cooperative farmers are thus equal to 3.5 full-time cooperative farmers; the number of working adults engaged in cooperative farming is thus obtained by adding 3.5 and 4 for a total of 7.5, i.e., 3.1% of the total active population.

The latter assumption yields one significant² exception, namely part-time farmers. A sample study of 40 swidden farming households indeed revealed that part-time farmers cultivate cleared plots the average size and productivity of which are equal to the average size and productivity of plots owned by full-time farmers. The 52 part-time farmers of Table 7 have therefore been counted as the equivalent of 52 full-time farmers.

The resulting distribution of percentages of total active population by economic sector is as follows: agriculture 51.9%, gold extraction 2.7%, wood industry 11.3%, commerce 16.4%, administration 12.9%, wage-labour 42%. Table 8 reclassifies the wage-labourers according to the economic sector in which they are employed, with the following results: agriculture 63.9%, gold extraction 2.7%, wood industry 29.7%, commerce 27.1%, administration 13.8%. These percentage distributions add to more than 100%, due again to the overlapping structure of occupational activities. Diagrams 1 and 2 summarize these various occupational distributions.

2. The same exceptional feature may be said to characterize part-time merchants and "part-time permanent-labourers". There are, however, only two such cases (0.8% of act.pop.) and their statistical significance is quite negligible.

	Occupation	A Main Occupation (Column %)	B Sec.Occupation by Main Occupation	C Secondary Occupation (Column %)	A + (C/2)		
					Total	% of Total Active Pop.(244)	
Agriculture	Farmer	69 (28.3%)	6 cooperative 22 occ.labour 10 lumberers 1 perm.labour	52(40.6%)	121.0	49.6%	51.9%
	Cattle Raiser	5 (2.0%)	2 lumb.bosses 1 cooperative 2 lumberers	1(0.8%)	5.5	2.3%	
Gold	Gold extraction	6 (2.5%)	3 farmers	1 (0.8%)	6.5	2.7%	2.7%
Wood Industry	Carpt.ass't	7 (2.9%)	2 farmers	0 (0.0%)	7.0	2.9%	11.3%
	Carpenter ³	3 (1.2%)		2 (1.6%)	4.0	1.6%	
	Lumber Boss	11 (4.5%)	5 farmers 3 trades 1 lumberer	11 (8.6%)	16.5	6.8%	
Commerce	Trades	21 (8.6%)	1 farmer 3 lumb.bosses 1 occ.labour 1 lumberer	9 (7.0%)	25.5	10.5%	16.4%
	General Store Merchant ⁴	14 (5.7%)	1 cattle r. 2 carpenters 6 lumb.bosses 2 trades 1 gov.empl.	1 (0.8%)	14.5	5.9%	
Administra- tion	Government Employee	28 (11.5%)	3 trades 1 g.s. merchant 1 occ.labour	3 (2.3%)	29.5	12.1%	12.9%
	Mission	2 (0.8%)	1 gov.empl.	0 (0.0%)	2.0	0.8%	
Wage-Labour	Cooperative	4 (1.6%)	4 farmers	7 (5.5%)	7.5	3.1%	42.0%
	Occasional Labourer	12 (4.9%)	4 farmers 1 gold digger	26(20.3%)	25.0	10.3%	
	Lumberer	40 (16.4%)	27 farmers 1 gov.empl. 2 occ.labour	14(10.9%)	47.0	19.3%	
	Permanent Labourer	22 (9.0%)	6 farmers 1 trade	1 (0.8%)	22.5	9.2%	
	TOTAL	244(100 %)	128 Sec.Occ.	128(100 %)	334.0	137.2%	137.2%

Table 7: Main and Secondary Occupations

3. Owing a sawmill.

4. Includes Czech hotel-keeper.

Occupational Sectors	A % of Total Active Popul. (244) (see last column in Table 7)	B Estimated Wage-Labour %	A + B % of Total Active Population: Wage-Labour Reclassified
Agriculture	51.9%	11.97% (includes cooperative)	63.87%
Gold Extraction	2.7%	0.00%	2.70%
Wood Industry	11.3%	18.4%	29.70%
Commerce	16.4%	10.75%	27.15%
Administration	12.9%	0.88% (excludes cooperative)	13.78%
TOTAL	95.2%	42.00%	137.2 %

Table 8: % of Total Active Population by Economic Sectors, Reclassifying Wage-Labour

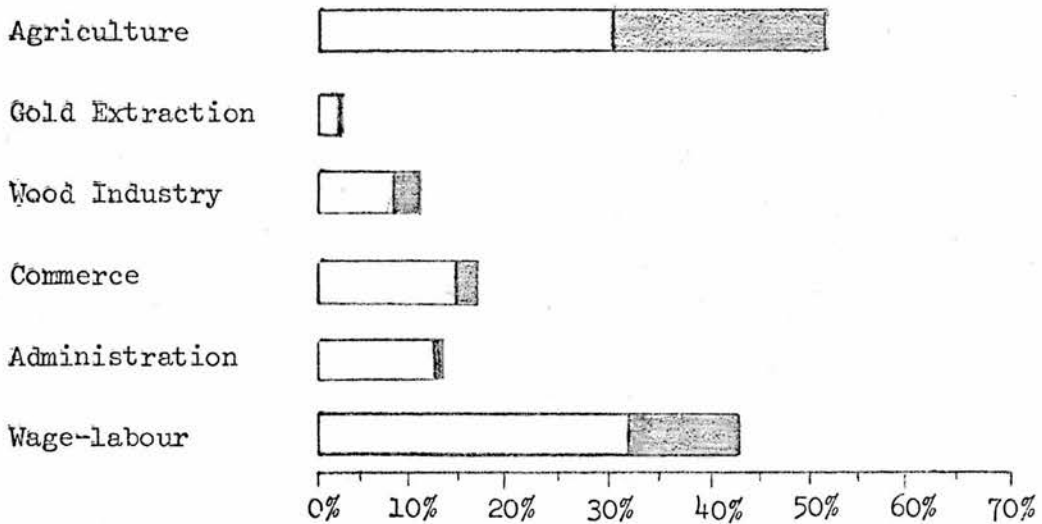


Diagram 1: % of Total Active Population by Economic Sectors (Including Wage-labour and Secondary Occupations)

Legend:

- Main Occupations
- Secondary Occupations

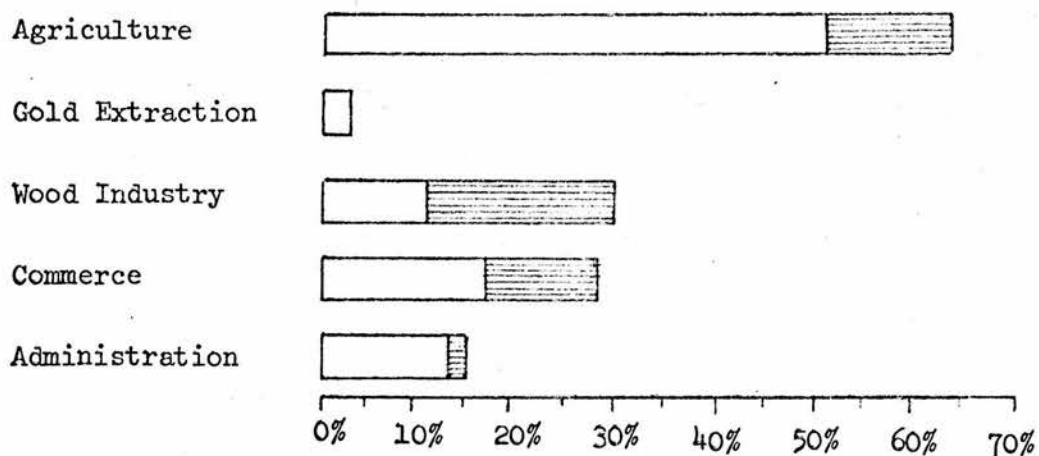


Diagram 2: % of Total Active Population by Economic Sectors, Including Secondary Occupations and Reclassifying Wage-labour

Legend:

- {
 - Main Occupations
 - Secondary Occupations
- Wage-labour (main & secondary occupations)

3. UNEQUAL DISTRIBUTION OF OCCUPATIONAL OPPORTUNITIES

Significant socio-economic patterns underly the latter distribution of secondary occupations. Certain activities intersect rarely with others: a lumber boss is never employed as an occasional labourer; a farmer never runs a part-time general store business; a governmental officer never joins the cooperative, etc. Diagram 3 gives a visual representation of the frequencies of the observed intersections between all occupational categories (data taken from Table 7). Each occupational group is represented by a circle, and the number of members per group is indicated by the two central figures: the left one refers to full-time members, while the right, parenthesized one gives the number of part-time members. The intersecting areas contain the individuals who are active in both economic spheres: the first letter specifies their main occupations (f for farmer, etc.), and the second letter indicates their secondary job. Intersections between the upper and lower strata are indicated by arrows the direction of which points towards those occupations held on a part-time basis.

A pattern of polarization between the lower (farmers and wage-labourers) and upper (merchants, wood industry, administration) strata obviously characterizes the resulting network of occupational combinations. The significance of this pattern can be measured by comparing the observed combinations with the expected ones, as done within Table 9.

LEGEND

a: ass't carp.	e: carptr.	m: merchant	s: trades
b: lumber boss	f: farmer	n: missionary	t: cattle raiser
c: cooperative	g: govt.	o: occ. labour	
d: gold extr.	L: lumberer	p: perm. labour	

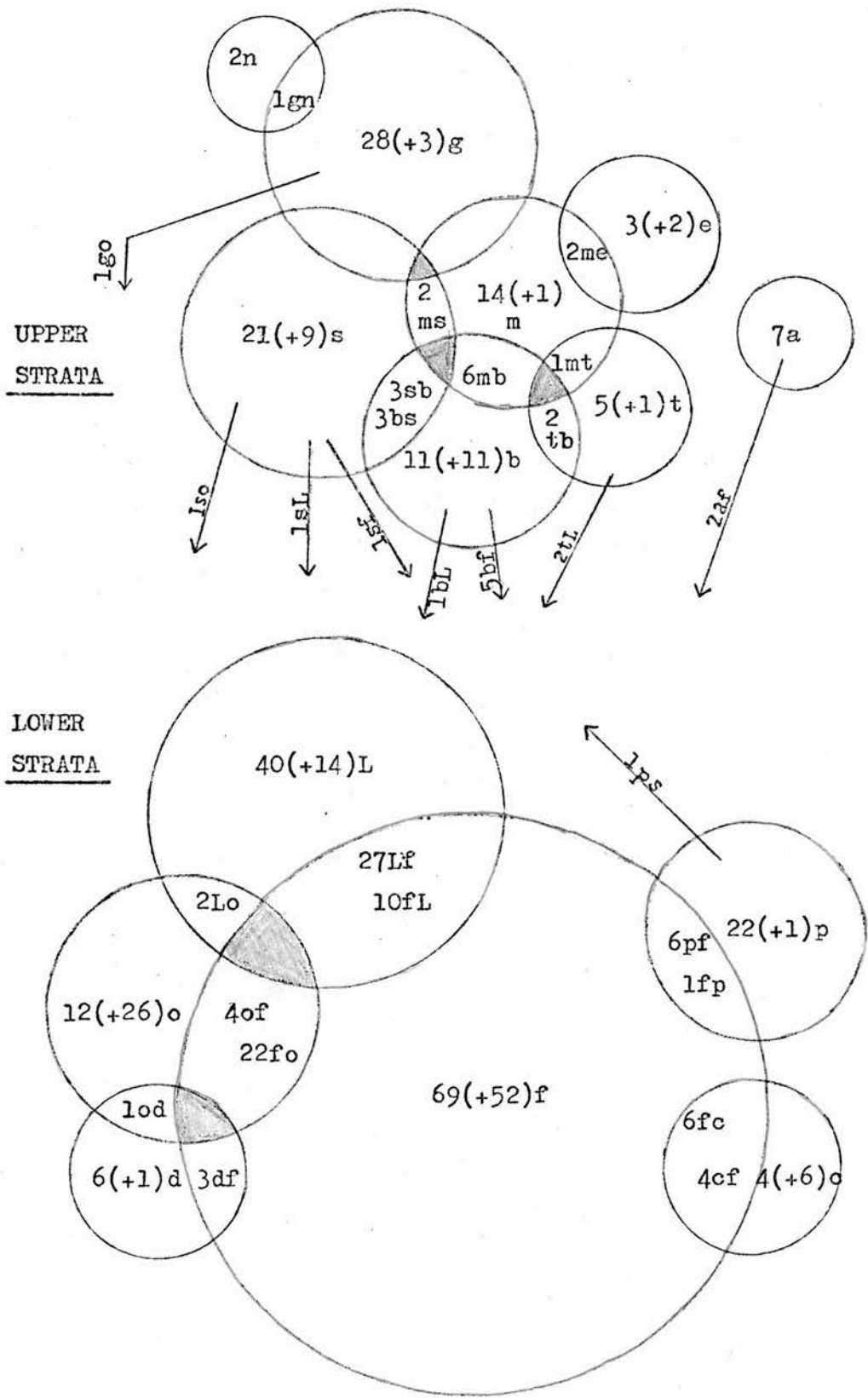


Diagram 3: Intersection of Main and Secondary Occupations

Combinations: Strata of + Strata of Main Occ. Second Occ.		E Expected Frequency	O Observed Frequency	d = O/E Deviation from Exp.	Deviation by Type of Choice
Upper	+ Upper	9.7	25	2.6	Endogamous Comb.: 1.53
Lower	+ Lower	62.7	86	1.37	
Upper	+ Lower	37.3	14	1/ 2.7	Exogamous Comb.: 1/3.57
Lower	+ Upper	16.3	1	1/16.67	
Upper	+ None	44.0	52	1.18	
Lower	+ None	74.0	66	1/ 1.12	
$\Sigma x = 244$	$\Sigma y = 126$	244.0	244		

Table 9: Deviations from Expected Combinations of Main and Secondary Occupations of Upper and Lower Economic Strata

Table 9 yields the following empirical generalizations:

1. Secondary or part-time economic activities correspond more often, in absolute and relative terms, to lower occupational strata: about 80% of all part-time jobs involve lower strata occupations.

2. Individuals engaged in lower occupational strata on a full-time basis hold secondary jobs more often than upper-strata members, again in both absolute and relative terms: 87 out of 153 (56.8%) lower-strata-full-members hold part-time jobs, while 39 out of 91 (42.9%) upper-strata-full-members do so.

3. a) Exogamous occupational combinations of main and secondary occupations occur much less often than endogamous ones: the frequency of the former 15 cases is 3.57 times less often than expected, while it is 1.53 times more often than expected for the latter 111 cases.

b) Downward exogamous cases (upper main occupation + lower

secondary occupation) occur more often, in relative and absolute terms, than upward exogamous combinations (14 and 1 cases respectively).

c) Lower endogamous choices occur more often than upper ones in absolute terms (86 compared to 25), but not in relative terms: the former's frequency is 1.37 times more often than expected, while the latter's frequency is 2.6 times more often than expected. This pattern results from the fact that lower-strata members have little access to upper-strata secondary occupations (see 3. b), which tend therefore to be under the endogamous control of upper occupational groups.

This twofold classification of occupational strata can be transformed, through similar formal procedures, into a fourfold one. Both the upper and lower groups contain two sets of sub-groups: those which rarely intersect with the opposite strata versus those which do so more frequently. Missionaries, merchants, carpenters and governmental employees, hold thus 18 secondary occupations, only one of which belongs to a lower occupational group (i.e., occasional labour); as for lumber bosses, tradesmen, assistant carpenters and cattle raisers, 13 out of the 21 secondary occupations which they hold correspond to lower strata activities. The same distinction applies to lower strata: 31.3% (i.e. 5/16) of those engaged in "permanent" labour, gold extraction or lumbering on a part-time basis have an upper-strata main occupation, while only 11.9% (10/84) of part-time farmers, cooperative members and occasional labourers have an upper-strata main occupation.

The resulting polarized chain of occupational groups is thus as follows:

1. Missionaries, merchants, carpenters and governmental employees.
2. /

2. Lumber bosses, trades, assistant carpenters, cattle raisers.
3. Permanent labourers, gold extractors, lumberers.
4. Occasional labourers, cooperative members, and farmers.

Main and secondary occupations, classified according to the latter ordinal rank-order, correlate significantly, i.e., at .48 (100 cases, Kendall non-parametric correlation).

4. HIERARCHIAL DISTRIBUTION OF PRODUCTS AND FACTORS OF PRODUCTION

The foregoing polarized chain of occupational groups is not an accidental feature within Puerto Inca's system of economic production and exchange. On the contrary, it is highly congruent with the hierarchical architecture of an economic system based upon the unequal allocation of both products and factors of production.

Wage-Labour: Wage-labour (excluding governmental employees), as a purchasable market commodity and a major factor of production, is under the control of a few individuals within the community. As indicated in Table 10, about 88% of all wage-labour is purchased by only 15% of the active population of Puerto Inca, namely missionaries, merchants, lumber bosses and carpenters.

Employers	A % of Total Active Pop.	B % of Total Wage-labour	d = B/A Deviation from Expected	
Mission	0.8%	18.9%	31.5	88.3% of Total Wage-labour Purchased by 15% of Total Active Population
Merchants	5.9%	25.6%	4.8	
Lumber Bosses & Carpenters	8.4%	43.8%		
Farmers	49.6%	11.7%	1/ 4.2	
TOTAL	64.7%	100 %		

Table 10: Purchase of Wage-Labour by Employing Occupations

Income and Assets: The income distribution, as tentatively described in Table 11, displays similar contours. Missionaries, merchants, carpenters, lumber bosses and governmental employees receive an average yearly income of more than 68,800 soles (1,600 American

dollars), while the third and fourth strata, respectively wage-labourers (& tradesmen) and farmers (& occasional labourers), earn less than 17,200 soles (\$400 Am.) and 10,750 soles (\$250 Am.) per year.

Occupational Strata	Main Occupation	Estimated Average Income per Year (Soles) (Am. \$)	By Strata (Soles) (Am. \$)
1 & 2	Mission, Merchts, Carp.	Above 86,000 (\$2,000) ⁵	Above 68,800 (\$1600)
	Bosses	Above 65,000 (\$1,500)	
	Government	About 38,700 (\$ 900)	
3	Trades & Perm. Lab.	Less than 19,350 (\$ 450)	Less than 17,200 (\$ 400)
	Lumb. & Gold	Less than 15,050 (\$ 350)	
4	Occ. Lab., Coop. & Farm.	Less than 10,750 (\$ 250)	Less than 10,750 (\$ 250)
All Occupations		About 25,260 (\$ 587) ⁶	

Table 11: Estimated Average Yearly Income by Main Occupations

The value of additional assets owned over and above the individual's income also correlates with the latter socio-economic stratification. Merchants have many thousands of soles invested in commercial merchandises to be sold (Average of \$80,000 soles for seven cases). Carpenters and lumber bosses, apart from having retained considerable capital

-
5. Income for merchants has been estimated on the basis of two case studies in which the continuous renewal of a stock of merchandise valued at 80,000 soles was said to yield a monthly profit of 5,500 soles, for a total yearly income of 66,000 soles. However, general store merchants have usually other investments in cattle-raising or in the wood industry (see Diagram 3), hence other sources of earnings and higher incomes in comparison to lumber bosses.
 6. The average income per capita for the overall population of Puerto Inca would be about 5,676 soles (\$132 Am.).

to cover future wage-labour and equipment costs, own expensive material assets such as chainsaws, cables and winches, boats and Johnson outboard motors. As for small farmers, they own few assets: land is not a scarce commodity and does not have any market price; however, cultivated land constitutes the farmer's most valued asset in the attainment of a minimum standard of living.

The occupational hierarchy also corresponds to an unequal allocation of material goods such as boats, outboard motors, refrigerators, chainsaws, sewing machines, radios and record players. If ranked vertically according to a simple ordinal scale of estimated values,⁷ the distribution of these goods correlates significantly, i.e., at .5983 (Kendall correlation, 191 cases), with the following occupational rank-order:

Occupational Strata	Main Occupations
1	1. Missionaries, Merchants & Carpenters
1 & 2	2. Government, Lumber Bosses, Cattle Raisers
2 & 3	3. Trades, Permanent Labour, Gold, Lumberers & Carptr. Assistants
4	4. Occasional Labour, Cooperative, Farmers

Table 12: Occupational Strata

Housing, Food Budget and Health Conditions: Costly services such as air transport find their customers almost exclusively among the two upper economic strata. The quality of housing accommodation also

-
7. Observed cases were categorized into one of the four following values: 4. Nothing; 3. One or two of the following articles: radio, sewing machine, record player; 2. At least two of the preceding commodities plus a chainsaw, and/or a boat with an outboard motor; 1. Property of preceding category plus refrigerator, and/or freezer, and/or other articles of comparable value.

varies according to one's stratum. Concomitant variations between the preceding occupational rank-order and the house-value rank-order given below yield a significant Kendall correlation of .5835 (199 cases).

House-Value Rank-Order	Roof Material	Floor Material	Type of Lighting	Kitchen Combustible	% of 177 Houses
1	Calamine	Cement	Electricity	Kerosene	10.2%
2	Calamine	Batten	Electricity	Kerosene	7.9%
3	Thatch	Batten	Electricity	Keros. or Wood	15.8%
4	Thatch	Batten	Candle	Wood	34.5%
5	Thatch	Pona Slats	Candle	Wood	23.7%
6	Thatch	Soil	Candle	Wood	6.8%

Table 13: Types and Distribution of Housing Accomodation

Food consumption is equally determined by this unequal distribution of factors of production and products. A few case studies revealed that the market value of the average food budget of a farmer's or lumberer's family (5 cases) is approximately 293 soles per week (\$6.80 Am.), about half of the food budget of a merchant's family of equal size (1 case), and less than half of the mission's corresponding expenses.

Ample data are available on varying health conditions. Most patients attended by the visiting foreign doctors at the local clinic suffer common illnesses found elsewhere in poverty-stricken areas of the world: anaemia and malnutrition (20% of all 669 illness-cases treated in 1973 in Puerto Inca), diarrhoea (13.5%), hygiene problems (12.9%), pneumonia (19.1%), influenza (10.2%), parasites (6.3%), accidents (6.3%), pregnancy care (3.1%), venereal diseases (2.5%), measles (1.3%), tuberculosis (1.8%), polio (1%), and leichmaniasis (1.9%). An indication

of the economic factor underlying these health problems is offered in Table 14: illnesses which are not directly related to varying economic conditions (25% of all cases) have been excluded (i.e., pregnancy care, accidents, venereal diseases, influenza, polio, measles). The economic stratum of non-working individuals (e.g., children and housewives) has been determined on the basis of the household head's main occupation. The results are quite significant:⁸

Occupational Strata	A % of Overall Population	B % of Total Cases of Illnesses (669)	d = A/B Deviation from Expected Frequency
1 & 2: Mission, Merchts, Government, Bosses, Trades, Ass't. Carptrs., Carptrs., Cattle	28.3%	22.5%	1/1.26
3: Permnt. Lab., Gold, Lumberers	29.8%	27.3%	1/1.09
4: Occas. Lab., Coop., Farmers	41.9%	50.2%	1.20
TOTAL	100 %	100 %	

Table 14: Frequency of Illresses by Economic Strata

the first and second strata are affected by such illnesses 1.26 times less often than expected, the third stratum is affected 1.09 times less often, while the fourth lowest stratum, farmers and occasional labourers, receive medical treatment 1.2 times more often than should be expected on the basis of the overall population distribution by economic strata.

8. They are significant in spite of the fact that people within the upper strata can pay medical expenses more easily and that those in lower strata resort more often than others to traditional healing practices.

5. VERTICAL CONTRASTS OR CLASS INTERDEPENDENCE?

This first chapter offered a brief description of the processes of production and distribution of commodities in Puerto Inca. Let us summarize the main points: the village economy contains various sectors, namely agriculture (& hunting and fishing), lumbering, commerce, religious and governmental "services", and wage-labour which cross-cuts the latter sectors in varying proportions. Data on market-values and on production techniques and output have also been given succinctly. An analysis of the distribution of active population by economic sectors revealed that approximately 2/3 of the total active population are engaged in slash-and-burn farming, 30% in the wood industry, 27% in commerce, and 14% in administrative activities. (The latter figures include "secondary occupations", thus adding to more than 100% of the total active population). Combinations of main and secondary occupations were shown to follow a clear-cut pattern yielding a polarized chain of four occupational groups: 1. missionaries, merchants and carpenters, governmental employees; 2. lumber bosses, trades, carpenters' assistants, cattle-raisers; 3. permanent labourers, gold extractors, lumberers; 4. occasional labourers, cooperative members, swidden farmers. And it was found, in the last section, that this chain of occupational groups is hierarchically structured through an unequal distribution of both commodities and factors of production.

However, the foregoing description of Puerto Inca's economy begs the question as to the existence of "one" economy in Puerto Inca. Are we not facing rather two economic systems each functioning with its own forces and relations of production, and with its own subjective economic rationality? This "duality-of-structures" interpretation

can be convincingly supported by numerous observations. Firstly, forces of production within the slash-and-burn "sector" differ significantly from those prevailing within market-oriented "sectors" such as the lumber industry, cattle-raising, commerce and administrative services. Slash-and-burn farmers reproduce food plants through the use of technologically simple tools, and resort to hunting and fishing as supplementary sources of needed use-values. Conversely, the lumber industry produces commodities by extracting all the wood which can be sold with profit on the regional market; production is thus extractive and cumulative and requires relatively advanced technology.

Secondly, relations of production display apparently similar contrasts. Swidden farming rests upon a simple domestic division of labour: apart from hunting and fishing, men are in charge of slashing, clearing and burning the plot, while women contribute to later tasks such as planting, weed-clearing and harvesting, and busy themselves with household chores. Help may be needed at certain critical periods of the year and neighbours will often offer their assistance in exchange for food and drink (minka exchange), for wages (peón labour), or for a promise of equivalent labour return (trabajo devuelto). Domestic relations of production are furthermore consolidated by the household ownership of means of agricultural production, i.e., labour, land and tools (mostly machetes and axes). Even though legal recognition of land ownership is "officially" required, land occupation and use are considered for regional purposes as sufficient criteria of legitimate ownership of small plots. Given the abundance of land within the Pachitea Valley, private ownership of swidden plots is very rarely divorced from direct usufruct.

Market-oriented sectors function differently, namely through

the concentration of privately owned means of production in the hands of a few individuals.

Thirdly, Puerto Inca would display a duality of economic rationalities. Swidden farming households consume a significant proportion of their own products, hence a use-value mode of production and exchange based on the subjective priority of subsistence over profit-making. Conversely, market-oriented sectors sell what they produce in order to maximize utility and/or profits, hence an exchange-value rationality.

Facts speak for themselves, one might thus conclude. And surely they do once they are recognized as "facts". The task of the next chapter will consist, however, in questioning the existence and/or meaning of such "facts", in revealing the inadequacies of the "duality-of-structures" perspective, and in showing how such a perspective hides an overall mode of production of exchange-values, or a "structure-of-dualities" based on the hierarchical interdependence between swidden agriculture and other sectors of Puerto Inca's processes of production.

CHAPTER 2: SWIDDEN AGRICULTURE AND THE PRODUCTION OF
EXCHANGE-VALUE

The object of this chapter is to show the weaknesses of various theories which thrive on the same assumption, namely that swidden agriculture is necessarily associated with primitive modes of production; and to offer an alternative interpretation stressing the functional interdependence between slash-and-burn farming and other sectors of a market economy.

Firstly, slash-and-burn agriculture does not necessarily fit into Geertz's "imitative-ecosystem" model so that one cannot derive from swidden techniques "much of the explanation for the uneven distribution of population in Indonesia and the ineluctable social and cultural quandaries which followed from it" (Geertz, 1969: 25). Secondly, maximum dispersion, or "the settlement pattern of the state of Nature" (Sahlins, 1974: 97), is not determined solely by swidden forces of production which are compatible with significant population growth and concentration. Thirdly, even though often associated with features attributed to subsistence economies, swidden farming does not always rest upon subsistence forces and relations of production and upon a subsistence rationality: on the contrary, it can be integrated, as it is in Puerto Inca, into a non-primitive mode of exchange-value production.

1. SWIDDEN FARMING AND THE IMITATION-OF-THE-NATURAL-ECOSYSTEM THEORY

A. Swidden Agriculture - A "Harvestable Forest"

According to Geertz, swidden agriculture is basically characterized by its integration into the general structure of the pre-existing natural

ecosystem which it maintains. Wet-rice agriculture, on the other hand, creates and sustains a new ecosystem organized along novel lines and displaying novel dynamics.

Any form of agriculture represents an effort to alter a given ecosystem in such a way as to increase the flow of energy to man; but a wet-rice terrace accomplishes this through a bold reworking of the natural landscape; a swidden through a canny imitation of it. (Geertz, 1969: 6)

Swidden cultivation imitates the natural ecosystem in three different ways: firstly, through a high degree of food-plant diversification; secondly, a high proportion of total system resources stored in living forms; and thirdly, a closed-cover protection of an already weakened soil against the direct impact of rain and sun.

Firstly, a slashed plot contains many species: in the Peruvian rain forest rice, corn, manioc, beans, sugar-cane, bananas, and many plants and fruits of all sorts can be found in different combinations within swidden plots. This tendency towards a high diversity index reproduces features of the tropical ecology itself in which prevails an enormous variety of plant and animal species. The energy thus produced by both swidden farming and tropical rain forest "is distributed among a relatively large number of different species, each of which is represented by a small number of individuals" (Geertz, 1969: 27).

Secondly, the quantitative ratio of nutrients in living forms to soil-nutrients is high in both tropical and slash-and-burn ecosystems. As in most parts of the Amazonian basin, agricultural productivity in the Pachitea Valley does not rest upon rich fertile soils: nutrient-poor lathosols usually prevail. Heavy rains are only partially compensated by evaporation, and a significant downward water percolation through the soil carries away the more highly soluble silicates

and bases, leaving behind a mixture of iron oxides and stable clays. Constant leaching, although not necessarily producing ferralite or "pedological leprosy", seriously impoverishes these soils in minerals requisite to the sustenance of life.

Grumusols (Udert vertisols) can also be found in the district of Puerto Inca (referred to as Parjo rojizo grúmico tropical in Onern). These have "a very sticky consistency when wet, and very pronounced shrinkage on drying and swelling on wetting, due to a high content of montmorillonoid clay" (Webster & Wilson, 1966: 31). Thus, they plough and subsoil themselves as a result of their expansion and contraction under the influence of moisture and dryness, respectively. The ensuing formation of wide cracks impedes the formation of separate eluvial (A Horizon, zone of leaching) and illuvial (B Horizon, zone of accumulation) horizons (Webster & Wilson, 1966: 32). Like lathosols, grumusols in the vicinity of Puerto Inca contain a low degree of nutrient resources: after clearing, organic matter is rapidly lost, the soil surface deteriorates, rain penetrates less and erosion losses augment with increased run-off.

However poor these lathosols and vertisols may be, they support a rich plant and animal life.

The cycling of material and energy among the various components of a tropical rainforest is both so rapid and so nearly closed that only the uppermost layers of the soil are directly and significantly involved in it, and they but momentarily. (Geertz, 1969: 10)

High humidity, constant rainfalls, hot weather, unchanging amounts of sunlight (see Diagram 4), are all factors contributing to the constant and rapid processes of both decomposition and regeneration of animal and vegetal material. Dead matter is always accumulating on the forest floor but it does not create a humus topsoil storehouse of nutrient

material in colloidal form. Rather it decays rapidly and is absorbed efficiently by the luxuriant vegetation and its shallow, splayed root systems. This rapid utilization of nutrients set free by the decomposition process impedes the latosol from transforming itself irreversibly into ferraltic soils since it minimizes the loss of nutrients due to heavy rainfalls and high leaching.

By maintaining most of its energy in the form of living things most of the time, the tropical forest ecosystem is able to prevent any significant escape of energy across its boundaries and to circumvent the problem of impoverished soil conditions by feeding largely upon itself. (Geertz, 1969: 13)

Swidden agriculture resorts to the same plant-to plant, direct cycling process. Burning the slashed plot accelerates the decaying process to the advantage of certain selected food-producing plants. The ash remains provide a significant proportion of the mineral energy utilized by the swidden cultivates. A thorough cutting and drying of the trees and vegetation are thus crucial factors: cultivates are exposed to the sun, unnecessary competition for nutrients between food plants and natural plants is reduced, the burning process is more successful, and a rich store of nutrients locked up in the prolific vegetation is subsequently reutilized. Felling, slashing and trimming techniques are thus well developed and burning often repeated.

Thirdly, swidden farming and tropical rain forest ecologies both produce similar "closed-cover" architectures. Photosynthesis occurs mostly at the very top of the forest, thus producing a tall (100 to 150 feet) parasol of "closely packed, large-crowned, evergreen trees" (Geertz, 1969: 13). The soil-impoverishing leaching process is thus reduced by the parasol's protection against excessive sunlight and rain. Life forms rarely settle down on the tropical darkened floor and seek

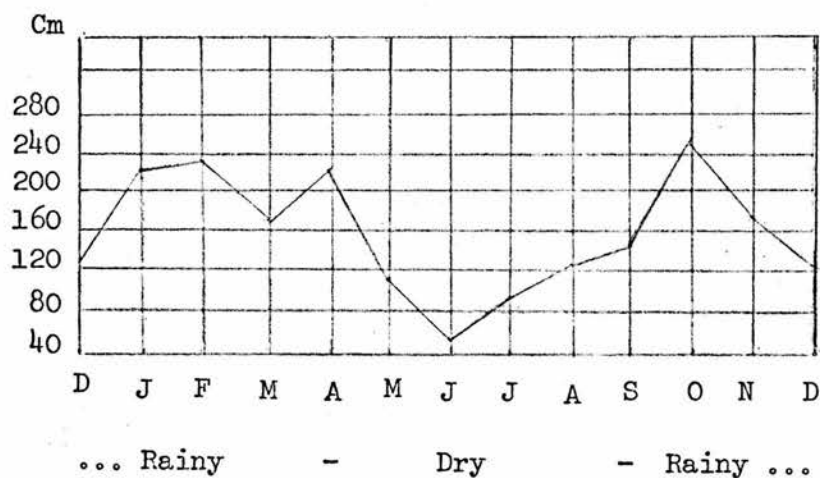


Diagram 4: Monthly Variations in Precipitations in Tournavista (near the mouth of the Pachitea River) (yearly average temperature of 77.5^oF, or 25.3 Celsius, with minor monthly variations in temperature and in hours of daylight)

rather to reach toward this upper sun and water-feeding canopy.

The swidden plot imitates nature by adopting itself a certain umbrella-like shape: cultivates are distributed in a disorderly, tightly woven, dense botanical fabric. Shrubs, large uncut trees and tree crops of various sorts (banana, papaya, avocado, coconuts, palm trees,

etc.) are left standing in the plot.¹ Weeds and secondary vegetation are thus less exposed to rain and sun and therefore grow less rapidly, leaving more nutrient sources to the food-producing plants and reducing the amount of labour required in the weeding.

However, the swidden ecosystem's threefold imitation of nature remains partial, for it alters the natural community. It reduces its general productivity, but does so only in order to procure a larger yield for man. Considerable amounts of energy and nutrients are also lost: nitrogen goes up in smoke in the burning process, ashes are washed away by rain, leaching is accelerated by the sudden excess of sunlight, percolation and evaporation. As a result the new ecosystem, as distinct from its natural environment, cannot be self-perpetuating: the cultivates cannot feed upon themselves and little nutrient transfer can be obtained through repeated slashing and burning. Productivity drops considerably after first and second croppings because of soil impoverishment and/or increasing competition produced by rapidly growing weeds and secondary vegetation.

Plots in and around Puerto Inca are abandoned after two or three years and are gradually recuperated² by the forest ecosystem. A swidden plot does not constitute a naturally self-perpetuating community, yet

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1. As observed by Webster & Wilson (1966: 164), it is common practice among swidden farmers to plant first a cereal, then to interplant with annual or semi-perennial roots, and subsequently to interplant again with perennials such as bananas. This technique is indeed often practised in Puerto Inca: farmers may first plant rice or corn and then successively interplant with manioc and bananas.
 2. Webster & Wilson (1966: 158) observe that "the native practice of leaving the stumps and roots of trees undisturbed after felling and the prevailing high rainfall and temperatures, all make for very rapid regeneration after cultivation is abandoned, and large amounts of nutrients are quickly accumulated in the secondary forest growth".



the total swidden and tropical rain forest ecology can itself be perpetuated indefinitely through repeated surrenders of the plots to natural vegetation, given, of course, sufficient arable land. In the latter crucial sense, a structural homology exists between the natural ecosystem and the overall ecological community composed of both swidden plots and their rain forest environment.

B. Puerto Inca's Low Diversity Index or Crop Specialization

Puerto Inca's version of swidden farming is ecologically imitative from the point of view of the plant-to-plant direct recycling of nutrients through slashing and burning, and from the point of view of the closed-cover parasol architecture. It ceases, however, to imitate Mother Nature with respect to the diversity index: Puerto Inca farmers cultivate only a few plants and swidden farming, as they practise it, is adapted to crop specialization.

Some Pachitea farmers, like many primitive Amazonian horticulturalists, do cultivate many species within one slashed plot. About 30 different food-producing plants and many other useful non-food plants were observed in a typical Campa two-hectare plot located a few kilometers up the Apurucayali River, a tributary of the Pachitea. Similar practices are frequently observed among most of the primitive horticulturalists of the Amazonian basin (Meggers, 1971: 20).

It must be emphasized, however, that this generalization of production is not inherent to swidden agriculture. Most plots cultivated by Puerto Inca farmers are highly specialized in the production of only one or a combination of two to three staple foods comprising either bananas, manioc, corn, rice, sugar-cane or beans. As shown in Table 1 (Chapter 1), at least 92% of all cultivated land is allocated to the production of only 4 staples, i.e., bananas, manioc, rice and corn.

Product	Est. % of production sold
Bananas	45%
Manioc	80%
Rice	80%
Corn	55 - 65%

Table 15: Sale of Agricultural Products (based on a sample study of 38 cases, or 1/3 of all farming household units)

Megggers argues that plant diversification reduces the competition for any particular type of nutrient, thus maximizing the use of all available nutrients. Furthermore, diseases spread less easily since individuals of the same species are scattered and isolated (Megggers, 1971: 20). However, the fact that a high diversity index may offer some ecological advantages does not demonstrate the ecological necessity of such a farming technique. Moreover, as observed by Meggers herself (1971: 100), manioc ~~as~~ and ~~as~~ other cultivates are tolerant of nutrient-poor soils and are resistant to diseases; hence crop specialization is not necessarily maladaptive. The Kuikuru, for example, cultivate mostly manioc which makes up between 80% and 85% of their diet; other cultivated plants provide 5% or less of their diet, while fishing and hunting account for less than 15%, and less than 1% of the food supply, respectively (Carneiro, 1968: 132).

Only part of the few products cultivated in Puerto Inca can be consumed by the producing units themselves. Given the limited means of Puerto Inca farmers and the resulting constraints on food preservation,

rice can be kept for only 3 to 4 months after harvest, and corn for 4 to 5 months. Surpluses must be sold if any advantage is to be gained by such crop specialization. Surplus production for exchange purposes is effectively an essential feature of swidden farming in Puerto Inca. As indicated in Table 15, more than 45% of all major food-products are sold by their producers, usually to local merchants or lumber bosses.

Manioc can be harvested gradually and consumed by the family members throughout the year, as is done among the neighbouring Campas, the Kuikurus of Brazil, etc. But in Puerto Inca, manioc also lends itself to commercial transactions once it is transformed into flour. Puerto Inca is not an exception: surplus production of manioc for exchange purposes was practised by the Mundurucus of the Rio Tapajos during the 1850's, with a yearly surplus of 180,000 to 300,000 pounds of flour, sold to white traders from the town of Santarem (Carneiro, 1968: 137). Swidden cash crop specialization (coffee and cacao) is equally practised by some of Puerto Inca's neighbouring Campas (Bodley, 1970: 24; Denevan, 1972: 168).

This low diversity index cannot be explained by technological transformations of the means of production themselves. Machetes and axes have become necessary tools for most horticulturalists of the Amazonian basin, but their use has not entailed any tendency towards crop specialization among the Gran Pajonal Campas or other neighbouring tribes of Peru or Brazil. Imported rice or corn seeds have also altered the traditional means of production, but they can and are frequently cultivated just for family consumption, as reported by Meggers (1971: 100). The use of nets and dynamite for fishing, or of shot-guns for hunting, can be seen as having had a direct impact on hunting and fishing consumption-and-production patterns, since these technological

innovations do lend themselves easily to surplus production. But technological changes within slash-and-burn farming have been much less significant, and cannot therefore account for the observed cases where a low diversity index and surplus production do occur.

Geertz's and Megger's characterization of the slash-and-burn ecosystem, even though offering some useful insights into some of its features, rests upon a dangerous fallacy: that of deriving the mode of economic production and exchange from the productive forces. Crop diversity is frequently found in association with swidden farming, that must be granted, but it is not inherent to it. It is usually found among primitive tribes of the Amazonian basin where most of what is cultivated is consumed by the producing unit itself and immediate relatives. But in a context such as Puerto Inca where commercial transactions do occur, slash-and-burn farming can and does lend itself to cash crop specialization.³ Swidden forces of production can be integrated in a mode of production based on a market-economy; they are not exclusively associated with the "domestic mode of production" as argued by Geertz, Meggers and others (Varese, 1974: 23).

This significant deviation from the "imitative" model Geertz has suggested does not entail, as shall be shown, any noticeable or predictable forest deterioration or impediment to eventual forest recuperation. It cannot therefore be considered as the symptom of a maladaptive version of swidden cultivation. From the point of view of Man, it certainly reduces the number of food sources produced by himself and may seem unjustifiably maladaptive in that sense. But what is forgotten is that slash-and-burn agriculture is not necessarily based upon a domestic subsistence economy in which products have only a use-value. If swidden

3. See reference to "more intensive shifting cultivation" in Webster & Wilson (1966: 155).

agriculture tends to specialize so strongly in Puerto Inca, it is in so far as the resulting products have an exchange value within a wider network of market transactions.

2. SWIDDEN DEMOGRAPHY AND THE MAXIMUM-DISPERSION THEORY

A fourth imitative feature is made explicit in many descriptions of swidden farming. According to Geertz, swidden farming can produce an irreversible process of ecological deterioration caused by "an increase in population which causes old plots to be recultivated too soon" (Geertz, 1969: 15). The notorious imperata savannah has thus transformed vast areas of Southeast Asia into a green desert. Given swidden ecosystem's fragile equilibrium, men - like other living species - must disperse so that ecological stability requires small villages. If the low population ceiling is not respected, land will be recultivated sooner and deflection towards grassland succession will follow. Social systems associated with slash-and-burn agriculture must therefore comply with the centrifugal laws of rain forest Nature: "Maximum dispersion is the settlement pattern of the state of Nature" (Sahlins, 1974: 97).⁴

Even though it is correct to say that maximum population capacities limit the possible population growth among swidden farmers, one cannot argue that swidden ecologies are inherently fragile, and that demographic increases will soon bring wider dispersion over the countryside in order to bring more land into cultivation.

Otherwise the deterioration to savannah process which results from too rapid recultivation will set in and their position will become even more untenable. (Geertz, 1969: 21)

4. "Its success (slash-and-burn cultivation in the Amazonian lowlands) in conserving the fertility of the soil carries with it a price, however, in the form of relatively low concentrations of population" Meggers, 1971: 23.

Given certain conditions,⁵ such as ample land and easy access to wide networks of exchange, a swidden population can increase considerably, certainly above the "state of Nature", and achieve a stable equilibrium in which land is repeatedly reclaimed by forest and savannah deterioration is avoided. Although population ceilings do exist and do entail significant constraints, their mere existence does not entail an intrinsic incompatibility between significant population growth and environmental stability.

As pointed out by Sahlins, our knowledge on ecological systems is perhaps not sufficient to enable us to determine with adequate precision the optimum population which a given area can support through slash-and-burn agriculture. However, various of these indexes of population capacity have revealed a highly significant pattern: "The existing population is generally inferior to the calculable maximum, often remarkably so" (Sahlins, 1974: 43). Swidden underpopulation has been observed by Allan for Rhodesia among the Lala, Swaka and Degomba, by Turner for the Ndembu Kanangesha Chiefdom, by Freeman for the Iban of Borneo, Izikowitz for the Lamet of Laos, Conklin for the Yagaw Hanao of the Philippines, etc.

Among the Naregu Chimbu of the New Guinea Highlands, where one of the highest densities of population of the primitive world prevails, the density is only 64% of the actual carrying capacity (288 inhabitants per square mile, according to estimates given by Brown and Brookfield). Carneiro observes that the South American Tropical Forest Zone has usually supported very small communities, their modal average lying somewhere between 51 and 150 members, while village populations of 450, 1,000 or even 2,000 could have been sustained by a self-perpetuating swidden production. (Carneiro, 1960)

5. These conditions do not have to be "ideal" as suggested by Geertz, if by "ideal" is meant what is rarely found.

Whatever the reasons underlying the latter tendency towards underpopulation, it is a fact that swidden production can often support much larger populations than it actually does. It is certainly the case for the Amazonian rain forest of South America, as demonstrated by Carneiro (Carneiro, 1960). Ecological stability does not require that primitive-like, low demographic patterns be maintained. As argued by Sahlins and others (Carneiro, 1960; Varese, 1968: 16), high demographic dispersion should have been explained in the first place with reference to factors other than ecological necessity.

Puerto Inca's population deviates considerably from the average population of the traditional communities of the Amazonian rain forest. About 1084 inhabitants reside in Puerto Inca, while primitive settlements of more than 400 people have been, and are, still rarely found. Yet land is still available in abundance, and repeated forest recuperation is not threatened by swidden farming. Old plots are not recultivated prematurely: about 2/3 of all plots cultivated in 1973 (excluding pasture land) by Puerto Inca farmers used to be virgin forest (monte real) or old purma plots which had been abandoned for at least ten years and which have been invaded by fast-growing secondary vegetation.⁶ Nor has population growth compelled farmers into overcultivating the land: most plots are abandoned after the second or third consecutive year, as in most areas of the world where shifting agriculture is practised.⁷

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6. According to Webster and Wilson (1966: 162), the length of the fallow period, under traditional swidden farming in the forest zone, is usually between 10 and 20 years, or longer where population dispersion is greater. They add that swidden horticulturalists normally prefer to clear good secondary growth rather than virgin forest, since an old purma takes less time for felling, clearing, drying and burning. Unfortunately available data are not sufficient to yield a distinction between virgin-forest and old-purma plots. Given, however, the relatively high population density that has characterized Puerto Inca district for the past four decades, virgin forest as such is probably found only in areas unsuitable for agricultural purposes, or too remote from village centres.
7. Carneiro, 1968: 138; Meggers, 1971: 20; Sahlins, 1974: 42; Webster & Wilson, 1966: 154.

One might observe that the population density for the whole Pachitea Valley is still relatively low, i.e., between 0.5 and 1 inhabitant per square kilometer (as in the neighbouring territory of the primitive Gran Pajonal Campas) (Onern, 1966; Denevan, 1972: 162). Yet a good percentage of the Pachitea population is concentrated in a few villages such as Puerto Inca (i.e., about 50% in the district of Puerto Inca, according to Onec, 1970: 4). But again the available quantity of land still exceeds the resulting local demands for arable land.

Repeated forest recuperation and the self-perpetuation of a swidden population do not require, as assumed by many anthropologists (e.g., Bodley, 1970: 3), the maintenance of a very low population density (or high demographic dispersion). Carneiro has formulated a simple mathematical technique for evaluating the various factors permitting or preventing ecological self-perpetuation of a swidden farming population (Carneiro, 1960). The six following variables suffice to obtain such a quantitative evaluation:

- A = The area of cultivated land (in hectares) required to provide the average individual with the amount of food he ordinarily derives from cultivated plants per year
- P = The population of the community
- Y = The number of years that a plot of land continues to produce before it is abandoned
- R = The number of years an abandoned plot must lie fallow - for sufficient forest recuperation - before it can be recultivated
- T = The total area of arable land (in hectares) necessary for the self-perpetuation of a given swidden farming population

Let T be the particular unknown for our Puerto Inca case-study, and

the value of the other variables be as follows:

$$P = 1100$$

$$Y = 2 \text{ years}$$

$$R = 25 \text{ years (maximum; see Bodley, 1970: 80; Carneiro, 1960, 1968; Denevan, 1972: 155; Webster & Wilson, 1966: 162)}$$

$$A = .32 \text{ (since the average size of land cultivated by swidden households is 2 Ha and the average size of a family is 6.2; hence } A = 2/6.2 = .32 \text{ Ha)}^8$$

The smallest area of cultivated land (T) that will support Puerto Inca's present population in the same locale indefinitely can be determined with the following equation:

$$T = \frac{R \times A \times P}{Y} + (P \times A)$$

Substituting numbers for the symbols we have:

$$T = \frac{25 \times .32 \times 1100}{2} + (1100 \times .32) = 4752 \text{ Ha}$$

Carneiro reports that the Kuikurus are willing to travel 6.4 to 8 kilometers to till a field of manioc. Puerto Inca farmers frequently travel farther or at least equivalent distances for the same purposes. Assuming that Puerto Inca residents can have access to all available land within a minimum radius of 6.7 kilometers, and that only 1/3 of this area is suitable for cultivation, we obtain a T value corresponding to the latter finding, i.e., 4,752 hectares. According to the preceding calculations, this area is sufficient for the population to self-perpetuate indefinitely on a swidden agricultural basis.

8. Lower estimated values of A are suggested by de Fauterau for French Guiana (.08 Ha, in Carneiro, 1960: 233); by Carneiro for the Kuikuru (.28 Ha; 1960: 232); and by Bodley for the Campas (.78 Ha for a family; 1970: 48).

The population density resulting from this ecosystem simulation would be of about 7.7 inhabitants per square kilometer ($1100 / \frac{4752 \times 3}{100}$).⁹

Although still quite low, this density figure probably decuples the present figure (0.5 to 1) for the Pachitea Valley as a whole, and for the neighbouring Gran Pajonal plateau.

The farming population of Puerto Inca could increase significantly and still remain within the limits of the preceding simulated situation.¹⁰ Indeed the calculations given above overestimated the P value: only 60% of the overall population of Puerto Inca derives a significant portion of its food supplies from slash-and-burn agriculture. Ecological studies of the Pachitea Valley and of neighbouring areas suggest furthermore that the ratio of arable to total forest land is greater than 1/3.

Cattle-raising and lumber extraction impose additional pressures on land use. The preceding simulation remains valid, however, since both cattle ranches and lumber sites are usually far beyond the minimum radius of 6.7 kilometers.¹¹

The foregoing discussion leads to an obvious conclusion: slash-and-burn populations can increase considerably, well above the density figures characterizing primitive Amazonian tribes, without producing

9. Varese's simulation is based on a different estimated average of the A value, i.e., 1.29 Ha per individual, thus producing a maximum population density of 2.34 inhabitants per square km. Although he does not clearly specify which type of agriculture he is referring to, it seems that it is intensive (permanent or pasture), hence the higher value given to A. (Varese, 1974: 25).
10. According to this simulation, there should be 352 Ha under swidden cultivation in the area of Puerto Inca, or 114 Ha more than the actual area under cultivation.
11. If integrating these additional sources of land use into the simulation model by increasing the actual area under cultivation from 238 Ha to 538 Ha, the resulting T value is obtained with a minimum radius of 8.33 km and the resulting population density is 5.04 inh./km². This T value is still under the actual range of Puerto Inca farming activities.

an irreversible process of ecological deterioration. There is no such thing as an ecological law forcing swidden farmers to spread out as much as possible.

Sedentarism and Shifting Cultivation:

Another form of ecological determinism is supported by those who argue that the early abandonment of swidden plots can be attributed to the exhaustion of soil fertility. Nye and Greenland point out that many factors can be involved in the decline in productivity under swidden cropping: multiplication of pests and diseases, increase of weeds, deterioration in the physical conditions of the soil, erosion of top soil, deterioration in the nutrient status of the soil, changes in the numbers and composition of the soil fauna and flora (Nye and Greenland, 1960). Carneiro has suggested that observed decreases in crop yields often result from the increased competition offered by weeds and grass more than from the loss of soil fertility as such. (Carneiro, 1968: 139). Denevan suggests furthermore that the local depletion of game may be the most critical factor in the early abandonment of swidden plots among the neighbouring primitive Campas (Denevan, 1972: 169).

Available data are not sufficient to contribute to the latter debate, yet they certainly do confirm the significance of the two following factors: firstly, crop yields do effectively drop with increased invasion of pests, weeds and secondary vegetation; and secondly, under young-purma conditions, labour requirements (for a given yield) greatly exceed those that follow the use of virgin forest land or old purmas.

Task	Labour Required under Virgin Forest or Old <u>Purma</u> Conditions	Labour Required under Young <u>Purma</u> Conditions (less than 10 yrs)
Rozo	15 man-days	13 man-days
Tumbada	20 man-days	8 man-days
Pica	8 man-days	6 man-days
Quema	1 man-day	1 man-day
Junta	8 man-days	6 man-days
Cultivo	6 man-days	30 man-days (minimum)
Total	58 man-days	64 man-days
% Yield	100%	75%

Table 16: Labour Requirements under Virgin Forest (& Old Purma) and Young-Purma Conditions

Table 16 shows that rice and corn fields on young-purma plots amount to no more than 75% of the corresponding yields on virgin forest or old purma plots. Although land clearing is less time-consuming with young purma plots (smaller trees), weeds are more abundant and must be cut more often than on virgin or old purma land. Hence 64 man-days of work will be necessary on a one hectare young-purma plot, while 58 man-days will suffice on a virgin or old-purma plot of the same size (harvest excluded). The difference is not that high, but one must remember that yields are not the same. Thus 64 days of work will produce at the most 75% of what a virgin or old-purma plot may produce; 19 additional days of work would be needed to compensate for this decline in productivity. Each family usually cultivates an average of 2 hectares; 166 man-days are thus required for a family to produce on a young-purma plot the same amount of food that another family can obtain with a lower input of 116 man-days on

a two hectare virgin or old-purma plot (excluding harvest labour).

These two factors, decline in yield after 2 or 3 years of cultivation and variations in labour requirements, account for both the reluctance Puerto Inca farmers show in cultivating young-purma land, and the early abandonment of cultivated plots.

3. ECONOMIC STRUCTURE OF DUALITIES OR ECONOMIC DUALITY OF STRUCTURES?

A. Theories of Economic Duality

The imitation-of-nature metaphor may provide some useful insights into the structural features of primitive swidden ecosystems and societies. However, when applied indiscriminately to the study of all slash-and-burn ecologies and economies, it leads to a major fallacy, that of deriving the relations of production from the forces of production. In a scientific attempt to show the relationship between swidden forces of production and the social structure associated with them, anthropologists and economists have been frequently lured into the theoretical trap of what Godelier has called "vulgar materialism":

The economy, as a system of social relations between men engendered in and from the process of producing their material conditions of existence, is reduced to technology and the relation between men and nature (...). Social structures are seen as so many means that are functionally necessary for this ecological adaptation. Their hidden, latent rationality lies in providing adaptive, selective advantages which are disguised under forms that appear to be irrational, non-economic, etc..

(Godelier, 1972: xxxiii)

Our understanding of ecological equilibrium, population pressure and its social effects must pass by way of the existing socio-economic structure and cannot be mechanically derived from environmental factors (Sahlins, 1974: 49).

One can assume that men - in their actions securing the material sustenance of their lives - will interact between themselves in a way logically related to their interaction with Nature. Relations of production cannot be structured independently from productive forces. Marx wrote in Wage Labour and Capital:

These social relations into which the producers enter with one another, the conditions under which they exchange their activities and participate in the whole act of production, will naturally vary according to the character of the means of production.

(Marx, 1969: 81)

What cannot be taken for granted, however, is that swidden means of production are historically incompatible with modern forces of production. Marx himself argued often that the mutual exclusion of these forces would soon lead to the "annihilation" of primitive technology and its corresponding potatoes-in-a-sack form of social relations (Marx, 1969, Eighteenth Brumaire of Louis Napoléon: 172; Socialism: Utopic and Scientific: 423):

Of all the classes, that stand face to face with the bourgeois to-day, the proletariat alone is a really revolutionary class. The other classes perish and disappear in the face of modern Industry, the proletariat is its special and essential product ... The lower middle-classes, the small manufacturers, the shopkeepers, the artisans, the peasant, all these fight against the bourgeoisie, to save from extinction their existence as fractions of the middle-class ... They are reactionary, for they try to roll back the wheel of history. (Marx, 1969, Historical Tendency of Capitalist Accumulation: 237; also in Manifesto: 44)

As far as Peru is concerned, the wheel of history rolls along quite smoothly in the Amazonian areas, where there prevails a surplus-oriented version of slash-and-burn agriculture (Stavenhagen, 1975: 102-3). This possible integration of swidden production within modern economies has been ignored in various ways. Proponents of

the "imitative" approach have done so by imposing a necessary connection between slash-and-burn farming and primitive domestic modes of production. Theories of "economic duality" thrive on the same assumption but on a macrosociological level: swidden farming belongs to subsistence types of economies which essentially differ from the coexisting modern industry and market-exchange sector. Marx rather stressed the diachronic aspect of this macrosociological contrast: the gradual expansion of capitalism must lead not to a "dual-economy" stagnation, but to eventual annihilation of the reactionary, unscientific, asocial means of peasant production.

Slash-and-burn agriculture as practised in the rain forest of Peru does not lend itself to the latter theoretical frameworks. In too many cases, it is neither aping the primitive modes of production of the Amazonian tribes, nor is it displaying any sign of historical fragility, agony and imminent death.

The Dutch economist, J.H. Boeke, one of the most influential theoreticians in the field of colonial economies, argued that the peasant sectors of colonial countries operated so differently from modern commercial sectors that economic theory could not provide any significant understanding with respect to their internal dynamics (1942, The Structure of Netherlands Indian Economy; 1953, Economics and Economic Policy of Dual Societies). As argued by Frank, Boeke's views are still widely held today, and represented in some form or other in many theories of economic duality and development (Frank, 1969: 21-95). They underly for example Wharton's summary of the various criteria selected to define "subsistence agriculture" at a seminar held in 1965 in Honolulu; the results of this seminar on Subsistence and Peasant Economies were later published, in 1969, in

Subsistence Agriculture and Economic Development, edited by R. Wharton.

A subsistence peasant economy would thus display many or all of the following features: (also in Wharton, 1971: 153)

1. Low ratio of production-sold to total production;
2. Low ratio of purchased factor inputs (labour, technology, land) to all production inputs;
3. Simpler and less productive technology;
4. Low income or low level of living;
5. Few alternative opportunities;
6. Non-economic factors intervening in economic decision-making (kinship obligations and other sociocultural factors);
7. Low degree of "outside contact", spatially and/or psychologically;
8. Stronger interpersonal relations (see Hoselitz's contrasts of achievement v. ascription, particularism v. universalism, diffuseness v. specificity);
9. Lower degree of achievement motivation (higher degree of subsistence-mindedness);
10. Low rate of change, i.e., traditionalism. (Wharton, 1969: 15-17)

Contrast-generalizations of the latter type pervade most present interpretations of underdevelopment within third world nations (see Frank, 1969: 21-95). Belshaw's short critique of "dual economy" theories shows quite clearly how inadequate such models are in explaining the present dynamics of "traditional" sectors. According to Belshaw,

... it is not true that there is no interaction between the economies. The interaction indeed takes several highly significant forms, and it may be argued that if there are continuing differences in orientation, those differences themselves result from the interaction. (Belshaw, 1965: 97)

Interaction through competition backed by political power has thus created strong monopolies to the disadvantage of the peasant sectors: the modern sectors have gained control over occupational

opportunities (e.g., through ethnic discrimination in Indonesia or Canada), and over important resources such as land, capital, labour and governmental aid.

However, Belshaw's critique is quite incomplete, for he argues that "traditional" sectors have maintained some of their basic "differences in orientation", and that they are simply "held back" in their potential growth by the following factors: the previously mentioned processes of competition and interaction, and the resulting imperfection in the articulation between both sectors.

In the plural society the integration is in process of being forged through the slow and painful creation of the institutions which will articulate it.
(Belshaw, 1965: 101)

What is considerably underestimated is the historical significance of the interaction between the agricultural sector and other sectors of the market economy. Colonialism and the growth of market economies have affected not only the possibility of endogenous dynamic evolution within traditional economies, but they have also radically transformed some of these peasant modes of production and integrated them, albeit in a peripheral position, within modern centralizing systems of economic production and exchange. Anthropologists and economists assume too often that economic marginality simply results from a lack of integration between two different systems. The wheel of history has created anything but this poorly integrated coexistence between different modes of production. What is overlooked is that

the task of social scientific theory, which dualists and other advocates of the three modes reviewed here fail to pursue, is not to see how different the parts are, but on the contrary, to study what related the parts to each other in order to be able to explain why they are different or dual. (Frank, 1969: 64)

B. Forces and Relations of Production in Puerto Inca

At first sight Puerto Inca's farming practices seem to display some of the typical features of "subsistence economies". Slash-and-burn technology is relatively simple: purchased machetes and axes are necessary tools, but they are still "artificial extensions of the person" (Sahlins, 1974: 80). Although the use of such tools has reduced the amount of work required to perform the same operation, the resulting increases in actual or potential productivity have not been drastically altered in comparison to primitive patterns of production. (see "A" values on page 60). Furthermore, the household unit provides most of the labour input and consumes a significant proportion - more than 50% in many cases - of what is cultivated. Finally, as in neighbouring primitive economies, Puerto Inca farmers engage in hunting and fishing activities as supplements to their agricultural livelihood. Both forces and relations of production thus point towards the dispersion of simple means of production, and a significant lack of interdependence between the domestic units from the point of view of economic production and exchange. Yet a closer look at such patterns does not support the aforementioned conclusions.

Firstly, a production-for-use output may be essential to a family's survival and minimum material well-being, yet it is far from being sufficient to satisfy minimum standards of living. A myriad of modern commodities are bought from the local merchants and many of these articles are essential goods in so far as they are part of every family's daily consumption habits.

Secondly, these articles are purchased with cash earnings obtained through crop-surplus sale, through sale of fishing or hunting surpluses, or through wage-labour exchanges. Two thirds of all swidden

farmers (82/121 or 67.8%) work occasionally or actively as lumberers or non-skilled labourers for a daily wage of 50 to 60 soles (\$1.16 to \$1.40). One third of all swidden farmers join the labour-market for a few weeks or months per year, and the cash resources thus obtained and the income derived from the sale of their production-surpluses are vital to the maintenance of minimum standards of living. Pauses in the agricultural cycle allow farmers to devote their free time to the labour-market without any detrimental consequences for agricultural production. The plot is usually slashed, cleared and burned during the dry summer months, but the drying process requires a whole month, thus enabling the farmer to busy himself with other activities. As already seen, lumbering jobs are held mainly from June to December: the farmer can leave his farm at the end of the dry season, after having planted his cultivates, and can engage himself in lumbering activities until his corn or rice crop reaches maturity in January.

Thirdly, Puerto Inca's fishing and hunting technology differs in two radical ways from the bow and arrow and barbasco poisonous plants of the neighbouring tribes. Firstly, shotguns, ammunition, nets, dynamite, lines and hooks must be purchased from local merchants, and they lend themselves easily to surplus production for local market exchanges; hence another source of cash earnings. Furthermore, the relative importance of hunting (& fishing) in Puerto Inca is conspicuously reduced in comparison to its relative importance among primitive horticultural-hunting-gathering tribes of the Amazonian basin (see Denevan, 1972: 161-177). As a result of the increased density of population in the region of Puerto Inca, most of the large game has been seriously depleted in the vicinity of the settlement, and the best hunting areas are at least one day away.

Fourthly, wage-labour is resorted to within swidden farming itself. A sample study involving 40 household units, approximately 30% of the farming population of the community, revealed that one out of every three farmers resorted to paid agricultural labour at one point or another in 1972 or 1973. A more detailed analysis indicated that employing farmers (sample of 11 cases) purchased a yearly average wage-labour input of about 52 man-day units, at a total cost of 2860 soles (\$67 Am.) per employer.

Yet the ratio of purchased labour to total labour input remains quite low: the average quantity of labour provided by the farmer and his family at least triples the purchased input. The usefulness of this quantitative evaluation of the wage-labour factor must nevertheless be qualified, since quantitative continua may hide qualitative discontinuities. However small the latter ratio may be, purchased labour remains an essential component of the means of production of many swidden farming units of Puerto Inca: corn and rice, differently from traditional staples such as manioc, cannot be harvested little by little whenever the need arises. They must be harvested in a few days, as soon as they reach maturity, and the farmer must secure sufficient labour to avoid losing the crop. The wage-labour factor may thus appear unimportant in quantitative terms, but it is still a crucial source of productive input in the absence of any alternative such as cooperative labour. Cooperative assistance in the form of minka (labour exchanged for food and drink) or of trabajo devuelto ("returned labour") does occur, but only infrequently.¹²

Models displaying a measurable continuum from non-existent to low, medium and high ratios of wage-labour input, are thus theoretically

12. Cases of rice crop failures among the neighbouring Campas resulted, according to Holshouser (1972: 186), from the customary unavailability of labour-intensification mechanisms.

fallacious. They totally neglect the qualitative discontinuity that separates economies where labour is not a commodity from those where it is. Like all other commodities and means of production within market economies, wage-labour is unequally distributed among various sectors; however, the fact that swidden farming may have access to a very limited proportion of wage-labour resources does not mean that such resources are unessential components of swidden economy.

Thus, to separate swidden agriculture from the wider non-subsistence forces and relations of production is totally arbitrary and misleading. Features such as low level of income, simple agricultural technology, low ratio of purchased input to familial input in production, low ratio of production sold to total output, are not necessarily symptoms of a quasi-autonomous economic system functioning with its own laws. On the contrary. Even though market commodities, including wage-labour, are available in limited quantities to Puerto Inca's farming population, they are still crucial factors in reaching what are considered minimum standards of living. However small the proportion of produce sold to the use-value output, the cash earnings thus obtained are indispensable in making both ends meet, and if not sufficient they will be supplemented through wage-labour exchanges with local lumber bosses, merchants, cattle raisers, etc. Hence some essential components of their livelihood are secured through active involvement in a wider market of commodity production and exchanges.

Subsistence-economy theories lead to an additional fallacy in our understanding of non-primitive peasant economies: that of opposing subsistence-mindedness to profit-maximization rationality. So ends this journey into the land of fictitious economic dualities.

C. Economic Rationality in Puerto Inca: Subsistence or Profit?

Man - in order to insure his survival and material well-being - must universally interact with Nature and at the same time structure social interaction as a necessary means to build, maintain or modify this Culture-Nature bridge. Economy can thus be defined as a system integrating productive forces with relations of production, hence a twofold Culture-Nature/Man-Man mode of production. Yet Man cannot implement this "substantive" mode of production without a symbolic structuring of his initial apperception of two basic discontinuities: that between Culture and Nature, and that between men themselves (see Lévi-Strauss, 1963: 99-102). A maximizing "allocation of scarce resources among alternative ends" is only one possible logical and historical outgrowth of this pre-reflexive perception of reality (Polanyi, 1957: 244).

"Subsistence economy" theories have drawn a parallel between peasant and primitive economies not only with respect to productive forces and relations, but also with respect to the overall mode of production and its underlying rationality. While this parallel may be useful in revealing the structure of some swidden economies, it can be thoroughly misleading in other cases.

Subsistence-mindedness has been defined in various ways by various authors. Wharton's well-articulated statements on the topic are contained in Studies in Economic Anthropology edited by G. Dalton and published in 1971. The discussion centres around the four following variables:

- Sas = Achievement Standard of Living (societal standard)
- L = Actual Level of Living
- Sms = Minimum Subsistence Standard of Living (societal standard)
- Pm = Minimum Physiological Requirements (below which death)

Wharton postulates the following variable structure: S_{ms} may be greater or equal to P_m , smaller or equal to L , while L is always below S_s , hence the following order: $S_s > L \geq S_{ms} \geq P_m$.

The following features characterize the typical low-income subsistence farmer: he produces mostly food, production requires little purchased inputs, most of his income is derived from farming, and his actual level of living is close to both his minimum physiological requirements and to his minimum subsistence standard of living. According to Wharton, this farmer will define the minimum subsistence standard as his paramount objective. He will thus take decisions which will secure an expected average output characterized by a negative standard deviation - subjectively expected - which does not fall below the S_{ms} . In fewer words, an alternative productive technique with an expected average output superior to the traditional one will not be adopted if the new output is expected to fall occasionally under the Minimum Subsistence Standard of Living.

It is assumed within the latter model that on the one hand, a security-maximizing strategy is chosen as a rational alternative to an insecure profit-maximizing choice; and, on the other hand, that a secure version of the latter profit strategy will be preferred over the former subsistence plan of action. Wharton thus concludes that

profit-maximization may not be as important in a subsistence or barter economy as the maximization of security and survival. (Wharton, 1971: 170)

Such an approach has the advantage of offering an operationally defined understanding of subsistence rationality. Although it is a valuable alternative to the usually vague descriptions of the same phenomena, it does contain a few major drawbacks. Firstly, the apparent opposition between profit-making and subsistence-security is

a false one: it rests upon a simple omission of the elementary concept of marginal utility. Secondly, this approach does not apply to primitive slash-and-burn economies which deviate too often from the predicted behaviour through systematic underproduction, and the corresponding underuse of labour and resources.

The first objection applies to our Puerto Inca case-study. The model seems at first to account for some behavioural variations with respect to the adoption of new economic techniques. One example will suffice. An alternative cooperative-system of production has been adopted by several swidden farmers who would fall into Wharton's category of subsistence farmer. However, this innovating strategy has been recently abandoned by most of the members, and the reasons given for leaving the cooperative confirm Wharton's model. It is clearly felt that the outcome of cooperative farming, although potentially superior to their traditional subsistence output, is too risky: it may fall below what they consider as the minimum level of subsistence. As for those who are staying, they have other sources of income which are quite sufficient to insure a minimal level of subsistence; risks are thus reduced and they can gear their decision-making towards a higher "achievement standard of living" through cooperative production.

Even though this subsistence-strategy model does throw light on behavioural variations of the latter type, one cannot conclude that the resulting subsistence rationality differs from a profit-making strategy.

Wharton derives his concept of profit simply by subtracting the traditionally expected average output from the new one, thus omitting to calculate benefits according to the law of decreasing marginal utility. As explained in any textbook on economics, "although total

utility rises with consumption, it does so at a decreasing rate" (Samuelson, 1968: 487). A farmer who refuses to remain within the cooperative knows that the cooperative might enable him to reach a higher average income. His family may thus have access to 80 kilos of rice in May and to 20 in June, an average of 50 kilos per month. As a non-member, he may expect to produce only 40 kilos of rice in May and again 40 in June, thus giving him a lower average of 40 kilos per month and a net loss of 10 kilos per month. But if calculating utility according to the preceding law of diminishing returns, as should be done if using concepts basic to modern economics, this "subsistence" strategy is undoubtedly more profitable than the cooperative strategy. Indeed, as shown in the following illustration, the last unit's marginal utility, in the cooperative strategy, is low in the first month (\$5 for 20 additional kilos) and high in the second (\$20 for 20 additional kilos). But if the farmer carries over some crop from the first to the second month, as done within the non-cooperative strategy, he is effectively switching from low to high marginal utilities for both months (\$20 for last 20 additional kilos in both May and June), thus maximizing his total utility (\$40 as compared to the cooperative-strategy's total utility of \$37.5).

	Cooperative Strategy				Traditional Strategy			
	First Month		Second Month		First Month		Second Month	
	Output	M.Util.	Output	M.Util.	Output	M.Util.	Output	M.Util.
Sms		+\$5 +\$10 +\$20 +\$20		+\$20		+\$20 +\$20		+\$20 +\$20
Tot.	80 kilos	\$55	20 kilos	\$20	40 kilos	\$40	40 kilos	\$40
Average output per month	$\frac{80 + 20}{2} = 50$ kilos of rice				$\frac{40 + 40}{2} = 40$ kilos of rice			
Average total utility per month	$\frac{\$55 + \$20}{2} = \$37.5$				$\frac{\$40 + \$40}{2} = \$40$			

Marginal Utility and Subsistence-Mindedness

N.B.: the cooperative-strategy is more profitable from the point of view of the average output per month, but less so from the utility angle as defined by the law of decreasing marginal utility.

To speak therefore of a subsistence rationality is pointless: maximization principles still prevail and what differs is simply the actual level of living at which the subsistence farmer is operating.

Wharton's definition of "profit" oversimplifies the complexity of maximizing rationalities in two ways. As just seen, a lower-average-output strategy can be more profitable than a risky higher-average-output alternative. Similarly, a lower sale-ratio can maximize total utility more successfully than a higher-sale-ratio.

According to Wharton, a subsistence farmer is someone who sells less than 50% of his total agricultural produce:

Thus "subsistence" can be used to describe a situation where the fruits of an individual or group productive effort

are directed more toward meeting immediate consumption needs out of production, without any or few intermediaries or exchange (barter or monetary). (Wharton, 1969: 13)

Although such a feature is not considered as sufficient to define the nature of subsistence agriculture, it is usually viewed as a reliable indicator determining the presence of a subsistence peasant economy. As within primitive economies, production is thus based on use-value:

Certainly there is exchange (...) Still it is 'what they need': the exchange, and the production for it, are oriented to livelihood, not to profits, (...) It is not merely 'production for use', but production for use value, even through the sets of exchange, and as opposed to the quest for exchange value. (Sahlins, 1974: 183. See also Marx, The Eighteenth Brumaire, 1969: 172; and Belshaw, 1965: 76)

As already mentioned, swidden farming in Puerto Inca is significantly oriented towards crop specialization, surplus production and market exchanges. The latter subsistence feature, therefore, does not apply to this version of swidden agriculture, unless, of course, one considers individual cases rather than statistical patterns. There are some farmers in Puerto Inca who sell less than 50% or even 25% of their production; they should, therefore, be considered, according to Wharton's sale-ratio criterion, as subsistence farmers. Puerto Inca would thus contain a dual economic structure based on the coexistence of both subsistence and commercial modes of production and rationalities.

Obviously, the use of the latter sale-ratio continuum can lead to absurd generalizations. Firstly, a production-for-use output may be essential to a farmer's material well-being, and indeed it is in most

farming cases observed in Puerto Inca. But it is rarely regarded as sufficient to satisfy minimum standards of living: other desired products and services must be obtained through the sale of production-surpluses or through wage-labour exchanges. Secondly, the fact that in many cases a significant proportion of agricultural produce is consumed by the producing household unit does not necessarily indicate the presence of a use-value mode of production. According to Sahlins, exchange can occur without exchange-value. The complementary view is equally valid: use of one's products can occur without a use-value rationality, and a maximization motivation may still underly such economic behaviour.

From the point of view of Puerto Inca farmers, it is certainly more economical to retain part of one's production than to sell it entirely and subsequently buy equivalent or identical products at dearer prices from local merchants. By short-cutting market transactions, a farmer is reducing the cost of his family food budget and thus maximizing his access to other desired commodities which can be obtained with his limited cash earnings.

A low ratio of production sold to total output may thus be the symptom of a maximizing strategy. Frequent cases were observed in Puerto Inca where the farmer had access to money through means other than the sale of his own agricultural products: e.g., through loans, wage-labour, seasonal gold extraction, small-scale stock farming (chickens or pigs), or through the sale of fishing or hunting surpluses. By retaining more than 50% or 75% of their agricultural output, these farmers are effectively increasing the total utility derived from both cash and food resources.

Other cases were observed where the farmer failed to produce the

expected surplus, either because of illness, climatic or other factors, thus finding himself forced into a situation where not selling is the most profitable alternative - and the only possible one for that matter. Constraints on maximizing behaviour may limit the number of possible alternatives, but they do not necessarily entail a non-profit oriented "subsistence rationality".

The second critique of Wharton's theory is equally important. As just seen, Wharton's quest for a "subsistence-mindedness" is misleading in contexts similar to Puerto Inca where swidden farmers, even though falling into Wharton's descriptive category of subsistence farmers, are still utility-maximizers. In a last attempt to demonstrate the usefulness of a subsistence-economy theory based on the maximization of security, one might argue that it can provide at least an understanding of primitive economic behaviour. Yet it does not: "subsistence" strategies are not chosen as the best alternatives to insecure production-maximizing choices. On the contrary, although primitive swidden production could be significantly increased without the expected negative standard deviation falling below the S_{ms} (minimum subsistence standard of living), production and the use of available resources are often kept well below optimum performance.

Carneiro's description of underproduction among the South American Kuikuru can indeed apply to Puerto Inca's neighbouring Campas and to many other primitive swidden economies (see Sahlins, 1974: 41-101):

There is no doubt that the Kuikuru could produce a surplus of food over the full productive cycle. At the present time a man spends only about 3-1/2 hours a day on subsistence - 2 hours on horticulture, and 1-1/2 hours on fishing. Of the remaining 10 to 12 waking hours of the day the Kuikuru men spend a great deal of it dancing, wrestling, in some form of informal recreation, and in loafing. A good deal more of this time could easily be

devoted to gardening. Even an extra half hour a day spent on agriculture would enable a man to produce a substantial surplus of manioc. However, as conditions stand now there is no reason for the Kuikuru to produce such a surplus, nor is there any indication that they will. (Carneiro, 1968: 134)

Wharton might resort to formalist arguments and maintain that under-production among the Campas or the Kuikuru results from a maximization of other satisfactions, such as "desire for power, sex, (...) independence, or whatever else they may be, in the context of the opportunities around them, including those offered by their own culture" (Burling, 1968: 184). Thus maximization still occurs, but with values other than material output. If such is the case, and I do not intend to demonstrate that it is, then to speak of a subsistence rationality is totally irrelevant to our understanding of such economies. Higher standards of material living will have been rejected not for the livelihood insecurity that they entail, but rather for the attainment of more highly valued satisfactions. These other values will effectively be maximized and the individuals will have reached levels of satisfaction well above minimum "economic" standards (economic understood with reference to these "other values"). Finally, through such maximizing behaviour, L (actual level of material livelihood) could effectively be equal to Sas (achievement standard of material living), another behavioural consequence which contradicts one of Wharton's basic postulates, namely that L always falls below Sas.

4. STRATIFICATION AND REDISTRIBUTION

A. Agriculture and Market Economy

It is possible to conclude from the foregoing discussion that not much can be deduced from the mere presence of slash-and-burn cultivation, and that such farming techniques can be found in structural association with non-primitive demographic, social, psychological and economic patterns. What is systematically ignored by those who confine swidden forces of production to primitive or subsistence economies is that the economic function of swidden agriculture can be radically altered by history. From an ecological basis of primitive domestic modes of production, it can be transformed into a specialized productive sector within a wider system of economic production and exchange.

The use of any twofold (or multifold) classification displaying logical contrasts between various types of peasant communities (Wolf, 1955: closed vs. open), various ecological systems (Geertz: imitative vs. transformative), various socio-demographic structures (Geertz & Meggers: dispersed vs. concentrated), various productive forces and relations and various economic rationalities (see Wharton, Boeke), may provide significant insights into the structure of extant primitive societies which have not been altered radically by the expansion of complex market-economies. Wherever such alterations have occurred, these classifications are however of questionable scientific value if the observed contrasts are not understood as interdependent phenomena within an overall dynamic structure, the unity of which has been well moulded by the "wheel of history".

The common shortcomings of the theories reviewed here point towards an alternative theoretical orientation, that of reconstructing

the structure of interdependence linking the market economy to its marginal agricultural sectors. Hopefully I have succeeded in showing that peasants of the tropical piedmont of eastern Peru are not economically self-sufficient and that they are effectively integrated - albeit with meagre returns - into a wider and more complex network of economic production and exchange. Yet another task remains to be undertaken: to demonstrate how the marginality of these peasant sectors is itself functional to the maintenance and/or expansion of the wider economy. In such a theoretical context, what has been said of migrant labour in Africa equally applies to migrant labour among the Quechuas of the Andes or to seasonal labour in the Pachitea Valley:

From the point of view of the employer and of the economy which he represents, the migrant labour system has several advantages. First of all, it provides a large reservoir of unskilled labour from which the employer can select the able-bodied and the fit and reject the aged and infirm. Secondly, the labour force is too unstable to exert an effective collective bargaining power. Thirdly, it has a supplementary source of income in village subsistence production, which can be used to support the worker's family or the labourer himself when unemployed or on holiday, and this may permit the individual to accept less than a full living wage. Fourthly, the tribal connexions provide an independent system of social security which enables the employing economy to avoid direct liability for maintaining the unemployed or retired worker. (Hailey, 1955: 1277-8; quoted in Stavenhagen, 1975: 246-7)

Swidden agriculture as practised in Puerto Inca is a major source of livelihood, yet it is not sufficient, and serves only as a complement to the sale of surplus production and to wage-labour exchanges. This fundamental axis of economic contrasts cannot be discarded simply by quantifying the relative importance of one sector in comparison to the

other. The relationship of swidden production with other sectors of the wider market economy must rather be understood in terms of a functional interdependence resulting itself from the expansion of an overall exchange-value mode of production. For example, it may be argued that the abundance of land as a means of production secures the availability of less expensive food products at the local and regional levels and enables various economic strata to maximize, each in their own way, their total economic utility. Firstly, it facilitates the attainment of minimum standards of living for seasonal or full-time wage-labourers and for farmers themselves, given the high cost of market commodities and the low earnings derived from scarce wage-labour opportunities. Secondly, local availability of cheaper food products enables upper economic strata to minimize their food expenses. Thirdly, it creates an additional source of capital accumulation for merchants who can purchase the crop product a few months in advance and at advantageous prices since the farmer has very little bargaining power: he has no other means to purchase the commodities necessary for the daily needs of his family, to preserve the crop in order to sell it when supply decreases or demand increases, or to export it elsewhere, e.g., to Pucallpa, where prices would be more profitable. The merchant can resell the product later or elsewhere and can capitalize on spatial or temporal fluctuations of demand and supply. Fourthly, swidden production contributes significantly to reducing the market value of wages derived from scarce, and highly competed for, employment opportunities; hence the maximization of benefits going to employers (merchants, lumber bosses, cattle raisers, carpenters and missionaries). Finally, the low productivity of swidden agriculture, in terms of market value, impedes labourers from withdrawing their

wage-labour services from the market in order to find more profitable alternatives within the agricultural sector.

B. Commerce, Cattle-raising and Lumbering

The interdependence between wage-labour and swidden agriculture stems basically from a common lack of access to both products and factors of production within the wider network of economic exchanges. The counterpart interdependence is to be expected, namely between those various occupational strata which have effective control over both factors of production and distribution.

Lumber bosses are commonly referred to as patrones ("bosses"), yet they are themselves habilitados, bound by a contract with a third party which has furnished the necessary capital and/or the appropriate technological equipment, in exchange for a promise to deliver a specified quantity of commercial wood by a given date.¹³ The third party has contracted himself a similar compromiso ("engagement") with a fourth person (or company) usually residing in Pucallpa. The chain of habilitaciones involves risks, and the criteria underlying the selection of intermediaries reflect the desire to minimize such risks. Most lumber bosses of Puerto Inca are either cattle raisers or merchants, or habilitados of the latter. The capital input is thus secured, from the point of view of the non-resident third party, against any breach of contract, since both cattle raisers and merchants are financially solvent and the invested capital can be recovered through legal procedures. One of the most successful general

13. Hunters are also occasionally hired as habilitados by members of upper occupational strata: ammunition is exchanged for a promised quantity of game meat; consumers can thus avoid buying meat at dearer prices at the local market.

store merchants of the village is simultaneously the owner of a large-scale cattle-raising ranch and the most important capital provider for regional lumber extraction.

The next intermediary, the foreman, links the wage-labourers to those who supply the capital and technological funds for the undertaking. As they are lumberers themselves, foremen are often paid in advance, thus contracting a debt similar to that contracted by the prior intermediaries. Risk taking is reduced by the fact that both foremen and lumberers can be legally coerced into cancelling their debts through reimbursement or fulfilment of contractual agreements, and also by the ensuing danger of losing future contractual opportunities.

C. Governmental and Religious Administration

Governmental services made available in Puerto Inca, although not productive in the strict economic sense, have significant economic aspects and functions. These include the Guardia civil, the Gobernador and Juez de Paz ("Governor" and "Judge of Peace"), the agricultural information service, the postal office, the educational services, and a health clinic.

These services, to the extent that important sums of money are allocated to them and that they are universally accessible to Puerto Inca and Pachitea Valley dwellers, involve a twofold redistributive process: firstly, the accruing benefits are equally distributed, at least in principle, among the various socio-economic strata of the community; and secondly, these benefits are viewed as potentially effective means of reducing the gap between rich and poor. Agricultural information and educational facilities may thus give opportunities

of economic betterment for poorer sectors of the population, and the governmental administration of justice will protect the exercise of their recognised rights and will secure the ownership of their acquired property.

However, this redistributive process does not alter the basic relations of economic production and exchange; in certain significant respects, it even consolidates the hierarchical allocation of economic values. The utility of postal services is relatively low within those sectors of the community where the rate of illiteracy is high. Governmental agricultural services are mostly geared towards the promotion of intensive agriculture or cattle-raising, their economic contribution thus being to the benefit of a very small sector of the farming population. And the law enforcement agencies of the State serve mostly to recognize and consolidate the existing distribution of both products and factors of production.

Revolutionary political forces at the national level may, of course, cause drastic economic changes at the local level through intermediary administrative agencies. However, the economic profile of Puerto Inca and the Pachitea Valley has not been seriously influenced by the Peruvian Revolution initiated in 1968 by the Velasco Junta Militar, and common interests still unite the political and economic elites of this rural area of the Peruvian selva. Attempts were made in 1969 and 1971 to impose a freeze on subsistence commodities (artículos de subsistencia or de primera necesidad) comprising poultry meat, wild meat, fish, bread, manioc, flour, rice, noodles, corn, milk, sugar, bananas, papayas and pineapples, potatoes, tomatoes, onions, beans, and kerosene. Fines were to be paid by anyone who sold or even bought these commodities at prices exceeding those prescribed

and listed on public notices displayed in local stores. This law has never been enforced and wider inflationary fluctuations of prices have effectively determined the regional market value of the latter commodities. The price list was still officially displayed in 1973, and the enforcement of the law was in the hands of the district Gobernador, who, by no strange coincidence, was one of the most successful general store merchants of the community. As should be expected, this Gobernador openly criticized the law and considered that it was impossible to enforce it.

Puerto Inca's most important political offices have been held almost exclusively by merchants, carpenters, and lumber bosses, from 1940 onwards. The alcalde ("mayor") and the gobernador have always been either a general store merchant or a lumber boss, while the juez de paz (Judge of Peace) has been either a rich merchant, a carpenter, or a respected tradesman.¹⁴

Services offered by the local municipality itself are of limited economic significance. Table 17 gives a summarized description of the sources and allocation of the municipality's total income for 1971. About 1/3 of the income is derived from governmental subsidies, 1/3 from the electricity plant, and the rest from various local taxes, mostly on commercial transactions. The total income is relatively low, i.e., 154,000 soles or \$3,400(American). As for the reported spendings, a quarter of them were allocated to the maintenance of the electricity service, almost 50% went to public works of various sorts (port, bridges, central plazas, cement stairway), and another 20% were utilized for administrative purposes.

The most important service provided by the municipal administration

14. Data obtained from municipal archives.

"Ingresos" (Income) (Soles)		"Egresos" (Spending) (Soles)	
State Subsidies	47,505	Secretary's salary	32,500
Taxes on use of port	6,500	Furniture	19,465
Commercial licences	1,560	Tools	3,360
Electricity Plant	50,000	Secretarial Material	4,000
Sale Taxes	9,275	Delegation expenses	8,000
Cattle Taxes	10,000	Publication	5,000
Miscell. Taxes	23,550	Miscell. & Receptions	12,000
Miscellaneous	5,750	Electr. Plant Ass't	18,000
		Electricity Plant	53,000
		Lighting Material	15,000
		Cement Stairway	60,000
		Various Constructions	99,000
		Equipment for Market	6,300
		Other	22,070
TOTAL	154,140		357,695
	(\$3,585 Am.)		(\$8,318 Am.)

Table 17: Sources and Allocation of Income (1973) of Municipality of Puerto Inca.

Occupational Strata	A	Number of Households	B	$d = (B/A\%)$
	Households with Electricity (%)		% of Total Households	Deviation from Expctd
1. Missionaries, merchants, carpenters, government empl.	38 (50%)	41	21%	2.38
2. Lumber bosses, trades, asst. carpenters., cattle raisers	19 (25%)	32	16%	1.56
3. Perm. Labour, gold, lumberers	13 (17%)	52	26%	1/1.53
4. Occas. Labour, coop., farmers	6 (8%)	74	37%	1/4.63
TOTAL	76 (100%)	199	100%	

Table 18: Households with Electricity by Occupational Strata

deals with the maintenance of the village electricity plant for the lighting of streets, public buildings (town-hall, schools, market-place), and private houses. Public lighting is mostly concentrated in the two central residential barrios, the Loma and the Bajada, where all public buildings and the two plazas are located. Residents of these barrios, as will be shown in Part 2 of this thesis, belong mostly to the two upper economic strata. Public lighting in the two peripheral barrios, Loreto and Dos de Mayo, is confined to those residential areas immediately adjacent to the two central barrios. No electricity is available for the remaining population, most of whom are farmers, residing in the immediate vicinity of the village.

The private use of this municipal service also correlates highly with the prevailing occupational stratification. Table 18 shows the frequency of access to this service by occupational strata. About 75% of those nuclear families who live in electrically lighted accommodations belong to the two upper strata, a frequency which is about double the expected. Given the fact that lower economic strata have larger families and that their consumption of electricity is usually smaller (fewer bulbs and fewer hours), the overall distribution of this commodity probably correlates still more highly with the given stratification.

Education

Puerto Inca is the educational centre of the Pachitea Valley. A total of 442 students were registered in 1973 at either the college (68 students, 5 year programme), primary (245 students, 5 year programme), or kindergarten and pre-school levels (129 pupils, from 5 to 7 years old, 2 year programme). Education is highly valued by all sectors of the local population and it is not uncommon for Pachitea

farmers to come to Puerto Inca and settle there in order to have their children educated. Almost all Puerto Inca children of kindergarten, pre-school and primary school ages (from 5 to 11 years old) are effectively receiving pre-college education in the village schools under the assistance of teachers employed by the state.

The subjective value of education for lower socio-economic strata is twofold: their children may thus have access to knowledge and literacy which few farmers possess, and they may thus benefit later from occupations and living conditions superior to those of their parents. Hence socio-economic mobility is open to both the individual and the collective through total increase of literacy and wealth.

Economic mobility through educational means is limited, however, by the scarcity of occupational opportunities and the resulting degree of competition that will prevail within the employment market. Equally significant is the fact that access to educational facilities is itself determined, to a marked degree, by the parents' financial means, especially at the college level where educational expenses are much greater: the unemployed student must be fed, clothed, books and other material must be bought, weekly allowances are needed, etc.

Table 19 compares the distribution of students by their parents' occupational strata (by school levels) with the distribution of the overall population by occupational sector. As can be seen, the higher the educational level, the greater the proportion of students from upper economic strata. Although these upper strata represent only 28.3% of the overall population, 56% of all students registered at the college level, from the third to the fifth grade, are children of upper strata families. The distribution within the first

5 years of pre-college schooling is highly congruent with the overall population distribution per strata (compare column D with column A), while it is slightly to the advantage of upper strata in intermediary grades (primary 4 to college 2).

Strata	A	B	C	D	E
	% of Overall Population	College 3 to 5 (col. %)	Primary 4 to Coll. 2 (col. %)	Jardin to Prim. 3 (Col. %)	Total
1 & 2	28.3%	23 (56.1%)	35 (36.8%)	72 (23.7%)	130 (29.5%)
3 & 4	71.7%	18 (43.9%)	60 (63.2%)	232 (76.3%)	310 (70.5%)
Total	100 %	41 (9.3%)	95 (21.6%)	304 (69.1%)	440 (100 %)

Table 19: Occupational Strata of Students' Parents by School Levels

Two additional facts related to this disproportional access to educational opportunities must be taken into account. Firstly, Puerto Inca is the largest and wealthiest village of the Pachitea Valley; the proportion of population belonging to the two upper strata is therefore much smaller at the regional Pachitea level than it is at the local Puerto Inca level. The upper classes' proportional access to schooling opportunities offered at this regional educational centre is thus greater than suggested in Table 19. Secondly, it is not uncommon for wealthier parents to send their children to the neighbouring city of Pucallpa, or even to Lima, to complete their college and/or university education. Children of less wealthy parents very rarely have access to such opportunities.

Religious Administration

The redistributive allocation of economic wealth through

governmental agencies is thus quantitatively limited and does not have any major impact on the hierarchical structuring of the prevailing relations of production. Nor does it intend to do so: the existence of a certain degree of actual economic mobility, through educational or financial means, is not incompatible with the observed mode of production. On the contrary, it reasserts the hierarchical principle at the level of both the individual and collective economic diachronies (see section D). And even though governmental occupations are created by the latter redistributive process, wages received by governmental employees themselves are far superior to the incomes earned within lower economic strata.

Missionaries have often been employed as full-time teachers in Puerto Inca, a pattern which reflects the similarity that exists between the socio-economic positions of both missionaries and teachers. Again the standards of living and earnings of missionaries are those of upper strata members, yet a certain redistribution of wealth is performed through their activities. Money, food, clothes are frequently donated to needy families, and small loans are often granted to farmers. However, missionary attempts at economic redistribution are usually more significant, quantitatively speaking, in the financing of development programmes. As mentioned earlier, the Canadian parish father has played a key role in obtaining and administering the funds of the local farming cooperative. Approximately \$24,000 (Canadian) have been donated to the cooperative, most of it (\$20,000) coming from the Canadian organization known as Développement et Paix. The Cooperative was founded in 1969

and most of its active members were and are still full-time farmers.¹⁵

For various reasons, the financial outcome of this development programme has been little else than a total failure. The cooperative's net worth in 1973 was about \$14,000 (Can.), i.e. \$10,000 (Can.) less than its total capital input. Farmers who have participated in this programme have gained little else than seasonal wage-labour earnings (60 soles per day) which have not been sufficient to improve their standards of living. In its present organizational state, the cooperative is mostly a loss-making enterprise offering seasonal, agricultural wage-labour opportunities.

The Canadian Mission has also been instrumental in opening in 1971 a local medical clinic offering the full-time services of German doctors financed by a private agency of their own country. This medical aid has been made available to all sectors of the local and regional population, and nominal payments were required from those who otherwise could not have afforded it. Given the lack of any other medical facilities for the whole Pachitea Valley, this clinic's contribution has been generally confined to the curative treatment of urgent cases and very little time has been devoted to preventive medicine (sanitary measures, alcoholism, contraception, etc.)

D. Exchange-value, Dual Economy Theories, and the Myth of Progress

Puerto Inca's mode of production is anything but a poorly

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15. Puerto Inca has also a Cooperativa de crédito for local savings and loans. Even though it counts as many as 300 members, its total capital input is relatively small (607,357 soles or \$14, 124 Am.). Most of the capital comes from local merchants, carpenters, cattle raisers and lumber bosses. The cooperativa is administered almost exclusively by members of the two upper occupational strata, and most of its loans go to its wealthier solvent members.

integrated coexistence of two quasi-autonomous systems of exchange, the agricultural versus the commercial-industrial-administrative sectors. Ecological, demographic, psychological and socio-economic models thriving on classificatory contrasts fail, in cases such as Puerto Inca, to reach the underlying structure of interdependence which gives rise to these contrasts; they transform the underlying structure of dualities into a surface duality of structures; they confusingly, and perhaps strategically, convert "conflicts" into mere "differences" which History, for lack of time, has not yet eliminated.

This chapter has shown that the overall mode of economic exchange of Puerto Inca is based upon the cumulative production and hierarchical distribution of exchange-values. Redistributive processes have been observed, yet it has been argued that they do not "counteract" the hierarchical principle; they are in fact endogenous to the production of exchange-values in three significant ways. Firstly, they consolidate the existing stratification by safeguarding the prevailing rules of private ownership and contractual exchanges (including wage-labour contracts), and by offering "services" to which upper-strata have easier access. Secondly, redistributive mechanisms succeed to some extent in stimulating individual motivations in terms of utility-maximization: schooling is thus highly valued as a potential stepping stone towards socio-economic betterment, hence its success in reasserting, at the individual level, the exchange-value rationality. And thirdly, they counteract the conflict mechanisms resulting from individual maximizations by offering opportunities for collective maximizations, through absolute increases in literacy, wealth and health conditions. The exchange-value rationality thus finds its way to the

diachronic structuring of both the individual and collective modes of transaction.

As shall be argued in later chapters, the myth of progress is fundamental to Puerto Inca's modes of exchange. It will be shown in fact that these dwellers of the Pachitea Valley, reflecting upon the contrasts created within their own social structure, perceive the dualities as resulting from historical lags hierarchically separating future-oriented progressive sectors from past-like, traditional sectors. The exchange-value ordering of social reality refuses to produce explanations for the contradictions that it has created, with symbols other than its own. The foregoing analysis of Puerto Inca's economic exchanges has systematically departed from this coherent, but narcissistic, closure. Theories of "economic duality", when applied to non "primitive" peasantries, remain within this closed circuit.

It should be emphasized however that the target of these criticisms has not been the classificatory approach itself, but rather the adequacy of this approach in cases such as Puerto Inca. Although it has been argued that swidden farmers of Puerto Inca do effectively strive to maximize economic utility, it has not been my intention to imply, as the "formalist" school of economic anthropology does, that maximization is at the root of all economic behaviour. My quarrel is in fact with both the classificatory-substantivist approach and the pro-maximization formalist school; as made clear through the brief incursion into theoretical debates of economic anthropology, in Chapter 3, it is possible to build a bridge between these two apparently irreconcilable schools of thought.

CHAPTER 3: ECONOMIC MAN - PRODUCTION OR RATIONALITY?

1. THE SUBSTANTIVIST-FORMALIST DEBATE

For an ethnographer who seeks a descriptive understanding of social facts, answering the question "What, how and for whom economic goods and services are produced" may prove to be an unequivocal task involving mostly skilled observation and plenty of patience, for such are the essential tools of the ethnographer - at least apparently. The observer would probably take for granted, as we have done in the preceding pages, that an economic system consists of those activities based on the interaction between men and Nature and between men themselves, to produce the material means for their existence. Such an assumption is quite debatable, however, and recent developments in economic anthropology have made a strong case against the definition of economic science as the "study of (human actions) connected with the attainment and with the use of material requisites of well-being" (Herskovits, 1952: 45-46). The formalist approach suggests rather that we define "economy" as "the allocation of scarce resources among alternative ends", and that we direct our attention to a particular rationality underlying any human activity.

The issue is obviously quite complex and the debate has taken philosophical overtones, a development which irritates those anthropologists who primarily seek scientific objectivity within their discipline. The high court of objective empirical facts has not been very successful in settling the dispute, and quite understandably so, for the evidence itself, as shall be argued, is theory-laden. It is my contention, firstly, that the debate stems basically from different philosophical assumptions, in both epistemological and anthropological terms,

and that each paradigm thrives on the irresolution of its own contradictions. Secondly, that within the paradigmatic boundaries of social sciences, a sociological version of structuralism can effectively overcome the quarrels between the substantivist (Classical) and formalist (neo-Classical) schools, although producing itself logical contradictions that will cement its own structuralist prison walls; and thirdly, that the myth of modern Science which gave rise to the three preceding theories of "Economic Man" (substantivist, formalist, structuralist), is itself homologous to the exchange-value rationality which underlies the mode of economic exchanges under study.

The debate involves much more than varying empirical hypotheses for which the necessary data have not been fully gathered. What is essentially at stake is nothing less than the definition of Culture's Nature. From the point of view of substantivist anthropologists and Classical economists, Man - in order to ensure his survival and material well-being - must universally interact with Nature, and at the same time structure social interaction as a necessary means to build, maintain or modify this Culture-Nature production process. Economy is thus defined as a system integrating productive forces with relations of production, i.e., a twofold Culture-Nature/Man-Man mode of production. Comparative economic anthropology should therefore postulate the universality of such an (inter-) action system and should view historical variations as displaying a multiplicity of rationalities, values and goals, which accompany the given mode of production.

In the substantive sense, economic refers to the provision of material goods which satisfy biological and social wants. The substantive meaning is perfectly general in applicability, because all communities, regardless of differences in natural environment, production techniques, or cultural traits, are composed of human beings whose bio-social existence depends upon the sustained provision of material items. (Dalton, 1968: 148)

Formalists and neo-Classical economists claim that the opposite assumption is scientifically more fruitful. The concept "economy" refers instead to a universal rationality, i.e., maximization of utility, and economic variations are to be attributed to varying resources and needs:

It is possible to look upon society as a collection of choice-making individuals, whose every action involves conscious or unconscious selections among alternative means to alternative ends. The ends are the goals of the individual colored by the value of his society toward which he tries to make his way. They may include prestige, love, leisure, or even money. (Burling, 1968: 177)

Substantivists usually prefer to fight the battle in the anthropological arena, i.e., by showing how ethnographic realities do not confirm the formalist assumption of the utility-maximizing Economic Man.¹ In Sahlins' words, formalists erroneously "detach the principle of individual maximization from its bourgeois context and spread it around the world".² Formalists, in consistency with their utilitarian view of both Science and Man, retort that the objection is irrelevant and that their "as if assumptions"³ are epistemologically justified:

The validity of formal theory rests not on whether people do maximize but rather on whether accurate predictions about behaviour can be made by assuming that people desire to maximize utility. (Schneider, 1974: 10)

The labels "substantivism" and "formalism" thus correspond to significant disagreements: the foundations of the former theories are secured by the historical "substance" under study, while those of the latter theories are derived from the "formal" adequacy of their epistemology of science. However, such labels conceal a still more funda-

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1. Godelier, 1972: 282.
 2. Sahlins, 1974: 127.
 3. Schneider, 1974: 206.

mental difference, a contrast of unresolved riddles.

Substantivists argue that all cultural conceptualizations or rationalities are historically contingent, and reject the formalist claims on the grounds that they falsely stipulate the universality of a utility-maximizing rationality. Yet they assume that the universal existence of production structures is self-evident, thus implying an epistemological view of science which depends upon the availability of self-evident a priori assumptions concerning the Nature of Man. Hence a twofold contradiction: firstly, they must claim that the availability of self-evident assumptions is itself self-evident, thus leading to an endless chain of a priori postulates. Secondly, substantivism offers a contradictory account of Economic Man himself: it claims that there is no universal Rationality, and yet that Rationality is an essential component of any observed mode of production (e.g., use-value and exchange-value rationalities), thus leaving unanswered the crucial question: what is Rationality? And finally, it is confronted with a contradictory account of that overall Reality which encompasses both Science and Economics: economic men think entirely differently from one Culture to another, yet scientists have access to self-evident conceptualizations of Reality.

The formalist school faces the opposite riddles. Firstly, the logical positivist epistemology supporting neo-Classical economic theory accepts analytical concepts such as utility and maximization, in so far as they can provide heuristic "as if" conceptualizations of reality, the role of which will be instrumental in the acquisition of verifiable and falsifiable (i.e., synthetic and scientifically meaningful) statements about reality. But any epistemological statement is itself an anthropological statement in the sense that it says something which is

viewed as necessarily true of human knowledge, irrespective of historical and cultural variations. Thus the Rules of Science are not "as if" statements the truth of which depends upon the success of predictions. The scientific validity of formalism is conditional upon an a priori, untested and untestable statement concerning the nature of knowledge. Secondly, scientists are again inexplicably divorced from Mankind: economic men choose their beliefs and values in a subjective fashion, while scientists are able to observe reality as it is, and to test the empirical validity of their propositions. And thirdly, Economic Man is himself subjected to an unresolved ambiguity: he seeks to maximize his utility, yet his "utility" might be culturally defined as being satiable, or as requiring the satisfaction of alter's welfare. The search for the maximization of ego's utility is an end; should it not therefore, by definition, entail the sacrifice of alternative opportunities, the utility of which may be more highly valued by other men or other Cultures?

Cook and Schneider criticize substantivists for having little understanding of the "importance of deductive reasoning in economic model-building".⁴ It is furthermore alleged that formalism and substantivism are typified by the adoption of the deductive and inductive methods, respectively, as apparently revealed by the Knight-Herskovits exchange.⁵ These charges reveal, however, a striking lack of understanding of the logical positivist foundations of neo-Classical theory. As systematically demonstrated by Hollis and Nell in Rational Economic Man, neo-Classical economists argue for the validity of their theories on the empiricist basis of a theory-free inductive observation process which makes possible the testing of scientifically meaningful statements. Hollis and Nell show

4. Cook, 1968: 211; Schneider, 1974: 10.

5. Cook, 1968: 210-211; Shneider, 1974: 22.

quite convincingly that neo-Classicism, as a result of the inherent illogicalities of its empiricist and inductivist epistemology, is totally unable to produce testable hypotheses:

The Positivist economist intended to discover empirical economic laws by testing the implications of his theories against the facts of the world. But he found that this meant rejecting good theories for bad reasons. So he refined his methods by offering instead to test implications against the true values of variables, as measured when *ceteris paribus*. Disconcertingly, this left him unable to distinguish the failure of his predictions from the failure of his *ceteris paribus* conditions or the incorrect adjustment of his observations. For, to know that failure of a prediction is to be blamed on 'other things' not being equal, he had to have an independent measure of the 'other things' based on hypotheses already confirmed. Similarly, to blame the apparent failure on incorrect adjustment, he had to know independently the relation of observed to true values. To treat such claims to knowledge as synthetic was to create a vicious regress; to treat them as analytic was to turn intendedly synthetic prediction of what will happen into analytic deduction of what would happen, if ... Theories became vacuous and laws undiscoverable. (Hollis and Nell, 1975: 47)

The authors argue furthermore that a Kantian or Rationalist version of Classical economic theories, based on the a priori concept of "production" rather than "utility",⁶ can be offered as an alternative to the untenable views of neo-Classicism. It is, of course, an alternative in so far as any model can easily manage to avoid inheriting all the mistakes of its counterclaiming theory. However, Hollis and Nell fail to see that their own theoretical edifice is subject to an equally devastating epistemological attack, and that any quest for unshakable epistemological founda-

6. Schneider, in his Economic Man (1974), adds considerably to polemical confusions when he resorts to a mathematical "production" model as an additional support for his formalist panaceas (85-91). A closer look at substantivist writings (e.g., Sahlins, 1974) and "Classical" models (e.g., Hollis & Nell, 1975) would help him greatly in understanding that economic models using measurements and mathematical tools are not necessarily compatible with neo-Classical formalism and that deductivism is anything but the cornerstone of his own paradigm.

tions is doomed to failure. Since any epistemological statement automatically involves an anthropological theory of human knowledge, one's appeal to scientific foundations can never be more than a mythical strategy. To contend that an anthropology must be arrived at a posteriori, and that its validity rests upon a sound a priori epistemology, is indeed to reassert simply the modern, Cartesian and post-Cartesian, myth of science, the validity of which cannot be scientifically demonstrated or tested.

2. AN ALTERNATIVE: SOCIOLOGICAL STRUCTURALISM

Nemesis has cursed the modern scientific man with an obsessive narcissistic love for his own reflection. Since the spell lies at the origin of this thesis, and of all journeys within social sciences, I shall contend that a structuralist alternative can successfully overcome the substanti_vism v. formalism quarrel. And yet in an attempt, perhaps naive, to avoid the curse, I shall try to formulate those logical contradictions that lie at the centre of structuralism itself.

The theoretical skeleton of this thesis is resolutely sociological in the Durkheimian sense of the word. Its purpose is not to reconstruct an "as if" isolated subsystem within the society under study, but rather to provide a systematic understanding of an overall "sociologique" comprising three subsystems of transactions: the economic, kinship and cosmological modes of exchange. It is ubiquitously presupposed that underlying the circulation of words, women and material goods, there is an initial set of impulses compelling men to exchange through a dichotomizing organization of values and systems of transaction.⁷

7. This statement will be made clearer in the second part of this thesis (see Chapter 6).

An alternative view of Economic Man can be provided by this sociological structuralism, and this without the habitual failure to restore the economic dimension of Man to its societal totality. On the one hand, as argued by Classical and substantivist economists, Man must interact with Nature so as to insure his physical survival and well-being, and in doing so must structure his interaction with Nature as well as with other Men. But, on the other hand, Man cannot implement this "substantive" mode of production without conceptually articulating his initial apperception of two basic discontinuities within Reality: that between Culture and Nature, and that between men themselves. Forces and relations of production cannot be structured without a Culture-Nature/Man-Man "rationality". The historical implementation of a mode of production can be performed only through and with the historical specification of a "production rationality". Thus if it is possible to speak of Man's "mode of production" in general, it is in so far as it corresponds to Man's "economic mind", based upon a twofold Culture-Nature/Man-Man principle of perceptual differentiation.

This perspective does not rest upon a simple addition of the key concepts of "production" and "rationality", and therefore upon the failure-pattern of both substantivist and formalist paradigms. On the one hand, we cannot espouse the substantivist claim that a universal economic rationality does not exist. On the other hand, we must reject the formalist claim that by "maximizing" is meant a universal rationality not specifically related to Western societies' forces and relations of production. Maximization is certainly one possible specification of the process of Man's economic production, but only one among other historical/logical alternatives. As for the substantivist "mode of production", it is certainly a vital component of an economic system, but it cannot be labelled as a universal action system unless it allows for basic similarities in Man's

structured apperception of reality.⁸

Salisbury maintains that cultural variations in economic behaviour can be accounted for by isolating "different formal calculuses of rationality or of 'economizing' (...) in non-Western conditions" (Salisbury, 1968: 478). He adds that many more studies dealing with a single institution (the economy) within a single society,⁹ might bring about - as suggested by Berliner (1962) - a revitalized anthropology. Nonetheless, this new look that economic anthropology is or may be effectively taking, through the use for example of input/output and game theories, does little to solve the basic issues raised by the formalism/substantivism debate. The observer must still choose between alternative definitions of what is meant by "economic", before he can undertake the task of describing one specific economic system. If adopting the formal approach, as Salisbury does, the anthropologist is again faced with the impossibility of distinguishing between what is economic and what is non-economic (everything which involves an economizing rationality is "economic" and vice versa), and of relating the former to the latter within a dynamic model of social structures.

The second and third parts of this thesis will show how both kinship and cosmological modes of exchange can be understood as sociological organizations of two other fundamental impulses: respectively, the

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8. "There is no rationality 'in itself', nor any absolute rationality. What is rational today may be irrational tomorrow. What is rational in one society may be irrational in another. Finally there is no exclusive economic rationality." (Godelier, 1972: 317)
9. "Anthropology has involved mainly the comparison of all cells in a column (i.e., cross-cultural studies of single institutions) or of all cells in a row (i.e., studies of functional relationships between institutions of a single society). Berliner showed the strength of Economics, as a discipline, to be the intensity of its study of relationships within the single cell of 'Western economies', and called for much more intra-cell studies of non-Western economies." (Salisbury, 1968: 477)

exchange of women for both sexual and procreational ends, and the exchange of those values, such as information, faith and spiritual welfare, which define Man's position, as a giver or as a receiver, within the Universe. The overall social structure under study will be understood as an elementary or deep structure determining both the complementaries and homologies that lie between these three transactional subsystems. The substantivist claim that economic activities cannot be examined in isolation from social structures will thus be accepted, but I shall explicitly depart from their propensity to define non-economic transactions as historical epiphenomena¹⁰ of economic exchanges. The definition of Man's ontological and transactional position within the Universe does not simply reflect, hide, or cement the infrastructural mode of production. Cosmological exchanges are, on the contrary, a constituent component of any "sociologique": economic utilities and rules of transaction cannot be defined or programmed without a structured perception not only of what it is that a Man can give to, or receive from, Nature and other Men, but also what it is that a Man has in common with other Men and Nature itself, and which differs from what lies beyond both Culture and Nature. The apperception of the Man-Man/Man-Nature discontinuities presupposes a

10. As correctly stressed by the "praxiologists" (e.g., S. Avineri, K. Korsch, G. Lukacs, J.P. Sartre, A. Schmidt; see John Hoffman Marxism and the Theory of Praxis), Marx and Engels explicitly rejected a simple one-way deterministic view of the relationship between infrastructure and superstructure. However, Marx and Engels repeatedly made the point that "on the whole, the economic movement gets its way", or that "the whole vast process goes on in the form of interaction - though of very unequal forces, the economic movement being by far the strongest, most primordial, most decisive - " (Engels to C. Schmidt, 1890). For those who still think that Marx viewed the superstructure as being of equal "force", the following references may prove troublesome: Marx and Engels, 1969: 49, 96, 118, 182-3, 375-6, 397, 415, 435, 442, 626, 689, 692-3, 695-701, 704-5.

simultaneous pre-reflexive apprehension of the existence of an overall cosmological order, the boundaries of which go beyond the Nature-Culture circle of exchanges. In brief, the historical implementation of a given mode of economic behaviour requires a simultaneous specification of Man's interactional position within the Universe.

In pursuance of the latter theoretical perspective, Puerto Inca's observed economy shall be defined as a mode of production of exchange-values. Observed facts have been selected and identified on the assumption that the concept "economic" refers to those activities which secure Man's material livelihood. And yet it has been systematically argued that the exchange-value or maximizing rationality is an essential component of Puerto Inca's economic transactions. This twofold statement is tenable only within a structuralist paradigm. Evidently, similar views can and have been suggested within substantivist "schools",¹¹ and the ensuing object of study does tend to coincide with what formalists do actually study.¹² Yet these paradigms inevitably slip back to an emphasis on the primacy of either the "production" concept or the "rationality" concept. (See Hollis and Nell, 1975: 210)

The sociological expansion of structuralism compels the anthropologist not only to put an end to the superstructure/infrastructure divorce, but also to redefine the role of History within Culture. Proponents and critics of structuralism generally maintain that the exclusion of historical considerations is central and essential to the structuralist method. Yet there is no in-built, epistemological or ontological a priori within structuralism which prevents it from espousing a quasi-Marxian perception

11. E.g., Godelier, 1972: 149; Polanyi, 1957: 244; Sahlins, 1974: 83-5; and, of course, Marx, 1969: 81-2.

12. E.g., Burling, 1968: 177; Schneider, 1974: 16.

of History based on a dialectical version of "logical transformation". The ordering of economic, kinship and cosmological exchanges in Puerto Inca is not determined by a synchronic ideological programme and its incessant struggle with the behavioural fluctuations of History. The emergence, maintenance and transformation of such exchanges are rather determined by a sociological programme of History and by its capacity to adapt to the synchronic and diachronic ordering of those phenomena which lie outside Culture, i.e., those of Nature.

Marxist critics of structuralism such as Lefebvre and Godelier would, of course, still object emphatically to structuralist theories, but not on the grounds of an unjustified obliteration of the Time dimension. They would rather attack, and rightly, the resulting theoretical amalgam of Hegelian dialectical idealism with structuralist relativism or the structuralist lack of explicit commitment to the concept of progress with regard to evolutionary variations in societal structures.

3. STRUCTURALISM, THE MYTH OF SCIENCE, AND THE PRODUCTION OF EXCHANGE-VALUES

Let me now press home my last theme. The structuralist scientist can liberate himself from Nemesis' curse, yet to do so he must bind himself to another curse, that of an uncritical faith in the necessity of illogicalities within logic: Narcissus must, like Oedipus, deprive himself of his powers of perception. It is with this dialectical oscillation between two myths that structuralism may achieve a meaningful commerce with a non-reified reality, and thus avoid the naiveties of "philosophical fetichism" (Lefebvre, 1971: 14). Structural anthropology must thus consider itself as part of its own object of study, and must search for its own inherent contradictions; finally, it must concede the fact that its sociological perspective of social reality has imprisoned Man within the closed structures of his logical mind.

Structuralism, substantivism and formalism have all grown in the same mythical garden, that of Science. Even though they disagree with regard to major issues, they still have in common the Cult of Scientific Progress. The reader will immediately object that this says very little since each theory has its own explicit version of what Science is or should be. Yet the emergence of theoretical conflicts does not imply the total absence of any common conceptual grounds. On the contrary, as with sociological conflicts, ideological controversies occur only in so far as there are well delineated boundaries within which they can emerge.

The Cartesian and post-Cartesian myth of Science has given rise to many contradistinctive variations. Yet all of them carry a strong commitment, occasionally critical of itself, to the possibility and

desirability of a quantitative and qualitative expansion in the acquisition of knowledge, through the use of deductive and/or inductive methods, and with the explicit objective of explaining and/or changing reality.

Let me make my point succinctly. The preceding and following remarks do not imply that Science is just a cultural superstition; they simply suggest that Science is not the only possible outcome of Man's attempt to apprehend the nature of Knowledge.

As stated earlier, the myth of science stipulates that our understanding of reality must be arrived at a posteriori, and that its validity must rest upon a sound a priori epistemology. The search for solid foundations in the acquisition of knowledge involves a twofold contradistinction: that between "knowledge" (Idea) and "object of knowledge" (Fact), and that between "theory of knowledge" (epistemology) and "theory of object of knowledge" (ontology). Epistemological and ontological theories are themselves concerned with identifying the "true" foundations of knowledge and reality, respectively, and they succeed in doing so by resorting to the same initial Idea/Fact dichotomy. Rationalism and empiricism thus claim that the "true" source of knowledge is the intellect (Idea) and the sensory experience (Fact) respectively; as for ontological theories, they either view "matter" and the factual experience of the senses as the essence of reality (materialism), or, conversely, they argue that ideas and meaning are ubiquitous within reality (idealism).

Sociological theories inevitably combine a theory of knowledge with a theory of (social) reality. Neo-Classical economics regard the empiricism-idealism arrangement as the most useful, while the Classical perspective favours the rationalism-materialism alternative

(see Hollis and Nell, 1975). Behaviourism prefers the performance of the empiricism-materialism couple, while structuralism argues for the validity of its rationalistic views of Science and its idealistic theory of Man.

As with other sociological theories, structuralism thrives on the irresolution of its own contradictions. Similar to its own object of study, structural anthropology has a diacritic function: its meaning lies in the logical distance which separates it from counterclaiming theories of science and of social reality. It is thus confronted, firstly, with its own share of epistemological arbitrariness. Structuralism justifies its methodological search for binary oppositions by appealing to the "laws of the human Mind" and by assuming that the analytical or classificatory functioning of Man's Intellect is self-evident... Secondly, structuralism not only must cope with the problem of solidifying the foundations of its epistemological premises, but it must also face the task of confronting its theory of scientific knowledge with its anthropological theory of myths. Indeed how can the social scientist have access to self-evident and unequivocal concepts, such as "contradiction" and "logical transformation", if the structure of Truth is essentially diacritic, i.e., if Man's Mind can produce little else than contradistinctive units of meaning? How can he produce a structuralist science of myths without producing a structuralist myth of science? And thirdly, structuralism compels Man to perceive discontinuities within Reality, and thus to postulate the existence of an Object of Knowledge which differs from knowledge itself (e.g., basic impulses, biological structure of the Mind, or "events" within the economic, demographic or historical infrastructure). Yet it condemns Man to perceive only that which typifies the functioning

of the Human Mind, namely contradictions; should it not be impossible for the Mind to "commune with itself" without having some understanding of that which differs from the Mind?

The scientific attempt to secure the foundations of Man's knowledge is designed to increase the qualitative and quantitative value of knowledge, hence the twofold achievement of Scientific Objectivity and Scientific Progress. As a specific version of the latter myth, structural anthropology ceases to be part of its non-Western object of study, for Scientific Knowledge is an essential component of those values which circulate in Western Societies. Marx wrote in Volume 1 of Das Kapital:

The circulation of money as capital is, on the contrary, an end in itself, for the expansion of values takes place only within this constantly renewed movement. The circulation of capital has therefore no limits. Thus the conscious representative of this movement, the possessor of money, becomes a capitalist. His person, or rather his pocket, is the point from which the money starts and to which it returns. The expansion of value (...) becomes his subjective aim, and it is only in so far as the appropriation of ever more and more wealth in the abstract becomes the sole motive of his operations, that he functions as a capitalist, that is, as capital personified and endowed with consciousness and a will. Use-values must therefore never be looked upon as the real aim of the capitalist; neither must the profit on any single transaction. (Marx, Das Kapital, 1970: 124-5)

The allocator of scarce resources among alternative ends is not necessarily what modern Economic Man is, i.e., a compulsive and systematic accumulator of commodities. The homologous presence of a "cumulative" rationality underlying the production of exchange-values and the scientific production of knowledge, is anything but a formal coincidence. Both modes of exchange, i.e., economic and ideological, rest upon a faithful subjective commitment to the historical accumulation of commodities and knowledge, respectively. And as shall be argued later on (Chapter 10), both modes of exchange are mutually complementary, for

Science is partially begotten by what it can beget, namely commodities.

The reader is by now probably quite sceptical as to the relevance of the foregoing ramblings within the context of this thesis or Anthropology itself. However, it may be argued that the preceding journey involved a departure not from Puerto Inca, Peru, but rather from the community's surface structure and from a surface understanding of the scientific account of the social structure under study. Let us nevertheless return to ^{the} surface for a while and examine the internal structure of Puerto Inca's kinship system, and its relation to the "observed" production of exchange-values.

PART 2

KINSHIP MODE OF EXCHANGE

CHAPTER 4: SPATIAL DIFFERENTIATIONS AND STRATIFICATION

1. GEOGRAPHICAL BOUNDARIES

A. The Ucayali and Pachitea Rivers and the Andes

Puerto Inca is situated in an inter-Andean valley bearing the name of its major river, the Pachitea, which flows into the Ucayali River, one of the largest tributaries of the Peruvian Amazon. North of Puerto Inca lies thus the lower Amazonian basin. The mouth of the Pachitea River is located a few kilometers south of Pucallpa, a rapidly expanding city of more than 70,000 inhabitants. (See Map 1)

The district of Puerto Inca does not belong to the Amazonian basin as such, but rather to a low inter-Andean valley, with an altitude of approximately 330 meters (ONEC, 1971: 2). Puerto Inca's eastern panorama is dominated by the Shira mountains, one of the lowest secondary chains of the eastern Andean piedmont of Peru. On the other side of the Shira flows the upper part of the Ucayali River. The western panorama of the Pachitea Valley displays the distant but still impressive peaks of the high Andean Cordillera Azul, and at a closer range, the Ceja de la Montaña or "eyebrow of the jungle", a slowly descending series of secondary chains of mountains known for their luxuriant vegetation and excessive humidity.

Going up the Pachitea River, in a south-westerly direction, one gradually ascends the sparsely populated Ceja de la Montaña area. With an additional thirty minute journey by plane from Puerto Bermudez, one can reach San Ramón, a semi-urban centre located in the Junín Departamento and connected to the coast through a well-maintained road crossing the Andes and leading to coastal Lima, capital of Peru.

B. Barrio Divisions in Puerto Inca

Puerto Inca's name suggests some link with its neighbouring Quechua population of Inca descent. Yet it has only a few inhabitants of relatively recent Andean origin. It was founded in the late twenties as a politically launched frontier colony baptised under the name of Puerto Leguía, in honour of the contemporary president of Peru. With a Spanish-speaking mestizo population of about 1,100 inhabitants, Puerto Inca is the largest settlement of the Pachitea Valley, and the capital of the Pachitea province which belongs, strange as it may seem, to the Andean Departamento of Huánuco.

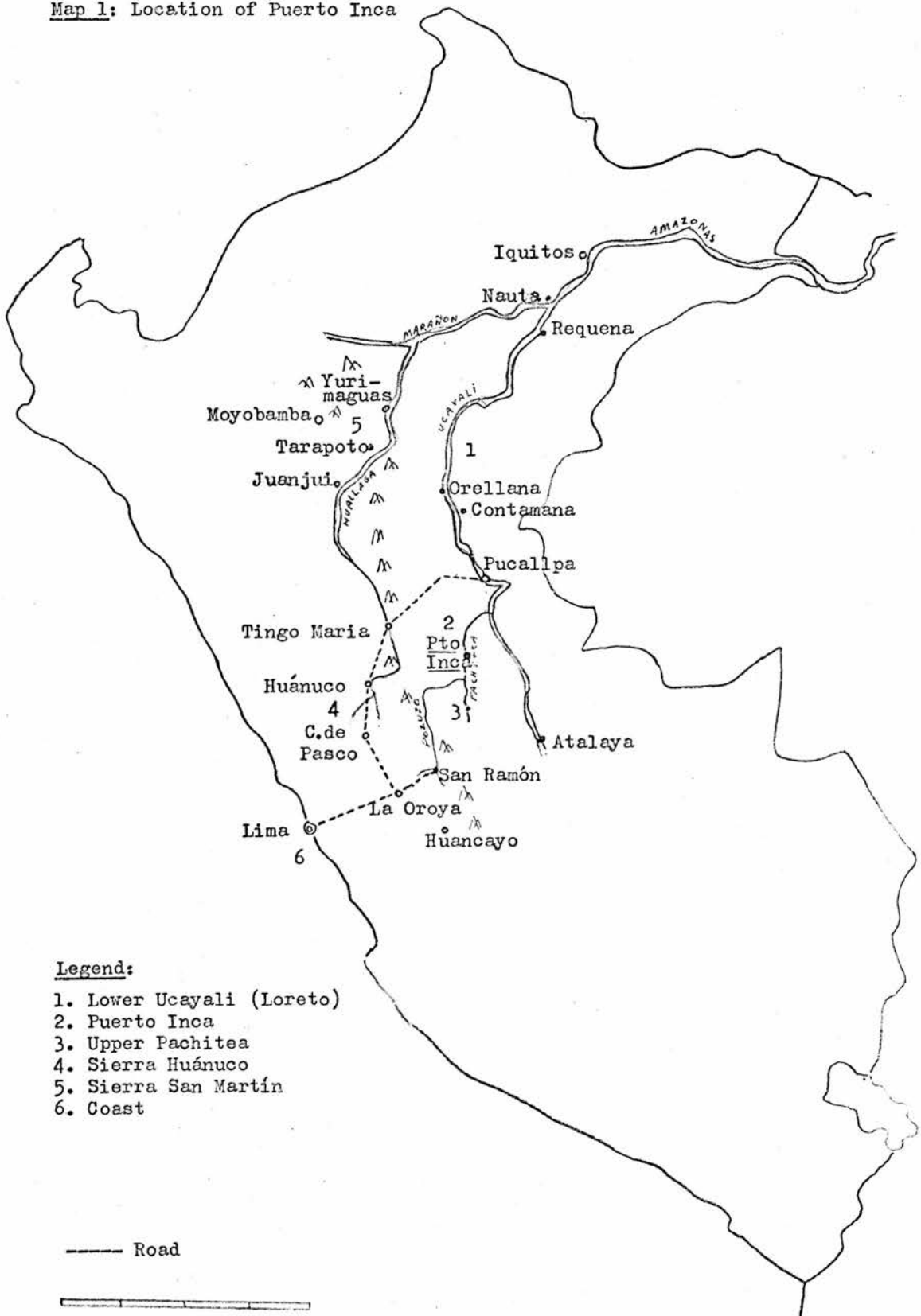
As represented in Maps 2 and 4, the settlement of Puerto Inca consists of about 200 houses distributed in a street-like fashion among four clearly delineated barrios or "neighbourhoods", the Loma, the Bajada, Loreto and Dos de Mayo, with 13%, 27.4%, 29.6% and 14.5% of the village total population, respectively. The split-level architecture of the village accounts for the names attributed to the first and second barrios: Loma means "hill" and refers to its higher elevation, while the Bajada, the "lower part", lies at a lower altitude, a few feet above the Pachitea River. As for Dos de Mayo and Loreto, they respectively lie on the upper terrace and on the lower riverside part of the village: Dos de Mayo is situated up river, while Loreto is down river. The former barrio borrows its name from a page of Peru's military history, while the latter inherits its name from the neighbouring largest rain forest Departamento of Peru, from which originated many of Puerto Inca's immigrants.

At the periphery of the Loma lies an 800 meter, unpaved landing field which attracts an average of one to two small single-engined air-

plane every week. The Loma barrio is built along Sanchez Cerro street which prolongs itself into a large trail along which Dos de Mayo's scattered houses are distributed. Loreto is composed of two streets: Loreto street, parallel but not adjacent to the river, and the riverside Malecon Leguía street which prolongs itself into the Bajada's main artery under the same name. Four streets link perpendicularly the Loma to the Bajada, all of them with cement stairways.

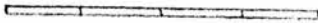
Puerto Inca also includes those few inhabitants (15.5% of total population) whose dwellings are scattered in the forest surrounding the village itself. These outskirts are commonly referred to as the alrededores ("outskirts") or as the Centro, i.e., the forest centre as distinct from the riverside "periphery" where settlements are usually located. (See Map 3)

Map 1: Location of Puerto Inca

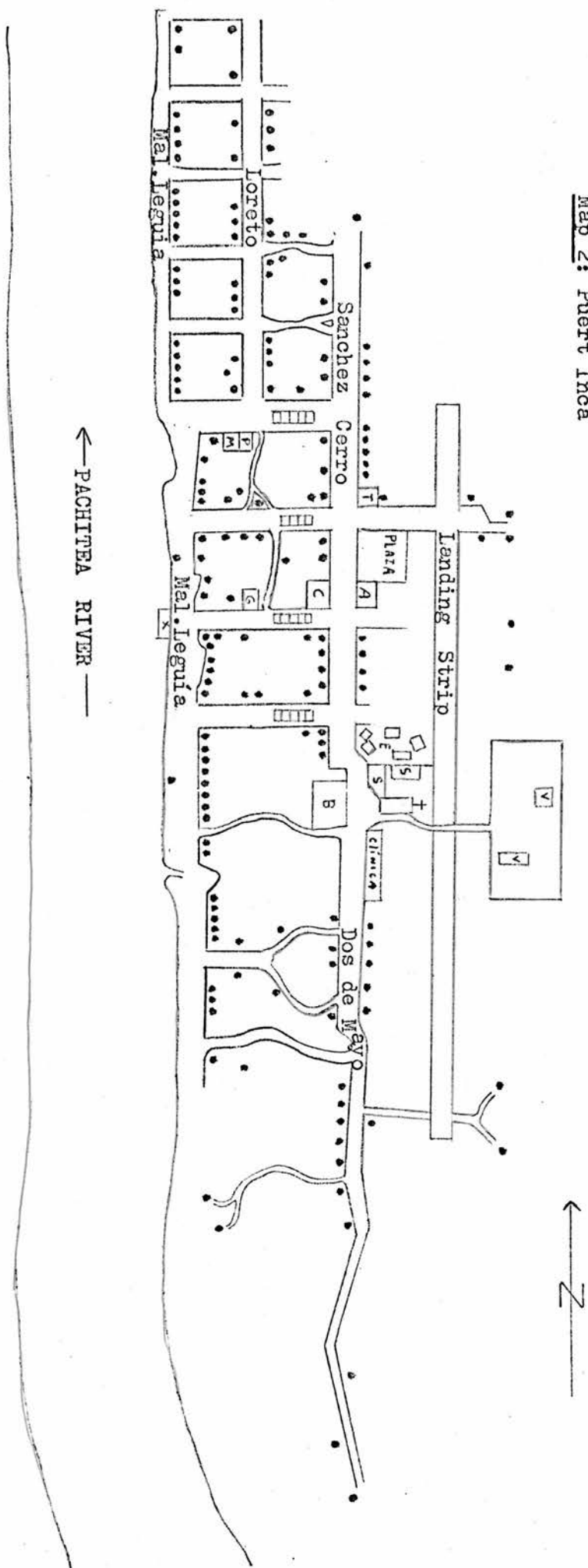
Legend:

1. Lower Ucayali (Loreto)
2. Puerto Inca
3. Upper Pachitea
4. Sierra Huánuco
5. Sierra San Martín
6. Coast

—— Road

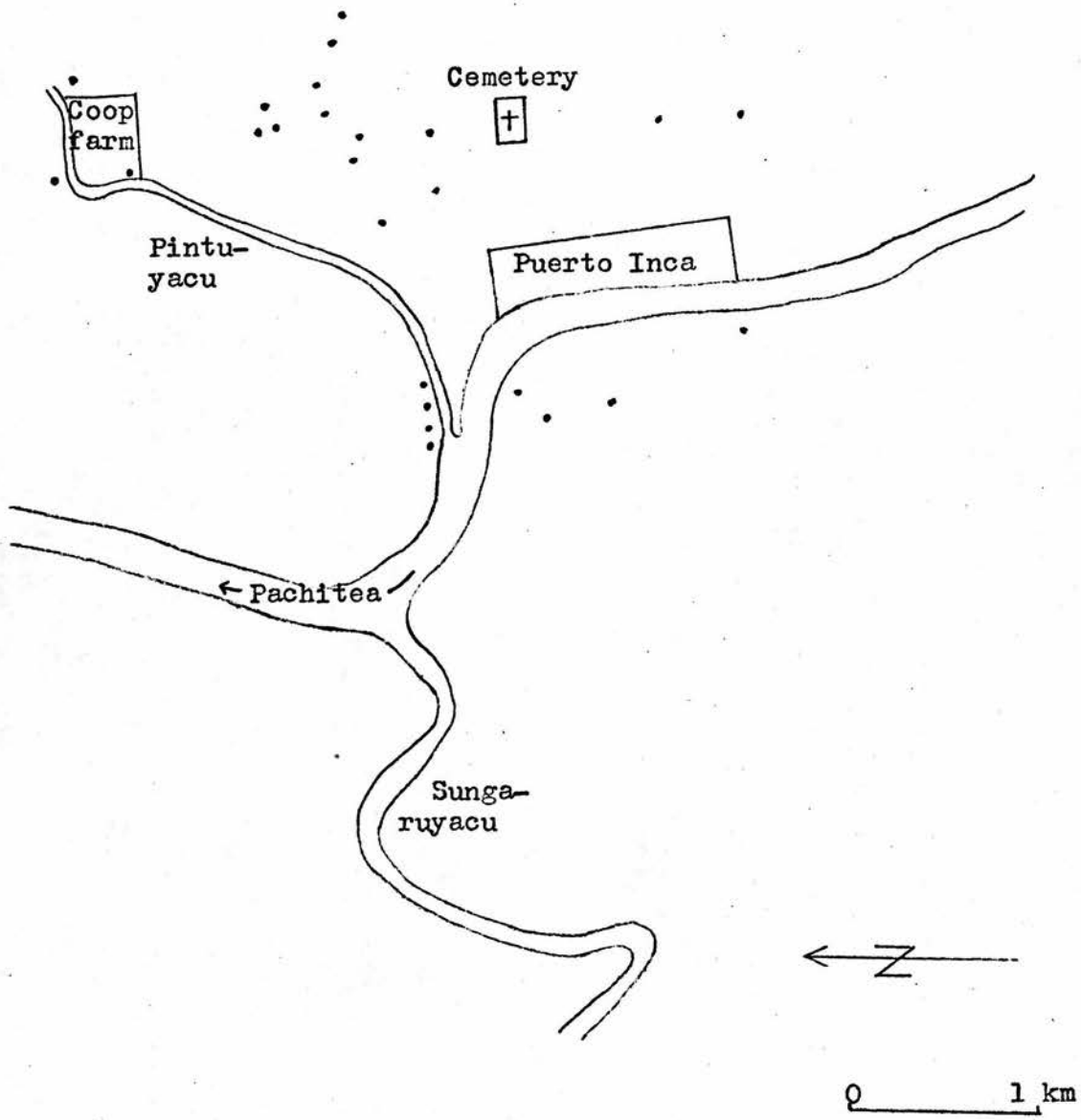


Map 2: Puert Inca



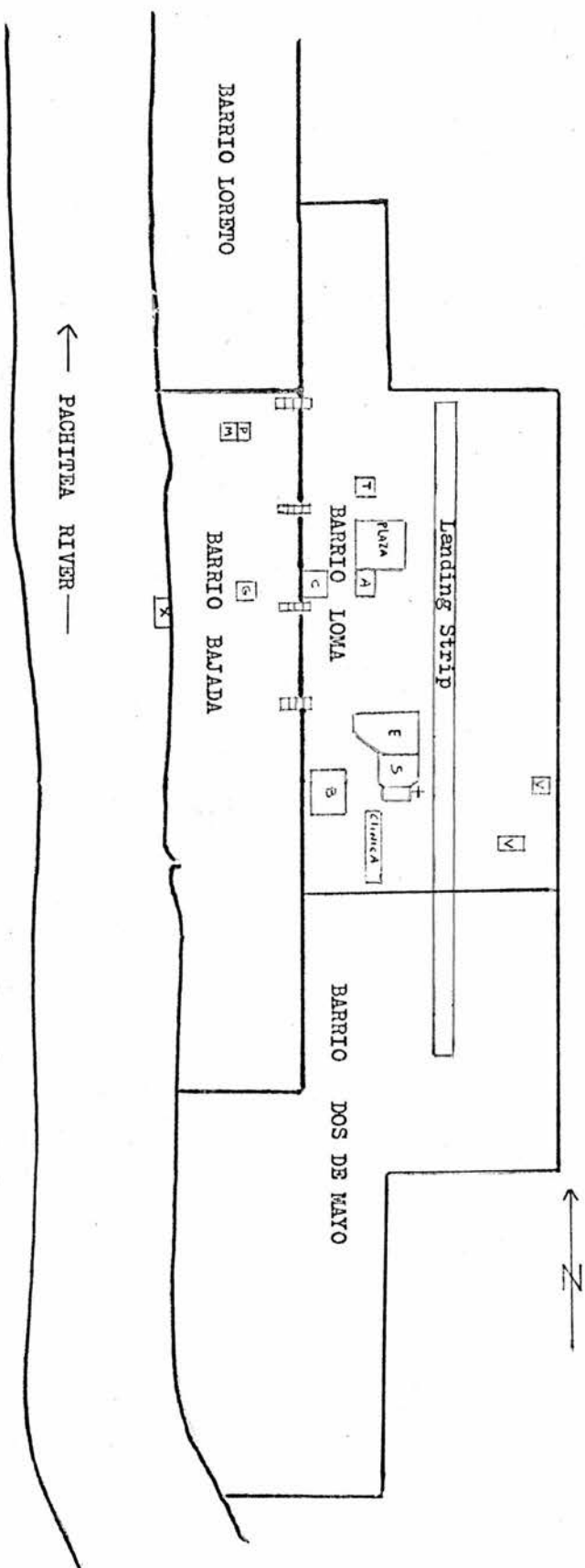
Legend:

- A = Club
- B = Parish Father's House
- C = College
- E = School (girls)
- G = Guardia Civil
- M = Market Place
- P = Electricity Plant
- S = Nuns' residence
- T = Town Hall
- V = School (boys)
- X = Main Port



Map 3: Distribution of Houses in the Vicinity of Puerto Inca

Map 4: Barrio Divisions in Puerto Inca
 "CENTRO" ("Outskirts")



Legend:

- A = Club
- B = Parish Father's House
- C = College
- E = School (girls)
- G = Guardia Civil
- M = Market Place
- P = Electricity Plant
- S = Nuns' Residence
- T = Town Hall
- V = School (boys)
- X = Main Port

2. CONCENTRIC STRUCTURE OF SPACE

A. Spatial Configurations and Social Structure

The physical use of Space in Puerto Inca can be explained through very different "découpages" of the general features presented above. One could put the emphasis on a neat village quadripartition complemented by a simple opposition between village and outskirts. Another structuralist artist could rather stress the split-level bipartition opposing the Loma- Dos de Mayo alliance to the Loreto-Bajada duo, and add to that the obvious distinction between forest and riverine environments. And another anthropologist might successfully insist on the down river/up river contradistinction.

Evidently all distinctions must be and can be accounted for within a single logical framework. Still this does not solve the critical issue, since many structural accounts are always available for the same set of contradistinctions and one still has to choose among those alternative frameworks on grounds other than mere intuitive aesthetics.

In order to avoid this possible arbitrariness within structural anthropology, we must argue that spatial configurations are to be understood in their correlation with the formal properties of other aspects of social reality (Lévi-Strauss, 1958: 320). A faithful reconstruction of the structure of spatial delimiters observed in Puerto Inca will indeed require systematic reference to other social codes, i.e., political, economic, demographic, historical and kinship; hence the need to reject those formalist approaches which attempt to analyze spatial structures in isolation from their sociological contexts (e.g., Palomino F., 1971; Zuidema, 1968; 1962: 84-5). I shall depart,

however, from structuralist orthodoxy - and from functionalism for that matter - by refusing to treat spatial codes as superstructural phenomena reflecting, hiding or consolidating a social organization already given at the infrastructural level (Lévi-Strauss, 1958: 321). "Social organization" will rather be defined in terms of a complex web of cross-cutting systems of exchange interlocked through structural homologies and complementarities.

B. Central and Peripheral Barrios

The physical structure of Puerto Inca rests upon three concentric dichotomizations of space: the settlement versus its outskirts, the Loma versus other barrios, and the Loma-Bajada centre versus the peripheral Dos de Mayo and Loreto.

Puerto Inca village/Outskirts ("Aldrededores"): Approximately 15.5% of Puerto Inca's population reside in the immediate vicinity or outskirts of the village. Although usually clustered in small hamlets, these houses are scattered in the forest and can be reached through forest trails and/or by waterway. Political, economic, religious, educational and recreational facilities and activities are all centred in the village of Puerto Inca itself.

Loma/Other Barrios: The Loma barrio is to the three other barrios of Puerto Inca what the village is to its outskirts, i.e., an institutional centre. The structural appearance of the village suggests a basic quadripartition (or decempartition; see Map 4), yet a more fundamental concentric bipartition opposing the Loma to the other peripheral barrios, correlates with the occupational and institutional organization of the village. Almost all of the central features of

the village are concentrated in the Loma: the Catholic Church, the Canadian and Spanish Missions, the schools and the college, the town hall, and two social clubs. The plaza central, the soccer field and the landing strip are also located in this barrio. And quite significantly, all four cement stairways, which constitute important spatial delimiters, lead to the Loma.

Bajada and Loma/Loreto and Dos de Mayo: The same concentric principle separates the Bajada from Loreto and Dos de Mayo. Indeed, taken together, the Loma and the Bajada are geographically and institutionally central in comparison to all other barrios. Dos de Mayo lies more to the south, up river, and Loreto more to the north, down river; conversely, the Loma and the Bajada occupy the central portion of the village. Furthermore, the Bajada is a second institutional centre within the settlement: there one finds the main port, the postal office, the indoor-market place, the electrical power-plant, a second plaza-like park (in front of the main port), and the stores of the two most successful and influential merchants of the community, and, indeed, of the Pachitea Valley as a whole.

Loreto/Dos de Mayo: The spatial logic differentiating Dos de Mayo from Loreto ceases to be concentric and displays a diametrical structure in that Dos de Mayo is up river and on the upper terrace, while Loreto lies down river and on the lower riverside terrace. Our description of the settlement's spatial configuration is thus confronted with a structural inconsistency: spatial components seem to rest upon both concentric and diametrical foundations. However, this inconsistency does not correspond to actual discontinuities within the infrastructure of exchange: it stems rather from the microsociological bias

of the observer who assumes, quite mistakenly, that local spatial divisions can be decoded without reference to the wider regional partitioning of space. Indeed a regional concentric symbolism underlies the Loreto/Dos de Mayo opposition within Puerto Inca itself: Loreto is to Dos de Mayo what the central lower Ucayali is to the peripheral upper Pachitea (respectively regions 1 and 2-3 on Map 1). This local application of the concentric ordering of regional space operates in various ways. In spatial terms, Loreto is located down river, closer to the urban centres of the lower Ucayali, and on the lower terrace, adjacent to the river waterway which channels most of the exchanges with the latter centres. Conversely, Dos de Mayo lies up river, closer to indigenous rural territories, and on the upper terrace, in contiguity with the inland forest ecology and means of communication which are so crucial to the economy of horticulturalists, hunters and gatherers. As will be shown later, the twofold association Loreto-Lower Ucayali and Dos de Mayo-Upper Pachitea does not rest upon spatial contiguities only, and is consistently reasserted through the prevailing networks of economic, kinship and cosmological exchanges.

C. Regional Concentricity

Spatial configurations are relative to those geographical boundaries that are selected for the purpose of a specific analysis. At a regional level, the village of Puerto Inca is thus simultaneously central and peripheral within wider networks of exchange: it is the central capital of the Pachitea province, yet it lies at the periphery of the demographic, economic and cultural centres of the lower Ucayali.

Puerto Inca/Pachitea Valley: Since it is the largest village to be found in the Pachitea Valley, Puerto Inca is without any doubt the regional centre with respect to all institutions. In political terms, provincial administrative services are made available in Puerto Inca: the governor, justice of peace, agricultural information officer and three Guardia Civil reside here. The alcalde ("mayor") of the district of Puerto Inca has always been a member of this community. It is thus in Puerto Inca that one can obtain governmental assistance, birth, marriage and death certificates, legal recognition of land ownership, legal settlements of disputes, police assistance, etc.

In educational terms, Puerto Inca is the only village within the Pachitea province which offers a complete system of kindergarten, primary and high school education. Religious services are equally concentrated in this community: Catholic Missions of the Canadian Prêtres des Missions Etrangères and of the Spanish San Francisco de La Salle Congregación have taken up residence in Puerto Inca. Baptisms, religious marriages and other Catholic rituals are rarely held elsewhere in the province.

From the point of view of regional communications, this community is also favoured as the major stopover point on the San Ramón - Pucallpa air route.

Puerto Inca equally serves as the centre of regional commercial transactions. Most of the wealthiest merchants and lumber bosses of the valley reside in this provincial capital. Access to market commodities and to wage-labour opportunities tends to vary in relation to one's proximity to this community.

Many of those swidden farmers who have migrated to Puerto Inca have done so in order to benefit from the settlement's political, administrative, religious, educational and commercial centrality.

Lower Ucayali/Pachitea Valley: The village is part of a still wider system of exchange, the immediate centre of which lies in the neighbouring Ucayali city of Pucallpa. All major outward channels of communication and economic exchange link Puerto Inca and the Pachitea Valley to Pucallpa, a rapidly expanding city of approximately 70,000 inhabitants, which lies well within the boundaries of Western civilization, to the contrary of the lost-in-the-jungle image of it that European, North American and even Peruvian tourists have been fostering for many years.

Almost all modern commercial articles, ranging from canned foods to manufactured clothing and from modern medicine to motor fuels, are bought in Pucallpa. General store merchants of Puerto Inca obtain most of their supplies in Pucallpa and must regularly make the journey there and back, a costly but necessary requirement. The down river trip takes about two days, and three to four coming back. For those who can afford the cost of air transport, a short one-hour trip in a Cessna airplane will suffice to bridge the fifty mile gap which separates Pucallpa from Puerto Inca.

Job opportunities are more numerous in Pucallpa and religious, governmental and recreational services more accessible, hence the temptation for many Pachitea dwellers to emigrate to this city. Even though the Pachitea Valley is contiguous to the Andean region, the existing infrastructure of roads, navigable rivers and air routes, gives a northerly orientation, i.e., towards centres of the lower

Amazonian basin, to most of the valley's outward exchanges. Commodities and persons travelling from Lima to the Pachitea may first reach San Ramón by road, and then Puerto Inca by plane, but the alternative route is less expensive and more often chosen: Pucallpa can thus be reached by road (via Huánuco and Tingo María), and Puerto Inca by waterway (from Tournavista, near the mouth of the Pachitea).

The political and administrative partitioning of the Peruvian rain forest does not correlate with the prevailing patterns of communication and of socio-economic exchanges. Indeed Puerto Inca is part of the Huánuco Departamento, the capital of which lies in the Andean Sierra, at an altitude of 1894 meters. There is no direct link either by land or air from Huánuco to the Pachitea province, and all administrative exchanges involve lengthy detours through San Ramón or through Pucallpa and Tingo María. The resulting incongruence between political and economic networks of exchange has been and still is the object of many complaints from Pachitea dwellers, who claim that their province should belong to the Departamento of Loreto and not to Huánuco, given the regional centrality of Pucallpa as the economic and cultural pole of attraction. However, this problem is partially solved by the fact that the national political structure is highly centralized within the coastal capital of Lima, and that various administrative affairs can be dealt with in Pucallpa through contacts with available authorities from Lima.

The Pachitea province is closely linked to the lower Amazonian basin not only in terms of communications and economic transactions, but also through demographic exchanges. In comparison with the ethnic composition of the population of other eastern inter-Andean valleys,

the cultural profile of the Pachitea province is relatively homogeneous (Dolfus, 1967: 80-5). Many valleys of the rain forest piedmont of the Peruvian Andes are characterized by a constant rivalry between indigenous groups and recent Andean migrants in need of arable land for both subsistence and commercial purposes. The Pachitea Valley has escaped some of the bitter versions of the latter conflicts: due to its remoteness, the valley has not been invaded by landless serranos, and displays thus a greater degree of cultural homogeneity in comparison to those valleys lying at higher altitudes, closer to the Andean ecology (See Varese, 1972). About 60% of the adults who have migrated to Puerto Inca used to live somewhere along the Ucayali, in Pucallpa or Iquitos, or in a village located between these two major cities of the Departamento of Loreto. Less than 17% of all adults who migrated to Puerto Inca came from the Andes (total sample of 716 adults).

Andean migrants who have settled in Puerto Inca can be divided into two categories: those who came from the Departamento of San Martín, north of the Pachitea province and west of the lower Ucayali, and those who used to live in the Departamentos of Huánuco, Pasco or Junín, west therefore of the Pachitea Valley (see Map 1). These two groups differ geographically and culturally, but still belong to a common Andean background. The densely populated area contained in the Yurimaguas-Tarapoto-Moyobamba triangle of San Martín is closely linked to the economy of the lower Ucayali; this association relates to the presence of the Huallaga River, an affluent of the Ucayali, which crosses the San Martín Departamento from north to south, thus joining Sierra and Selva. No similar geographical link unites the Pachitea

province to its neighbouring Huánuco Sierra, hence the smaller number of adult migrants from Huánuco (7% as compared to the 10% who originated from the more distant San Martín Sierra).

Centrality and peripherality underly the regional structuring of space, as they underlie Puerto Inca's own spatial "logique". Puerto Inca is regionally peripheral to lower Ucayali centres which are much more densely populated and more urbanized than the Pachitea Valley, and of easier access to coastal dwellers of Peru, or to Brazilian merchants. However, it has been shown earlier that Puerto Inca is itself, within the Pachitea Valley, a demographic, economic, political, educational and religious centre. As for Huánuco and San Martín regions (Map 1: areas 4 & 5), their position with respect to the Pachitea Valley is peripheral to the extent that the major type of interaction linking the former to the latter is a one-way migratory movement: Sierra peasants migrate to the lower tropical rain forest valleys in search of badly needed land. The flow of exchange is qualitatively and quantitatively restricted to this Andean reliance upon the availability of arable land in lower inter-Andean valleys.

D. Concentric Diachrony of Space

The concentric principle which underlies the synchronic ordering of these spatial configurations equally determines the diachronic formation of social and geographical boundaries at both local and regional levels. The history of barrios within Puerto Inca and of Puerto Inca within the Pachitea province reveals indeed the dialectical interaction between the two following processes: firstly, a process of demographic and economic deconcentration stemming from

central areas, and secondly, a centralizing movement of people and of economic activities within peripheral areas.

The history of the Pachitea Valley within the twentieth century is one of gradual colonization by foreign populations originating mostly from cities and villages of the lower Ucayali region.¹ Puerto Inca was founded in the early nineteen-twenties (1922) by Andean migrants seeking arable land for agricultural purposes. As a politically launched initiative, this colonization project was highly susceptible to national political fluctuations. The fall of Leguía's government by the end of the twenties did not, however, seriously affect the demographic and economic expansion of the settlement which rapidly accelerated with the discovery and extraction of gold in the tributaries of the Pachitea. By 1933, Puerto Inca had a total population of approximately 500 inhabitants, many of whom were living in the Centro, a few kilometers away from the village, close to their gold extracting sites. Puerto Inca was then composed of only one barrio, the Loma, which was connected to the gold extracting sites of the Ríos Negro, San Pablo, Pintuyacu and Porvenir, through well-maintained trails, many of which have since disappeared. Very few of these new settlers dedicated themselves to slash-and burn agriculture, and most commodities had to be imported from Pucallpa.

The gold rush had significantly declined by 1944, but the rubber boom soon came to the rescue. Another flow of migrants came from the lower Ucayali and from the Departamento of San Martín. In 1952, Puerto Inca's population was close to 1,000 inhabitants. The riverside Bajada barrio developed rapidly, especially as waterway transport acquired greater importance in commercial transactions.

1. For information on the Pachitea Valley prior to the nineteen-twenties, see Larrabure (1905), Maurtua (1918), and Izaguirre (1922).

For various reasons related to wider economic fluctuations, the rubber boom came to a premature end in the early fifties, to the disappointment of those settlers who had recently left the Sierra or the Amazonian basin in the hope of making their fortune in the Pachitea province. The availability of schooling, market commodities and land, combined with the lack of means to return to their place of origin, nevertheless motivated many Pachitea dwellers to settle in Puerto Inca. The population of the village remained relatively stable from then on, the rate of natural growth being significantly counteracted by the tendency of younger adults to emigrate to urban centres, such as Pucallpa.

The extraction of wood took significant economic proportions between the early fifties and the early sixties and is still crucial to the present economic profile of the Pachitea Valley. As for the introduction of cattle-raising, it has had only a partial impact on the latter profile: given the limited means of Pachitea dwellers, it has been taken up only by a few well-to-do farmers and has created very few wage-labour opportunities.

The barrio Loreto was given birth through the rise of the wood industry, while Dos de Mayo came to existence only in the sixties. The age of a barrio thus correlates with its spatial and socio-economic centrality: the Loma is to the Bajada what the Bajada is to Loreto and what Loreto is to Dos de Mayo, or what an older and more central barrio is to a younger and peripheral barrio.

However, it must be added that the outskirts of Puerto Inca were populated long before the settlement came into existence. The same generalization holds true at the regional level: the Pachitea Valley

was inhabited prior to these migratory movements and is still inhabited by descendents of these groups, most of whom are either Amueshas, Cashibos or Campas. Yet the consolidation of the emerging poles of demographic and economic attraction has entailed a rapid process of depopulation within peripheral areas: inhabitants who survived the spread of influenza, measles or other imported diseases, and whose economic mode of production had been severely threatened by the latter invasion, had no other alternative than to form, or migrate to, larger villages to gain access to commodities, wage-labour and peonage opportunities, as well as to religious and governmental services. About 17.5% of the adults who have settled in Puerto Inca used to reside in the Pachitea Valley or somewhere along one of the River's numerous tributaries. The deconcentration of a wider mode of economic and demographic exchanges thus thrives upon the systematic disintegration of a highly dispersed mode of primitive exchanges. (Jaulin, 1972; Varese, 1972)

3. SPATIAL STRATIFICATION

A. Spatial Concentricity and Economic Stratification

The preceding synchronic and diachronic account of Puerto Inca's position within space, and of spatial configurations within Puerto Inca, still remains sketchy and needs to be substantiated with additional data pertaining to the economic and kinship modes of exchange. Structural analysis has produced up to now an infrastructure characterized by a concentric ordering of spatial components differentiated in geographical, political and economic terms. The notions of centrality and peripherality have been useful and relevant in so far as they have been related to patterned distributions of values of exchange

among given spatial units. Implicit in this concept of "centrality" is a high degree of control over coveted values, whether they be people, commodities and services, or factors of production. The presence of a centrality/peripherality principle of societal organization should therefore be corroborated by a significant correlation between spatial concentricity and economic stratification. The latter hypothetical statement does correspond to the actual distribution of economic resources among observed spatial units within Puerto Inca.

The distribution of population by barrio is not in congruence with barrio stratification: middle strata have higher population densities than upper or lower strata. However, one must take into account the fact that a lot of non-residential public buildings are located in the Loma, thus reducing the space available for residential habitations and increasing it for public activities. If measuring the house density by barrio, as done in Table 20, then Loma ranks first, Loreto and Bajada rank second, Dos de Mayo third and Alrededores fourth, in accordance thus with the concentric delineation of village space.

Houses are not built with the same quality of materials and do not offer the same degree of comfort. If ranked according to their estimated value (see Chapter 1, p. 41), the obtained types of housing accommodation correlate significantly ($.5215$, Kendall procedures, 175 cases) with the concentric ordering of barrios. Barrios are identically stratified with respect to the allocation of other commodities such as boats and Johnson outboard motors, refrigerators, radios and record players, etc. Vertically ranked according to their estimated value (see Chapter 1, p. 40), the classification of these goods com-

Barrio Rank-Order	Total Popul.	Number of Houses	Estimated Space	Est. Popul. Density	Estimated House Density
1. Loma	140	55	38,000m ²	3.68/1000m ²	1.45/1000m ²
2. Bajada	296	55	56,250m ²	5.26/1000m ²	0.98/1000m ²
3. Loreto	320	47	46,400m ²	6.90/1000m ²	1.01/1000m ²
4. Dos Mayo	157	26	38,000m ²	4.13/1000m ²	0.68/1000m ²
5. Alreded.	167	30	1 km ²	0.17/1000m ²	0.03/1000m ²
TOTAL	1080	213	1.18 km ²	915 / km ²	181 / km ²

Table 20: Population and House Density by Barrios

pared with the preceding barrio rank-order, yields another significant Kendall correlation of .4199 (173 cases).

Underlying the latter disproportional allocation of commodities is the unequal distribution of occupations along the same barrio lines. Occupational strata, as given below, correlate indeed significantly with the stratified ordering of barrios (.4674, 244 cases, Kendall procedures).

Occupational Strata as Given in Chapter 1	Occupational Rank-Order	Barrio Rank-Order
1	1. Missionaries, merchants, carpenters, gov. employees	1. Loma
2	2. Lumber bosses, tradesmen, ass't carpenters	2. Bajada
2 + 3	3. Cattle raisers, perm. labourers	3. Loreto
3 + 4	4. Gold diggers, lumberers, occas. labourers	4. Dos de Mayo
4	5. Co-op. members, farmers	5. Alrededores
Kendall Correlation: .4674, 244 cases.		

Table 21: Correlation between Occupational and Barrio Strata

About 57% of all governmental employees reside in the Loma. Another 35.7% of such employees live in the Bajada. As for general store merchants, 64.7% of them adopt these two upper-class barrios (Loma and Bajada) as their place of residence. The distribution of farming households favours rather the adoption of peripheral barrios: 66.7% of all adult farmers have chosen to live in Dos de Mayo or in the Alrededores (outskirts), the two lower-class areas of the community. In Dos de Mayo, 58.8% of all adult dwellers engage in 'slash-and-burn' agriculture on a full-time basis, while only 9.3% of Loma inhabitants do so.

Barrios (% of Total Active Pop.)	Occupational Profile: <u>Main</u> and <u>Secondary</u> Occupations	% of Barrio's Active Popu- lation
1. Loma (17.8%)	M: <u>Administration</u> (Missions and Governmental Empl.)	41.9%
	S: Gen. Store Merchts & Carptrs.	13.3%
2. Bajada (28.8%)	M: <u>Commerce</u> : Gen. Store Merchts, Lumber bosses	26.2%
	Permnt Commerce Employees	11.8%
	S: Gov. Administration	13.1%
3. Loreto (24.9%)	<u>Mixed non-governmental Occup.:</u>	
	Trades	10.3%
	Lumberers	32.8%
	Occasional Labourers	10.3%
	Farmers	19.0%
4. Dos de Mayo (12.8%)	M: <u>Slash-and-burn Farming</u>	58.8%
	S: Lumberers	17.6%
5. Alrededores (15.6%)	M: <u>Slash-and-burn Farming</u>	72.2%
	S: Lumberers	8.3%

Table 22: Occupational Profile by Barrios

Table 22 gives a summary and description of the barrios' occupational profiles.

The administrative vocation of the upper-class Loma is well consolidated by the fact that almost all administrative and public buildings (governmental and religious) are located in this barrio. As for the Bajada's commercial profile, it is well displayed by the presence of the village market place, two of the three woodmills of the community, a soft drink production plant, a two-storey hotel, the central port, and finally the stores of the two most influential merchants of the community. The farming character of Dos de Mayo and the Alrededores is certainly reinforced by the conspicuous absence, within these residential areas, of any public or even commercial building, and of civil servant, missionary or merchant dwellers.

It has been argued earlier that the distinction between Loreto and Dos de Mayo barrios does not deviate from other spatial contradictions and is equally determined by the centrality/peripherality principle of exchange. The preceding distributional analysis confirms this claim: Loreto dwellers do effectively belong to an upper economic stratum in comparison to Dos de Mayo residents, hence their greater access to the centralized control of economic and non-economic values. While Dos de Mayo is mostly engaged in both swidden farming and lumbering activities, Loreto displays rather a mixed combination of activities in which lumbering is substantially complemented by small scale commerce, wage-labouring and swidden farming.

Differential access to means of transportation is also associated with residential and occupational stratification. Given the wider national basis supporting the administrative structure of Puerto Inca, Loma dwellers (teachers, civil servants, missionaries) tend to travel more often to urban centres of Peru and to resort more often than

others to air transport, more especially as they are the only ones (with merchants) who can afford it. And quite conveniently, the landing strip is situated in the Loma. Bajada residents are rather river travellers: commercial transactions and lumbering expeditions oblige them to travel along the Pachitea and its affluents. While very few Loma adults own a motored boat (about 7%), 59% of those who live in the Bajada do so; about 55% of all those who do own one reside in this riverine Bajada barrio.

As for dwellers of Dos de Mayo and the Alrededores, only 5% of them own a motor boat; the rest resort to dug out canoes or may reach their swidden plots through forest trails, at a relatively close walking distance. When working for a few weeks in a remote gold-extracting, lumbering or farming site, they usually avoid commuting too often, and build or find some accommodation in the vicinity of their employment's location. Loreto dwellers resort more often to river transport than the latter lower-class individuals, but less so than Bajada dwellers.

B. A Microcosmic Image of Regional Stratification

As argued earlier, the regional stratification of space is structurally homologous to Puerto Inca's own spatial "logique". However, this homology involves more than a simple formal similarity: members of upper strata barrios tend also to be ex-dwellers of upper residential strata, at the regional level.

Only 19% of the adult population who live (or lived) in Puerto Inca were born in the village itself. All others are migrants from the lower Ucayali, the upper Pachitea, or from Andean Departamentos (see Map 1). There is also another category of resident immigrants

which is the least important in numerical terms (2%), but quite important in socio-economic terms, namely the gringos ("white foreigners"). They comprise missionaries from Spain and Canada, a Czech hotel owner and two visiting German doctors.

To these various origins correspond a regional space stratification. As would be expected, those who come from upper-strata regions are members of upper-class barrios; conversely, those who originate from lower strata at the regional level tend to join the lower-class barrios of the community. The spatial distribution, within the village itself, of these various places of origin replicates, at a statistically significant level, the regional stratification of space. The latter claims can be validated through the analysis of the concomitant variations between, on the one hand, occupation and origin rank-orders, and, on the other hand, between origin and barrio rank-orders.

Putting in cardinal order the categories of the latter variables (see Table 23), a significant correlation of .3164 can be obtained through Spearman non-parametric procedures (408 cases).

Origin Rank-Order	Occupational Strata	Occupational Strata as Given in Chapter 1
1. Gringos (White Foreigners)	1. Missionaries	1
2. Lower Ucayali: Urban	2. Merchants, Carpenters, Gov. empl., lumber bosses, trades	1 + 2
3. Lower Ucayali: Rural	3. Lumberers	3
4. Puerto Inca 5. Upper Pachitea & Andes	4. Gold diggers, occas. labour, coop., farmers	3 + 4
Spearman Correlation: .3164, 408 cases		

Table 23: Correlation between Occupational Rank and Place of Origin

Gringo foreigners, although few in number, control an important quantity of resources in Puerto Inca, and sit without any doubt at the very top of the community's socio-economic hierarchy. As shown in Chapter 1, Canadian and Spanish missionaries are consistently favoured in their access to coveted values (income, housing, commodities and services, factors of production, secondary occupations and health conditions; see Chapter 1, pp. 38-42).

Through the help of the Mission, the old college premises have been transformed in the early seventies into a clinic to accommodate the services of German doctors sent to Puerto Inca on a one to two year basis by a privately financed German Health Development agency. These foreign doctors reside in the parish father's house, and enjoy in general a style of life comparable to that of their missionary host.

The gringo upper stratum finally includes the owner of a relatively luxurious two-storey hotel. This Czech immigrant also runs a small general store and is the village specialist electrician and mechanic, hence his indispensable contribution to the maintenance of the local power-plant.

Other gringos come to Puerto Inca on a temporary basis and display a comparable control over economic wealth. These may include visiting missionaries, young tourists from abroad, scientists, or a well-equipped film-producing team reconstructing the misadventures of a young British woman who survived a plane crash in the vicinity of the settlement.

Immigrants who come from the lower Ucayali belong more often to higher occupational strata than those few adults born and raised in Puerto Inca, and still more often than the migrants who used to live

in the rural upper Pachitea or in the neighbouring Andes. Governmental officials, merchants, carpenters, lumber bosses and lumberers are frequently (more often than statistically expected) former dwellers of the lower Ucayali region. Conversely, migrants from upper altitudes (upper Pachitea and Andes) are usually swidden farmers and/or wage-labourers, occupational categories which harvest less control over goods, services and factors of production.

Lower Ucayali migrants come much more often from urban areas than upper Pachitea or Andean migrants: the former seek either markets for their products or services, or job opportunities as teachers or as wage-labourers, while the latter often seek arable land, a scarce factor of production within the neighbouring Andes.² The significance of this rural-urban factor is confirmed by the fact that urban lower Ucayali immigrants also rank better in occupational terms than former inhabitants of rural lower Ucayali (see Table 23).

Puerto Inca is a central village within the Pachitea Valley, yet it is peripheral to the lower Ucayali region. One should, therefore, expect adults born and raised in Puerto Inca to reach intermediary occupational strata: Table 23 suggests that they effectively rank better than upper Pachitea and Andean migrants, but not as well as Lower Ucayali ones.

The foregoing analyses have shown that the occupational stratum to which an individual belongs tends to be congruent with both the rank of his barrio and the rank of his place of origin. Available data should therefore indicate a close association between one's barrio

2. However, upper Pachitea dwellers are not confronted with this land scarcity problem: they settle in Puerto Inca rather to gain access to wage-labour opportunities and to educational and other governmental or non-governmental services.

stratum and one's origin stratum. Table 24 shows that the congruence does prevail: former dwellers of upper-class and lower-class regions tend to reside, respectively, in wealthier and poorer barrios, or, alternatively, in central and peripheral residential areas. Gringo missionaries and doctors reside in the Loma, the Czech hotel owner in the Bajada. Migrants from urban Ucayali regions (Iquitos, Pucallpa, Contamana), chose to reside mostly in the Loma, the Bajada (65.8%) and in Loreto (21.6%), the three upper barrios of the community.

Barrio Rank	Gringo	Lower	Ucayali	Puerto Inca	Upper Pachitea	Andes	Total Pop.
		Urban	Rural				
1. Loma	4	34	8	20	4	8	78
2. Bajada	1	39	27	17	12	20	116
3. Loreto	0	24	15	38	14	13	104
4. Dos Mayo	0	13	8	11	16	10	58
5. Alreded.	0	1	9	24	22	12	68
TOTAL	5	111	67	110	68	63	424

Table 24: Places of Origin by Barrios (Present and Past Residents)

About 62% of those from rural lower Ucayali are Bajada or Loreto dwellers. Conversely, two thirds of upper Pachitea and Andean settlers have taken up residence in Loreto, Dos de Mayo and the Alrededores; only 9% of these migrants live in the Loma.

The latter patterns cease to be predictive with respect to the distribution of Puerto Inca adults, those born and raised in the village itself. Table 24 suggests for the moment that the three lower barrios, and especially the middle-class Loreto, recruit higher ratios of these adults. This distribution will be dealt with in later chapters and other significant factors will be shown to cause the latter discrepancy (Chapter 6).

4. RESIDENTIAL AND ECONOMIC ALLIANCES

A theoretical leitmotiv introduced in the first part of this research has been reasserted in the foregoing discussion on spatial configurations in Puerto Inca. Chapter 1 gave a description of observed economic activities and showed how the resulting occupational division of labour involved a stratified allocation of both commodities and factors of production. Chapter 2's major concern was to reveal the structured interdependency which prevails between these occupational strata, thus avoiding a nominalist and dualist interpretation of the overall mode of economic exchange under study. The resulting refusal to view economic units as quasi-isolated atoms was followed by Chapter 3's theoretical refusal to view economic exchanges as quasi-autonomous phenomena of social reality: it has been argued, on the contrary, that they are intelligible in so far as they are related, within reality and within our understanding of that reality, to non-economic modes of exchange; hence our transition to Part 2 of this thesis and to the study of Puerto Inca's kinship mode of exchange.

The analyses offered in this Chapter dealt with residential units, the boundaries of which yielded a concentric ordering of space, in both synchronic and diachronic terms. Having objected to the separation of economic variables from the kinship sphere of exchange, I took up the empirical task of revealing the congruence of occupational strata with territorial boundaries at both local and regional levels. The results were conclusive: the occupational hierarchy, and the economic differentiations which are associated with it, tend effectively to cement the concentric architecture of space.

The tendency for territorial and economic alliances to consolidate one another has been observed within many studies of Peruvian or other Latin American societies. Paulston showed that the distribution of national income (and of literacy) correlates highly with Peru's economic and ethnic stratifications which in turn correspond to a well structured allocation of space (towns versus shanty towns, urban versus rural areas, coast versus Andes, etc.). The well-to-do blancos live mostly in Lima, and mestizos in urban areas, i.e., in Lima or in provincial centres; the lower-class cholos reside in urban and rural sectors and often commute between both areas, while Quechua-speaking Indians live mostly in rural villages (Paulston, 1969: 11).

Similar patterns have emerged from community studies. Adams reported that the centre and the periphery of the residential quadripartition of Muquiyaayo recruited greater proportions of mestizos and Indians, respectively, and, correspondingly, of members of upper and lower economic strata (Adams, 1959: 64, 88). Sarhua's ayllu bipartition or Puquio's residential quadripartition are equally differentiated in occupational and ethnic terms (Arguedas, 1964; Palomino F., 1971: 241, 254). Bourricaud's study of Puno and Quispe's study of Huancasancos again yielded this multiple correlation between territorial units, ethnic and economic strata (Bourricaud, 1962: 38-41; Palomino F., 1971: 247; Quispe, 1969).

Hunt's analysis of local and territorial units among Middle American societies points towards similar phenomena, especially with reference to communities based upon a multiple barrio system, as opposed to those less acculturated and less stratified villages where dual barrio systems prevail (Hunt, 1967: 262-5). In the former

communities, Ladinos usually reside in the central barrios and Indians in the peripheral ones; control over political power and wealth is distributed along the same lines. As for the dual barrio villages, a lack of hierarchical features and a greater degree of cultural homogeneity are often observed (Hunt, 1967: 262-5; Palomino F., 1971). Anthropologists should avoid, however, classifying residential structures on the basis of formal comparisons only: the existence of a multiple-strata system is not necessarily the indication of a greater degree of acculturation or deviation from traditional patterns, as Hunt would argue; nor can it be taken as a proof of the preservation of pre-Columbian structures of space, as Zuidema and Palomino would have it (Palomino F., 1971; Zuidema, 1968; 1965; 1962: 84-5). Concepts of stratification or of multiple territorial systems are vacuous constructs if they are not related to the overall sociological structures under study.

Although useful, the latter correlational findings are in need of an explanation, hence the following danger: are we to view territorial centrality as simply mirroring the centralization of economic values, residential boundaries thus reflecting or consolidating an infrastructure of economic exchanges? Are we to define the interdependence between spatial units in economic terms exclusively? The theoretical statements of Chapter 3 impede us from doing so, and the following chapters will support such statements through the analysis of the structural relationships that exist between residential, economic and kinship solidarities.

CHAPTER 5: NUCLEAR HOUSEHOLDS AND VILLAGE KINDREDS

1. HOUSEHOLDS AND NUCLEAR FAMILIES

Latin American ethnographies consistently report the prevalence of the nuclear family as the foundation of the household. Our case study does not deviate from this general pattern. However, this does not justify the claim formulated in most of these ethnographies according to which the nuclear family is the basic kinship and economic unit of these societies.¹ From the kinship point of view, the nuclear family does not correspond to the unit which regulates, through the prescription of exogamy, the exchange of women; affinal alliances occur rather between cognatic kindreds which overlap with one another and which cannot, therefore, coincide with household or residential units. From the economic point of view, exchanges of goods and services within the nuclear family do not account for wider relations of production which thrive on commodity and wage-labour exchanges and on the differentiation between labourers and owners of means of production (facts which are reported within the same ethnographies). To seek the fundamental sociological atom which regulates or dominates all social relations is to assume that a society consists essentially of a mechanical agglomeration of similar units, an anthropological perception which reflects little else than Western beliefs. Instead of viewing the nuclear household as a societal atom, we shall rather define it as a structured intersection between

1. Albo, 1972: 1; Alers-Montalvo, 1964: 109; Belote, 1972: 8; Bolton, 1972: 1, 10; Brush, 1972: 14; Burchard, 1972: 9; Custred, 1972: 18; Fried, 1962; Hunt, 1967: 255; Lewis, 1960: 54; Mangin, 1970: 21; Mayer, 1972: 2; Nash, 1968: 317; 1969: 52; Prado, 1957: 11; Redfield, 1967: 89.

two modes of exchange, the kinship and the economic. The purpose of the following chapters will be to reveal the sociological mechanisms which determine the emergence and the maintenance of such an intersection. But let us first clarify the distinction that must be made between residential and kinship solidarities.

Household composition in Puerto Inca is predominantly nuclear, as it is in most cases in Peru. If one excludes all public buildings, there are 176 dwellings in Puerto Inca and, as indicated in Table 25 (see category 3), two thirds of these houses accommodate simple nuclear families, i.e., father, mother, and their non-adult children; hence a strong revealed preference for the nuclear structure as the household basis. Households and nuclear families tend to coincide in reality, nevertheless they should not be treated as synonymous concepts (Bohannan, 1968: 318, 323). The former refers basically to residential and economic alliances, while the latter rests upon two interrelated sets of kinship bonds: on the one hand, an affinal alliance between husband and wife, and on the other hand, a consanguine solidarity - i.e., a proscription to intermarry or to have sexual relations - between this couple and their children and between the children themselves. Moreover, although household dwellers are usually members of a nuclear family, the fact that nuclear units overlap with one another makes it absolutely impossible for all consanguines to live under the same roof: adults rarely cohabit with their siblings or parents. The boundaries of consanguinity - and therefore of the incest prohibition - extend beyond those of the nuclear household: the kinship status of second cousins may be ambiguously defined, yet it is clearly recognized that parents, siblings and nephews of ego's parents are consanguine relatives with whom marriage and sexual relations are

forbidden.

Households are economic units in the sense that they serve to channel important quantities of economic values, i.e., accommodation, food, clothing, etc. Nuclear families are rather kinship units, the boundaries of which go beyond those of the household. However, it must be added that consanguines who do not share the same accommodation tend on the other hand to exchange other economic values, through mutual assistance or inheritance transfers, and to co-reside within the same village, thus forming nuclear genealogies at the community level and consolidating the propensity for residential and kinship units to be coextensive. Empirical observations will be offered so as to substantiate these generalizations, and theoretical explanations will throw light on the relationships existing between territorial, occupational and kinship units. But let us first analyze those household cases which deviate from the elementary family composition (parents + non-adult children) and question the structural origin of such deviations.

2. DEVIATING HOUSEHOLD COMPOSITIONS

One third of all households do not conform to the simple elementary family composition which prevails within all other households. These deviating cases fit into one of the following categories (a more detailed classification is given in Table 25):

1. Households containing adults not living with spouse nor with children of their own, and:
 - a. residing alone (14 households; cat. 1, Table 25)
 - b. cohabiting with unrelated family (18 adults; not in Table 25)
 - c. cohabiting with related family (5 households; cat. 4, Table 25)
2. Single-parent families forming separate households (17 households; cat. 2, Table 25)
3. Single-parent families cohabiting with a related family which:
 - a. has only one parent (4 households; cat. 5c, Table 25)
 - b. has two parents (8 households; cat. 5b, 6b, Table 25)
4. Co-habitation of related two-parent families (9 households; cat. 5a, 6a, Table 25)
5. Co-habitation of unrelated two-parent families (only 1 household; cat. 7, Table 25)

We shall deal firstly with adults not living with a spouse nor with children of their own, secondly with all single-parent families, and thirdly with all multiple-family households.

Adults not living with spouse nor with children of their own:

One out of 10 adults living in Puerto Inca is not residing with a spouse nor with children of his own. Firstly, there are a few dwellings in which single adults are living alone (category 1, Table 25). These cases are rather infrequent: only 14 houses (7.9% of all houses) and 17 individuals (4.3% of total adult population) fall into this category. The occupational profile of this group reveals a common denominator: they tend to be relatively young or relatively

<u>TYPES OF HOUSEHOLD STRUCTURES</u>	Number of houses	%	Number of families	%
1. One adult without children				
1.1 Male adult	12	(6.8%)	-	
1.2 Female adult	2	(1.1%)	-	
2. One adult with his or her children (i.e., single-parent family)				
2.1 Father + children	9	(5.1%)	9	(4.9%)
2.2 Mother + children	8	(4.5%)	8	(4.3%)
3. Nuclear family (i.e. two-parent family)	118	(67.0%)	118	(63.8%)
4. Family and a relative				
4.1 Nuclear family + husband's mother or father	2	(1.1%)	2	(1.1%)
4.2 Nuclear family + wife's brother	2	(1.1%)	2	(1.1%)
4.3 A man, his daughter and her children	1	(0.6%)	1	(0.5%)
5. <u>Cohabitation of two related families of two different generations:</u>				
<u>a. Cohabitation of two-parent families:</u>				
5.1 Nuclear family and son's nuclear family	5	(2.8%)	10	(5.4%)
5.2 Nuclear family, one son's nuclear family and another son's wife and child	1	(0.6%)	3	(1.6%)
5.3 Nuclear family and daughter's nuclear family	2	(1.1%)	4	(2.2%)
<u>b. Cohabitation of a two-parent family with a single-parent family:</u>				
5.4 Nuclear family, their son, his daughter and her children	1	(0.6%)	2	(1.1%)
5.5 Nuclear family, their daughter and her children	3	(1.7%)	6	(3.2%)
5.6 Woman, her children and her son's nuclear family	1	(0.6%)	2	(1.1%)
5.7 Woman, her children and her daughter's nuclear family	1	(0.6%)	2	(1.1%)
<u>c. Cohabitation of two single-parent families:</u>				
5.8 A man and his children, his son and son's children	1	(0.6%)	2	(1.1%)
5.9 A man and his children, his daughter and her children	1	(0.6%)	2	(1.1%)
5.10 A woman and her children, her daughter and daughter's children	1	(0.6%)	2	(1.1%)
5.11 A woman and her children, her son and his children	1	(0.6%)	2	(1.1%)

6. /

<u>TYPES OF HOUSEHOLD STRUCTURES (Contd.)</u>	Number of houses	%	Number of families	%
6. <u>Cohabitation of two related families of one single generation:</u>				
a. <u>Cohabitation of two-parent families:</u>				
6.1 Father, mother, their children and the father's sister's nuclear family	1	(0.6%)	2	(1.1%)
b. <u>Cohabitation of a two-parent family with a single-parent family:</u>				
6.2 Father, mother, their children, and the father's sister and her children	1	(0.6%)	2	(1.1%)
6.3 Father, mother, their children and the mother's sister and her children	1	(0.6%)	2	(1.1%)
7. Cohabitation of two unrelated nuclear families of one single generation	1	(0.6%)	2	(1.1%)
TOTAL	176	(100 %)	185	(100 %)

Table 25: Household Composition in Puerto Inca

old members of upper occupational strata. These include the four Spanish nuns, the Canadian parish father and his employee, the Czech hotel owner, the governmental health officer, a teacher, the village mayor and a municipal employee, a company's air-traffic controller, a full-time general store employee, and a lumber boss. Adults may thus live alone for religious reasons or as a result of factors related to the life cycle of the nuclear family: either they are quite young and have not yet married, or they are quite old and have been separated for some reason from both spouse and children. Almost all of these single adults (14 out of 17) are better off economically than most residents of Puerto Inca, hence the fact that they can dispense more easily with the practical benefits of cohabitation with a spouse. Given the scarcity of upper-strata female occupations, it is quite understandable that the relative frequency of women living alone should be so small: only one of 12 adults living alone (excluding missionaries) is a woman.

A second group of individuals, not mentioned in Table 25, is in a situation similar to the foregoing: they are not living with either spouse, children, or relatives, and are boarding under the roof of an unrelated family. Only 18 individuals (4.6% of total adult population) are thus lodging in Puerto Inca dwellings: most of them are either muchachas or adolescent girls working and boarding in a merchant's general store (5 cases); elderly male labourers employed again by a merchant and boarding in his house (3 cases); or male governmental employees residing with the family of other governmental officials (i.e., the agricultural information officer, two teachers, two Guardia Civil, and a bank employee). Few of them have relatives in Puerto Inca and they have thus chosen to board with people of similar

occupations, if they are governmental employees, or to lodge in the house of their merchant employer, if they are muchachas or elderly labourers.

A third type of household deviating from the simple one-nucleus-per-house pattern involves those few dwellings in which a single adult resides with a family, a member of which is either his son, daughter or sister (category 4, Table 25): 5 houses are thus characterized. Three of these adults are elderly parents, two are young brothers; none of them belong to upper occupational strata, hence their dependence upon cohabitation with immediate relatives.

Adults not living with spouse nor with children of their own, i.e., those belonging to the three groups described above, are seldom middle-aged: only 3 of them are between the ages of 30 and 50, 11 of the 13 elderly adults are above 55, and 12 of the 21 younger adults are below 27 (information was lacking for the three remaining cases). The occurrence of such cases does not, therefore, mitigate the prevalence of nuclear families as the household foundation; on the contrary, it results from features inherent to the life cycle of nuclear families. Such adults have either recently left their own parents and have not yet married, or they are quite old and have been separated from both spouse and children. Those of upper occupational strata, usually without relatives in village, will live alone in their own houses or cohabit with other members of the same occupations. As for those of lesser means, the loss of practical advantages derived from co-residence with both spouse and children is compensated for by living under the roof of their employer, with the family of a sibling or a child, or simply as a lodger in a pensión.

Single-parent Families:

There are 35 single-parent families in Puerto Inca, or one fifth of all families (35/185). There is a strong propensity within these broken homes to relinquish the responsibility of the children to the mother; indeed 22 are fatherless, while 13 are motherless. This propensity is furthermore consolidated by the fact that motherless households comprise fewer and older children in comparison to their fatherless counterparts. Abandoned mothers are still further disadvantaged by their more limited access to means of livelihood: the responsibility of providing for a family's economic necessities is usually attributed to men who occupy "better" positions within the economic division of labour. As a result of this, a woman who has been left alone with her children will often resort to cohabitation with a related family as a way to compensate for the ensuing loss of economic security: two out of three (14/22) fatherless families thus cohabit with other families. Single mothers living alone with their children in their own houses (8 cases) have not chosen this cohabitation strategy partly because they have larger families, hence the need for accommodation of their own: indeed they have an average 4.4 children (35/8 cases), while single mothers co-residing with other units have an average of 2.9 children (40/14 cases).

Conversely, only one third of motherless families (4/13) cohabit in multiple-family households: two of them do so in order again to accommodate a single mother or daughter and her children; the two other motherless cohabiting families share the same accommodation (category 5.8, Table 25). As already mentioned, motherless families rather prefer to form separate households: the fathers tend to be old (average of 55 years old) and to be widowers (5 out of 9), and the

children are few in number (average of 1.3 per unit; 12/9 cases) and approaching adulthood (most are close to their twenties).

Half (18/35) of all single-parent units are thus cohabiting with other families, while only 18.7% of all two-parent families of Puerto Inca do so (28/150). The economic interdependence secured by the nuclear household is thus compensated for by co-residence with another family, especially so if the single-parent unit has no father and many young children. These multiple-family households not only serve a function similar to that of the nuclear-based household, but they also resort - as shown hereafter - to the nuclear structure of alliances.

Cohabiting families:

Multiple-family cohabitation seems to deviate from the nuclear model by enlarging the kinship composition of the household. Nevertheless, these residential alliances still operate through nuclear bonds. Only one of these 23 multiple-family households involves the cohabitation of non-related units. The two-generation differentiation and interdependence which is so typical of the nuclear family is also reasserted within these enlarged households: 83% of all families cohabiting in a multiple-family household (38/46) live in the house of their adult child or of their parent(s) (biological or in-law).

Cohabitation will thus tend to arise from two possible situations. Firstly, fatherless units may welcome the advantages of co-residence with the family of a son (-in-law), a father (-in-law), or a brother (-in-law), i.e., with a related non-fatherless unit: 11 of the 23 cohabitation households fall into this category. The second type of cohabitation results rather from the life cycle properties of the nuclear family: indeed young couples with young children may prefer to

co-reside for a few years with their parents until they can live under their own roof. Ten cases of this type are known: mothers of these newly founded families are quite young (average age of 22.6) and they have few children (average of 1.6 children).

Summary

Household composition in Puerto Inca reveals a strong preference for the nuclear family: two thirds of all households are thus characterized. Furthermore, cases deviating from this pattern reassert in various ways, functional and structural features of the nuclear unit.

1. The either-young-or-old age profile of those adults not living with a spouse nor with children of their own (excluding missionaries) reveals some aspects which characterize the initial and terminal periods of the nuclear household's life cycle: various circumstances may induce a young adult to marry later than others, or may force an elderly one to be separated from both his spouse and children. The economic function of household solidarity is also confirmed by the fact that among individuals of this first category, only those who belong to upper occupational strata (hence males) live alone in their own house, or share their accommodation with unrelated adults, usually of the same occupational category; those of lesser means, on the contrary, choose to reside under the roof of their employer or with the family of a sibling or of an adult child.

2. As for single-parent families, most of which are fatherless (see also Mayer, 1972: 2), especially the larger and younger ones, they will respond to the absence of a parent within the household in one of the following ways. Abandoned mothers are economically disadvantaged and resort often (14/22 cases) to cohabitation with the family of a

nuclear relative; single mothers who form separate households usually have large families and need accommodation of their own. Abandoned fathers are not faced with a loss of economic security, and they have fewer children most of whom are close to their twenties; hence their preference for a household of their own.

3. Finally, multiple-family households either consist of a fatherless family co-residing with a non-fatherless family of a nuclear consanguine; or they consist of young couples who choose to co-reside with their parents until they can live under their own roof. In both cases, cohabitation replicates the structure of the nuclear household in the sense that it involves again parents and their children sharing the same accommodation (83% of all cohabitation cases fall into this category): the only difference is that these children are themselves adults and parents, as distinct from the non-adult children of the typical nuclear household.²

2. For similar ethnographic observations, see Albo, 1972: 7; Bolton, 1972: 9; Bourricaud, 1962: 152-3; Greaves, 1972; Lewis, 1960: 54; Mayer, 1972: 3.

3. VILLAGE CO-RESIDENCE AND COGNATIC KINDREDS

The distinction between affinity and consanguinity is fundamental to the observed mode of kinship exchange and to the prohibition of incestuous alliances: for ego, an affine cannot be a consanguine relative and vice-versa, so that both positions are mutually exclusive. Two interdependent forms of alliance are thus prescribed: necessary consanguinity, or proscribed affinity, between the couple and their children, and between the children themselves; and potential affinity between adults belonging to consanguineously unrelated units. Hypothetically, one could trace genealogical links ad infinitum, thus gradually reducing the number of potential affines. However, it is recognized in practice that second cousins may in certain circumstances (e.g., with proper religious authorization) become affines and that more distant cousins are all potential affines. Units involved in affinal alliances differ from household units in two ways: firstly, a cognatic kindred system produces a network of overlapping units, while households cannot overlap; secondly, a kindred is larger than a nuclear household, since it includes the bonds linking parents to their adult children and to their siblings, while a household usually excludes these bonds.

Kindreds cannot be divided into separate spatial units, elementary families can (i.e., parents + non-adult children), hence the possibility for the household membership to coincide with the elementary family composition. There is evidence nevertheless that kindreds do also thrive upon spatial solidarity (beyond the boundaries of the household) and that they achieve this by simulating the two-generational structure of the elementary family: parents and their adult children will indeed often take up residence in the same village and,

as shown in the next chapter, in the same barrio.

Consanguine dwellers and their affines

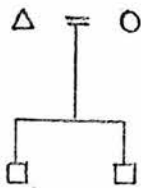
Many adults of Puerto Inca are related through nuclear consanguine bonds to other adult dwellers of the community, and most of those who are not are at least affinally related to the latter. Village kindreds may thus be identified by distinguishing between the following categories of adult residents (past and/or present) of Puerto Inca:

- a. Members of village kindreds, i.e., of groups of adults related to one another through a chain of nuclear consanguine bonds (parent-child, sibling-sibling);
- b. Stable affines of (a): adults without consanguine relatives in the village, but who have contracted a stable matrimonial alliance with a village kindred member (civil, religious or common law, union involving a minimum cohabitation period of one year and the procreation of at least one child);
- c. Short-term affines of (a): same individual as in category b, but with a "short-term" matrimonial alliance with a village kindred member (common law union involving a cohabitation period of less than one year and the procreation of only one child);
- d. Affines of (b) and (c): adults without consanguine relatives in the village, and who have contracted (stable or short-term) alliances with (stable or short-term) affines of village kindred members.
- e. Adults unrelated consanguineously or affinally to any individual of the preceding categories (a to d).

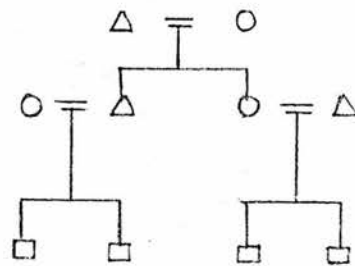
Differently from village kindred members (category a), individuals described in categories b, c, d and e, are without any consanguine relatives in the village and belong to genealogical groups the members of which reside elsewhere. It must be stressed that this classification does not postulate a necessary coincidence between kindreds and residential units; as already argued, ego-centred kindreds are inter-related through structural overlappings and cannot therefore consolidate

their boundaries through residential solidarity. These categories are useful in so far as they will enable us to discover the extent to which the nuclear core of a kindred unit (parent + adult children) tends to take up residence in the same community, thus forming what may be termed nuclear village-kindreds (see Diagram 5).

Individuals belonging to categories b, c, d and e may be easily identified, but the definition given for category (a) may yield a few ambiguities. As a rule, any group within which two unmarried individuals were potential affines was not viewed as genealogically homogeneous. Spouses, even though both consanguineously related to the same progeny, may thus be assigned to distinct village kindreds, given the possibility for the husband's sibling to marry with the wife's sibling. However, a problem arises when attempting to define the unit to which the adult progeny of these spouses belong. Given the residential criterion underlying our definition of village kindreds, these cases were dealt with in the following manner: they were considered as members of the larger kindred unit which usually corresponded to the one they were residentially associated with (in terms of



Elementary Family
(Household Co-residence)



Nuclear Kindred
(Village Co-residence)

Diagram 5: Elementary Family and Nuclear Kindred (\square = non-adult child)

village or barrio co-residence).³

Nuclear Village-Kindreds

Genealogical data have been gathered for one thousand adults who have lived for at least one year in Puerto Inca some time during the fifties, sixties or early seventies. This sample population probably covers between 65% and 75% of all those adults who actually resided in the village for at least one year in the course of these decades. Results given in Table 26 indicate that nuclear households are not consanguineously isolated from other households of the village: 63% of all adults are members of village kindreds, 27.4% are stable or short-term affines of the latter, and only 3.5% and 5.4% fall respectively into category d and e, i.e., affines of affines, and adults affinally or consanguineously unrelated to any of the preceding categories.

Category of Individual	Total Adult Population	% of Adult Population
a - Members of Village Kindreds	636	63.6%
b - Stable affines of (a)	179	17.9%
c - Short-term affines of (a)	95	9.5%
d - Affines of (b) and (c)	35	3.5%
e - Adults unrelated to any of preceding adults	54	5.4%
TOTAL	999	100 %

Table 26: Village Kindreds and their Affines⁴

-
3. For example, the adult offspring of a couple would be classified as members of the father's kindred if many of the mother's consanguines had left the village, or if few of them had actually lived in Puerto Inca, and if many patrilineal consanguine relatives had resided and remained in the community. The genealogical splitting-up of parents from their adult children was not, however, performed often: in many cases, neither parent had adult siblings or parents living in Puerto Inca and both were included in their adult children's kindred.
 4. These affines are without consanguine relatives in the village (including past and present population).

A first glance at Table 27 gives the impression that the community's kinship network is highly fragmented through a myriad of genealogically unrelated units: the total population (past and present residents) belonging to such units (636 adults) is indeed distributed among 124 distinct kindreds, and 363 additional adults are without any consanguine relatives in the village. Yet this fragmentation can be reduced in two analytical ways: firstly, when considering only those adults presently residing in the village, the resulting number of kindreds is reduced to 66 units;⁵ and secondly, if variations with respect to the sizes of these groups are taken into account, it can be seen that two thirds of all adults of category (a) belong to only 37.1% of all kindreds (46/124), or to only 28 kindreds if considering only present dwellers of Puerto Inca. The preceding reduction is not merely analytical: it does correspond to a tendency of Puerto Inca dwellers to remain more often within the village if they are members of village kindreds, and still more often if they belong to larger kindred units. (See Table 28)

None the less, the tendency towards genealogical fragmentation of kindreds is still a predominant feature of Puerto Inca's kinship system. This multiplicity of village kindreds replicates in a sense the centrifugal ordering of elementary families: in both cases, the community is composed of a myriad of similar units compulsorily engaged, as a result of the incest prohibition, in the exchange of similar values, namely women. The homology that lies between the elementary family and the village kindred goes still deeper. In both cases, nuclear bonds preside over the formation of the units and they

5. The proportion of adults who are not members of village kindreds is thus reduced from 36.3% to 25.6% of all adults (i.e., 100/390).

Past & Present Population					Present Population Only				
Number of members	Number of Geneal. Units	Total Population	Cumulative Population	Cumulative Population %	Number of members	Number of Geneal. Units	Total Population	Cumulative Population	Cumulative Population %
A	B	AxB	C	$\frac{C}{635}$	A	B	AxB	C	$\frac{C}{635}$
2	31	62	62	9.8	2	23	46	46	17.2
3	28	84	146	23.0	3	15	45	91	34.1
4	19	76	222	35.0	4	8	32	123	46.1
5	8	40	262	41.3	5	8	40	163	61.1
6	7	42	304	47.9	6	2	12	175	65.5
7	8	56	360	56.7	7	2	14	189	70.8
8	3	24	384	60.5	8	3	24	213	79.8
9	4	36	420	66.1	9	1	9	222	83.2
10	6	60	480	75.6	10	1	10	232	86.9
11	2	22	502	79.1	11	2	22	254	95.1
12	3	36	538	84.7	13	1	13	267	100%
16	2	32	570	89.8	Tot	66	267	267	
18	1	18	588	92.6					
22	1	22	610	96.1					
25	1	25	635	100%					
Tot	124	635	635						

Table 27: Distribution of Population by Size of Kindred Unit

Kinship Category	Adult Population (past and present)	Present Adult Population	% of Those who Stayed in Village
Village Kindred (a)			
- Size 2 to 4	222	79	35.6%
- Size 5 to 9	198	92	46.5%
- Size 10 to 25	215	119	55.3%
Affines and Unrelated Adults (b,c,d,e)	364	100	27.5%
TOTAL	999	390	39.0%

Table 28: Rate of Village Emigration by Kinship Category and by Size of Village Kindred

Generational Structure	Number of Kindreds	Total Adult Population	% of Adult Population
One Generation	36	84	13.3%
Two Generations	71	374	59.1%
Three Generations	17	175	27.6%
TOTAL	124	633	100 %

Table 29: Population Distribution by Type of Village Kindred

Present and Past Residents				Present Residents Only			
Size of Kindred	Number of Kindreds	Total Adults	% of Males	Size of Kindred	Number of Kindreds	Total Adults	% of Males
2 to 4	78	222	45.1%	2 to 3	36	85	42.4%
5 to 9	30	198	46.0%	4 to 5	15	67	52.3%
10 to 25	16	215	53.0%	6 to 13	12	101	52.5%
TOTAL	124	635	48.0%		63	253	49.0%

Table 30: Sex Composition by Size of Village Kindred

are cemented through residential solidarity, at the household level in one case, and at the village level in the other. And finally, the composition of both units embraces individuals of two contiguous generations and of both sexes. Only 13.3% of all members of village kindreds belong to one-generation kindreds, i.e., to units involving the village cohabitation of consanguines of a single generation (hence without their parents or adult children) (see Table 29); as with the elementary family household, village cohabitation rarely unites members of the same generation to the exclusion of consanguines of other generations. As for the sex composition, village kindreds imitate the cognatic principle of the elementary family membership, and do not recruit their members on the basis of a patrilineal or matrilineal pattern of selection: figures given in Table 30 show indeed that men are as often members of these units as are women, and that there is not therefore a tendency for village kindreds to prefer one sex and for affinal categories (b, c and d) to recruit members of the opposite sex. Significant deviations of more than 25% from the 50% male ratio occur within only a few kindreds which contain no more than 18.1% of all adult members of village kindreds.

CHAPTER 6: KINSHIP ALLIANCES AND CLASS STRUCTURE

It has been shown in Chapter 4 that occupational and barrio boundaries within Puerto Inca tend to coincide, and, in Chapter 5, that members of nuclear units tend to co-reside in the same household (elementary family) or in the same village (nuclear kindreds). In this chapter, I shall attempt to show, firstly, that members of village kindreds tend to co-reside within the same barrio and to share similar standards of living and similar occupational activities. Secondly, that the congruity which prevails between residential (barrio), occupational and genealogical boundaries, is maintained by the preferential practice of intra-class marriages, i.e., of affinal alliances between members of the same residential and occupational strata. Thirdly, exogamous or inter-class marriages will be related to the shortage of women within upper strata, to the privileged position of men within the observed mode of production, and to the formation of middle-strata barrios; additional data will also indicate that lower strata tend to form larger village kindreds than upper strata. Finally, the last section will try to go beyond these concomitant variations and to relate these empirical generalizations to an overall understanding of the interpenetration of kinship and economic variables in Puerto Inca.

1. VILLAGE KINDREDS, BARRIOS AND OCCUPATIONS

Kinship units identified in Chapter 5 are residentially consolidated: members of an elementary family cohabit in the same household and those of the nuclear kindred (parents + adult children) share the use of a common ecological niche, i.e., a village and its immediate environment. This residential homogeneity relates to more general patterns.

The economic opportunities that are shared by members of village kindreds do not involve the control of a common village ecology only, they also comprise the access to common occupational activities, standards of living, and to a common spatial niche within the village itself (i.e., barrios).

Village kindreds display a high degree of barrio residential endogamy. Of those 122 residents who are adult children of parents living in Puerto Inca, 68%¹ reside in the same barrio as their parents'. This rate is lower among adult siblings whose parents do not live in Puerto Inca, yet it is still significant: 46.2% (24/52) or these individuals co-reside in the same barrios. Most kindreds are thus associated with specific barrios of the village; those few exceptional cases of residential dispersion usually involve parents and adult children residing in the Alrededores (outskirts) and in Loreto, respectively. (34 adults fall into this category, i.e., 7.2% of the total adult population).

Members of village kindreds tend furthermore to share similar standards of living and to belong to the same occupational strata. The occupational rank-order given in Chapter 1 must be slightly modified, as done in Table 31, in order to take into account the occupational variations that occur within kindred units. These modifications yield, on the one hand, four ranked occupational classes, and on the other hand, a non-ranked category embracing individuals of different occupational strata. Only 18.2% of adult members of village kindreds belong to the latter occupationally mixed kindreds, while all other adults belong to

1. The expected frequency, based on adult population distribution by barrio, would be about 21.7%.

Occupational Rank-Order	Strata in Chapter 1	
1. Missionaries, merchants and carpenters	1	<u>Correlation</u> between parents' and adult children's occupational ranks: .4115 (Kendall correlation, 107 cases)
2. Government employees	1	
3. Lumber bosses	2	
4. Trades, assistant carpenters, cattle raisers	2	
5. Permanent labourers, gold diggers, lumberers	3	
6. Occasional labourers	4	
7. Coop. members and farmers	4	

Table 31: Correlation between Parents' and Adult Children's Occupational Ranks

homogeneous groupings. Economic mobility from a generation to the next occurs thus in a very limited fashion and adult children's occupations rarely deviate from their parents' strata: they correlate indeed at a significant level (Kendall correlation of .4115, 107 cases, see Table 31). About 52.8%² (76/144) of all adult children remain within their parents' occupational strata, or within their siblings' strata if their parents are not residing in Puerto Inca (see Tables 32 & 33). If the stratification is reduced to a twofold classification (strata 1 + 2, strata 3+4), the rate of occupational "endogamy" increases to about 80% (115/144)³ of all paired cases. One can thus easily predict that adult members of village kindreds will tend to share similar standards of living: statistical comparisons between their accommodation and other

-
2. The expected frequency is only 35%.
 3. The expected frequency is only 66.2%.

Occupational Rank of Parent (corresponding Strata in Chapter 1)	Occupational Rank of Adult Child					
	1	2	3	4	TOTAL	%
1. Merchants and carpenters (1)	1	2	2	0	5	4.7%
2. Govt. employees, lumber bosses, cattle (1 + 2)	2	4	2	1	9	8.5%
3. Trades, ass't. carpenters, permanent labour, gold, lumberers (2 + 3)	1	3	13	11	28	26.4%
4. Occ. labour, coop., farmers (4)	1	6	17	40	64	60.4%
TOTAL	5	15	34	52	106	
%	4.7%	14.2%	32.1%	49.1%		100%

Table 32: Occupation Rank of Parent by Occupational Rank of Child

Occupational Rank of Sibling	Occupational Rank of Ego				
	1	2	3	4	Total
Strata 1	0	1	2	1	4
Strata 2	1	3	3	1	8
Strata 3	3	0	4	4	11
Strata 4	0	3	1	11	15
TOTAL	4	7	10	17	38

Table 33: Occupational Rank of Ego by Occupational Rank of Sibling (Strata as in Table 32)

privately owned commodities (rank-orders given in Chapter 1, Table 13, page 41, and note 7, page 40) yield significant Kendall correlations of .40 (69 cases) and .44 (66 cases), respectively.

2. EXCHANGE OF WOMEN

We have seen in Chapter 4 that barrios are occupationally differentiated in a hierarchical way, and in the preceding analysis, that members of village kindreds tend to co-reside within the same barrios and to belong to the same occupational strata. The congruence that prevails between residential (barrio), occupational and genealogical boundaries can be maintained only if matrimonial alliances follow themselves an endogamous pattern in both residential and occupational terms. Otherwise exogamous exchanges between different barrios and economic strata would produce a residential dispersion of members of both village kindreds and occupational classes.

A. Affinal Alliances within and between Barrios

Puerto Inca's 124 kindred units have contracted 206 affinal alliances between themselves, and 274 alliances with adults not belonging to village kindreds. Matrimonial barrio endogamy can be measured only with the first type of alliance, i.e., between village kindreds, since the second type involves adults for whom genealogical association with specific barrios does not exist.

As shown in Table 34, 44% (55/126) of all marriages between village kindreds were endogamous, i.e., within barrio boundaries. The expected frequency, calculated on the basis of probable distribution of possible matches would yield a smaller proportion of endogamous cases, namely 24% of all choices, hence a noticeable tendency for adult members of barrios to intermarry.

Barrio of Husband's Kindred	Barrio of Wife's Kindred							Total	%
	Loma	Bajada	Loreto	DosMayo	Alred	Alr-Lor			
Loma	6*	5	4	3	3	2	23	18.3	
Bajada	3	13*	5	4	2	2	29	23.0	
Loreto	5	7	11*	5	4	7*	39	30.9	
Dos de Mayo	0	0	4	9*	4	2	19	15.1	
Alrededores	1	1	1	1	4*	0*	8	6.3	
Alred-Loreto	0	0	1*	3	4*	0*	8	6.3	
TOTAL	15	26	26	25	21	13	126		
Row %	11.9%	20.6%	20.6%	19.8%	16.7%	10.3%		100%	

Table 34: Barrio of Husband's Kindred by Barrio of Wife's Kindred
(* = Endogamous cases)

Another important pattern may be discerned. A closer look at Table 34 indicates that exogamous choices do not occur at random. As revealed in Table 35, which summarizes the flow of women in terms of wife-receiving and wife-giving barrios, lower class or peripheral barrios give more often than they receive, while upper class or central barrios receive more often than they give. For reasons yet to be known, Loreto occupies an anomalous position in the sense that its net gain of women is almost identical to the net gain of the highest ranking barrio, i.e., the Loma. Excluding these exceptional Loreto wife-receiving cases, downward flows of women occur quite rarely, i.e., in only 11.1% (14/126) of all matrimonial exchanges within or between barrios. This figure is furthermore reduced to a negligible 2.38% of all cases (3/126) if considering only those downward exchanges between barrios which do not

Rank-order of Kindred's Barrio	Wives received from other Barrios (A)	Wives given to other Barrios (B)	Ratio of wives received to wives given	
			A/B	Exchange Status
1. Loma	17	9	1.89	Receiver 1
2. Bajada	16	13	1.23	Receiver 3
3. Loreto	21	14	1.50	Receiver 2
4. Dos de Mayo	10	16	0.62	Giver 4
5. Alred-Lor.	3	6	0.50	Giver 5
6. Alrededores	4	13	0.31	Giver 6
TOTAL	71	71		

Table 35: Ratio of Wives Received to Wives Given by Barrios

Rank-order of Statistically Preferred Alliance	Observed Frequency O	Expected Frequency E	Deviation from Exp. O/E
1. Endogamy	55	30.4	1.81
2. Upward Exogamy	45	59.3	1/1.32
3. Downward Exogamy	26	36.3	1/1.40
Non-Adjacent Barrio Ranks	8	17.7	1/2.21
TOTAL	126	126.0	

Table 36: Rank-order of Statistically Preferred Affinal Alliances between and within Barrio Strata

occupy contiguous ranks.⁴

4. A correlation of .3835 (Spearman correlation, 126 cases) exists between the barrio ranks of exchanging kindreds (1. Loma, 2. Bajada, 3. Loreto, 4. Dos de Mayo and Alred-Loreto, 5. Alrededores).

Table 36 summarizes the latter findings: statistical preference is given firstly to endogamous choices, secondly to upward alliances (barrio of husband's kindred ranking higher than barrio of wife's kindred); the third least preferred choice consists of downward alliances, especially between non-adjacently ranked barrios.

B. Affinal Alliances within and between Occupational Strata

Marriages within and between occupational strata reveal similar patterns. Of the 177 alliances for which information pertaining to the occupational profile of each party's kindred is available, 34.5% were endogamous within a fivefold classification of economic strata; the expected figure is only 23%. As for exogamous cases, the ratio of women received to those given varies again in congruence with the observed stratification: higher strata (1, 2 & 3) receive more often than they give, while lower ones register a net loss of women (see Tables 37 and 38). And finally, the higher the stratum, the higher the average rank of the strata with which it will exchange women; given the predominance of an upward movement of women within exogamous alliances, those who give women to ego's stratum (column D, Table 38) will tend to rank lower in occupational terms than those who are receiving from ego's stratum (column C). The rank-order of statistical preferences is given in Table 39.

Occupational Stratum of Husband's Kindred	Occupational Stratum of Wife's Kindred						
	1	2	3	4	5	Total	%
1. Merchts., carptrs., govt. empls., lumber bosses	4*	13	3	5	5	30	16.9
2. Cattle, trades, ass't. carptrs., perm. labour, gold. Mixed Composition: strata 1+3, 1+4, 1+5	5	22*	6	18	5	56	31.6
3. Lumberers, occ. labour. Mixed Comp.: 2+5 (i.e., farmers-trades, farmers- ass't. carptrs.)	2	5	4*	7	4	22	12.4
4. Farmers-Perm. Labour, farmers-gold, farmers- lumberers (i.e. 2+5, 3+5)	1	6	3	24*	13	47	26.6
5. Coop. members, farmers	0	3	4	8	7*	22	12.4
TOTAL	12	49	20	62	34	177	
Row %	6.8%	27.7%	11.3%	35%	19.2%		100%

Table 37: Occupational Stratum of Husband's Kindred by Occupational Stratum of Wife's Kindred (* = endogamous cases)

Occupational Strata (as in Table 37)	Endogamous Marriages	Wives Given	Wives Received	Ratio	Average Wife- Receiving Strata (C)	Average Wife- Giving Strata (D)
		A	B	A/B		
1	4	8	26	0.31	2.00	2.80
2	22	27	34	0.79	2.26	2.93
3	4	16	18	0.89	2.95	3.27
4	18	44	29	1.52	3.19	3.89
5	7	27	15	1.80	3.35	3.86
TOTAL	55	122	122		2.86	3.32

Table 38: Ratio of Wives Received to Wives Given by Occupational Strata

Rank-Order of Statistically Preferred Alliances	Observed Frequency O	Expected Frequency E	Deviation from Exp. O/E
1. Endogamy	61	40.69	1.50
2. Upward Exogamy	79	85.45	1/1.08
3. Downward Exogamy	37	50.66	1/1.37
Non-Adjacent Occ. Ranks	16	27.78	1/1.74
TOTAL	177	177.00	

Table 39: Rank-Order of Statistically Preferred Affinal Alliances between and within Occupational Strata

C. Affinal Alliances and Places of Origin

Matrimonial alliances tend thus to favour firstly endogamous exchanges, i.e., between members of the same barrios or occupational strata, and, secondly, upward exogamous alliances, i.e., those in which the husband's kindred ranks higher than the wife's kindred. Cases involving downward coalitions are much less preferred, especially between strata which are not contiguously ranked. (Similar pattern observed by Fuenzalida in Huayopampa, 1968: 149.)

We have seen in Chapter 4 that the rank of one's place of origin correlates positively with one's occupational and barrio stratum. If analyzing matrimonial alliances in terms of each spouse's place of origin, one should find patterns quite similar to those precedingly observed. Available data (364 cases) do confirm this: marriages occur firstly between individuals of the same origin, in both absolute and relative terms (the threefold stratification is reduced to a twofold

Husband's Ranked Place of Origin	Wife's Place of Origin				Wives Recd. A	Wives Given B	Ratio A/B	Status
	1	2	3	Total				
1. Lower Ucayali	122*	48	59	229	107	38	2.82	Receiver
2. Puerto Inca	14	15*	20	49	34	73	1/2.15	Giver
3. Upper Pachitea and Huánuco Sierra	24	25	37*	86	49	79	1/1.61	Giver
TOTAL	160	88	116	364	190	190		

Table 40: Husband's Ranked Place of Origin by Wife's Ranked Place of Origin (* = endogamous cases)

Rank-Order of Statistically Preferred Alliances	Observed Frequency	Expected Frequency	Deviation from Exp.
	O	E	O/E
1. Endogamy	174	139.90	1.24
Exchanges 2 + 3	45	36.40	1.24
2. Upward Exogamy (1 receiving from 2 or 3)	107	128.33	1/1.20
3. Downward Exogamy (1 giving to 2 or 3)	38	59.35	1/1.56
TOTAL	364	364.00	

Table 41: Rank-Order of Statistically Preferred Affinal Alliances between Ranked Places of Origin

one, i.e., 1 versus 2-3); secondly, between upper-strata men and lower-strata women (upward exogamy); and thirdly, between upper-strata women and lower-strata men (see Tables 40 and 41).

3. UXORILOCALITY AND UPWARD EXOGAMY

A. Male Residential Mobility

There is only one way that lower strata can permit themselves to be generous wife-givers and still be capable of forming their own nuclear households through endogamous alliances: they must contain more women than men. Figures given in Table 42 indicate indeed that 62.8% of all adult dwellers of Puerto Inca who originate from the Pachitea Valley or from Puerto Inca itself, hence from the lower strata 2 and 3, are women; conversely, about 60% of all settlers from the lower Ucayali (upper strata 1) are men⁵.

Ranked Place of Origin	% of Total Adult Population	% of Male Adults	Average Age
1. Lower Ucayali	53.5	59.5	46.3
2. Puerto Inca	18.8	37.2	30.0
3. Upper Pachitea and Huánuco Sierra	27.7		37.2
TOTAL	100%	49.2%	40.7
Number (Sample)	882	434	882

Table 42: Proportion of Male Adults by Place of Origin

A statistical tendency towards uxorilocal residence thus characterizes both Puerto Inca and the Pachitea Valley: men leave their community

5. Similarly, the higher the barrio or occupational rank of a kindred, the higher will be its ratio of men to women (these findings can be obtained from figures already given in Tables 34 and 37).

or region before or at marriage more often than do women, hence the higher proportion of male dwellers of Puerto Inca who used to live in the lower Ucayali region and who now occupy upper residential and occupational strata of the village.

Geographic mobility is thus higher among men. Three factors contribute significantly to the latter pattern. Firstly, men have greater control over occupational opportunities and the ensuing economic resources which enable or encourage an individual to move from one region to another. Secondly, if separation between spouses occurs, the woman is usually left in charge of the children (see Chapter 5), hence a heavier economic burden accruing to the mother and a greater reliance upon actual or potential assistance from her neighbouring parents. Thirdly, men usually marry later than women and are thus freer, prior to their marriage, to search for better occupational opportunities. As shown in Diagram 6, female dwellers of Puerto Inca tend to be younger than men; only in exceptional cases do men marry older women.

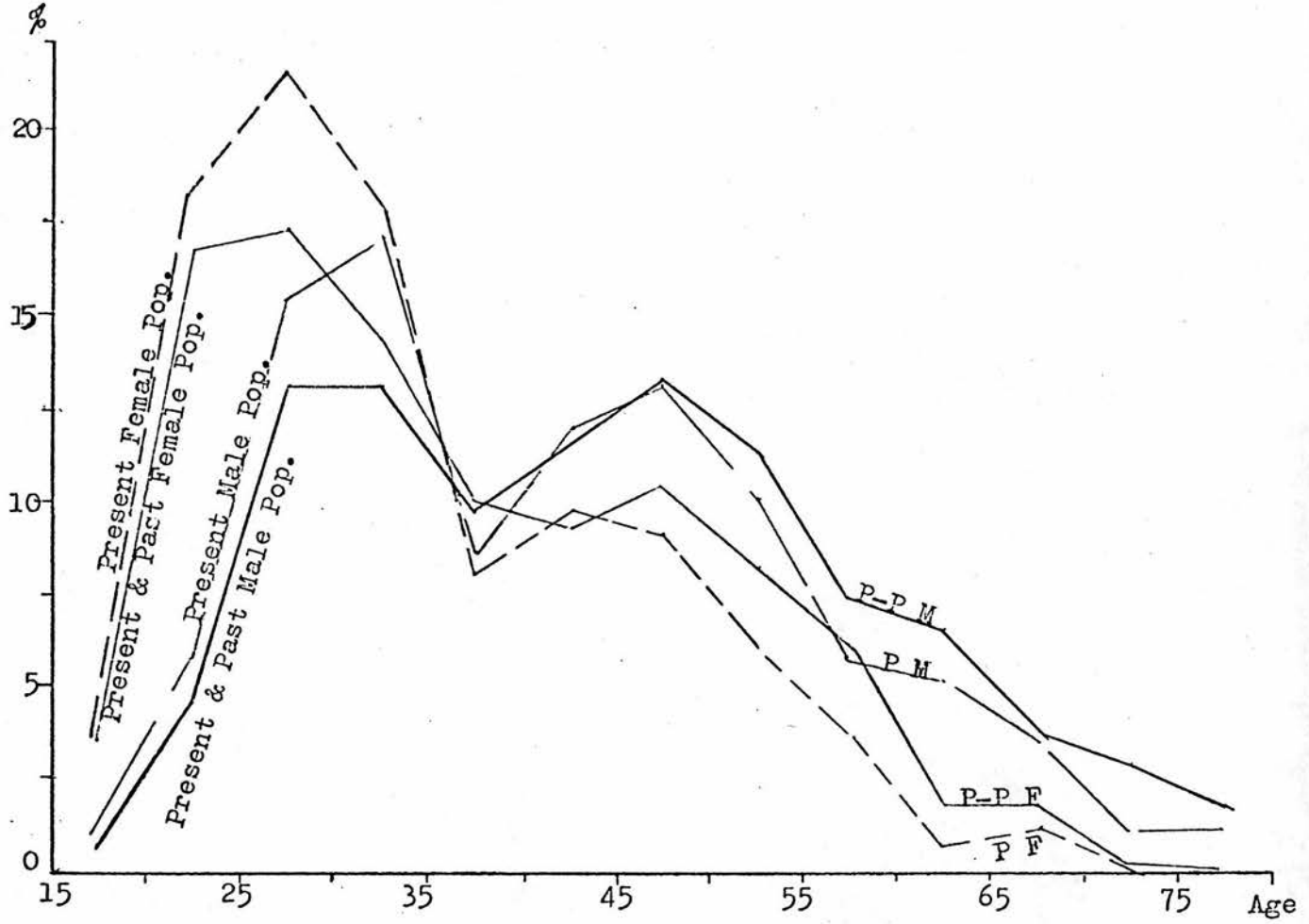


Diagram 6: Sex by Age-groups (Present and past residents of Puerto Inca)

B. Variations in Size and in Composition of Nuclear Units

Individuals migrating from the lower Ucayali or the Departamento of San Martín to Puerto Inca choose this neolocal residence usually on the basis of economic opportunities (e.g., available land, gold and rubber booms, commercial outlets, governmental employment). Dwellers who were born in the Pachitea Valley (including Puerto Inca) and in the neighbouring inter-Andean valleys, the majority (62.8%) of whom are women, settle in Puerto Inca also for economic reasons; however, given their more limited means, they must rely more often upon assistance from siblings, parents or children, and are thus inclined to form larger households and larger village kindreds within Puerto Inca. Lower strata put consequently more emphasis on residential solidarity among consanguine kins, while upper strata allow for higher degrees of residential dispersion. Available data (Tables 43, 44, 45) indicate that the lower the barrio or occupational rank, the larger the nuclear unit is (columns B, C and D) and the less often does it deviate from the nuclear structure by reducing it to households of single adults or of single-parent families (columns E and F), or to village kindreds of one single generation (column A).

Barrio Rank-Order	A % of one-generation kindreds	B Average no. of Adults by Kindred	C Average no. of non-Adult children by elem. family	D Number of cohabiting elem. fam.	E Single Adult Household	F Single-Parent Household
1. Loma	30.8	5.23	2.41		14	4
2. Bajada ⁶ Lower Upper	26.0	6.47	2.84 4.08		16	3
3. Loreto	19.0	6.81	4.23		9	4
4. DosMayo	14.3	7.29			0	4
5. Alreded.	22.2	4.00			1	2
6. Alr-Lor.	0.0	11.33	n/a		n/a	n/a
TOTAL Sample	74 k.	6.38 74 k.	3.58 192 fam.		40	17

Table 43: Size and Composition of Households and Kindreds by Barrios

Occupational Rank-Order	C	D	E	F
1. Merchants, carpenters, govt. empl., lumber bosses	1.98	8	17	3
2. Trades, ass't. carpenters, cattle, perm. labour	3.09	10	9	6
3. Lumberers	3.71	5	4	1
4. Gold, occ. labour, coop., farmers	4.27	15	8	2
TOTAL Sample	3.29 182 fam.	46	38	12

Table 44: Size and Composition of Households by Occupational Strata

6. The upper Bajada has a profile similar in many ways to Dos de Mayo's profile; it is thus treated as a distinct category in this table.

Occupational Rank-Order	A	B
1. Merchants, carpenters, govt. empl., lumber bosses	38.9%	4.00
2. Trades, ass't. carpenters, cattle raisers	31.3%	4.19
3. Lumberers, Occ. labour, farmer-trades, farmer-ass't. carpenter	27.3%	4.73
4. Coop., farmers, farmer-perm. labour, farmer-gold, farmer-lumberers	16.3%	5.80
Others (mixed): 1 + 3, 1 + 4	10.0%	10.60
TOTAL	23.1%	5.59
Sample	104 k.	104 k.

Table 45: Size and Composition of Village Kindreds by Occupational Strata

C. Formation of Middle-Strata Barrios

The special wife-receiving position that characterizes the Loreto barrio remains to be explained. The following table (46) summarizes some of our findings pertaining to those demographic, economic, historical and kinship variables which respond to barrio boundaries. As already seen, the economic ranking of these barrios corresponds to their chronological order of formation, with the exception of the lower-strata Alrededores which was inhabited prior to the foundation of the village itself. Although older barrios have kept a centralizing control of occupational and economic resources in general, the demographic expansion of the settlement has mostly favoured the growth of intermediary barrios. The initial foundation of the Loma gave rise to additional migratory inflows and to affinal alliances within the Loma itself and

Barrio	% of Total Popul.	% of Adult Popul.	Popul. density per 1000 m ²	House density per 1000 m ²	Occupational Rank	Chronological Rank	% of Adults born in Puerto Inca	Wives received by wives given
Loma	13.0	17.8	3.68	1.45	1	1	18.2	17/ 9 +
Bajada	27.4	28.8	5.26	0.98	2	2	15.5	16/13 +
Loreto	29.6	24.9	6.90	1.01	3	3	34.5	21/14 +
DosMayo	14.5	12.8	4.13	0.68	4	4	10.0	10/16 -
Alred.	15.5	15.6	0.17	0.01	5	n/a	21.8	4/13 -
TOTAL	100%	100%					100%	68/65
Sample	1084	397	1084				110	

Table 46: Barrio Profiles

with kindreds of the outskirts - usually wife-givers -, thus leading to the creation and expansion of a middle-class Bajada barrio. Similar processes determined the emergence of Loreto, and then of Dos de Mayo, both of which came to rank between the lower-class Alrededores and the wealthier Loma and Bajada barrios.

The middle-class Loreto barrio has thus grown to the point of becoming the largest "neighbourhood" of Puerto Inca (29.6% of total population), a position which was previously occupied by the Bajada. There is a significant propensity for new immigrants, and for those adults born and raised in Puerto Inca itself, to take up residence in Loreto: 34.5% of residents born in Puerto Inca do so. Loreto ranks lower in occupational terms than the Bajada, yet as a rapidly expanding barrio, its net gain of women is much higher than that of the latter barrio.

4. WOMEN AND COMMODITIES

A. Kinship and Economic Exchanges

The search for a proper theoretical interpretation of the relationship between kinship and economic exchanges can lead to three major oversimplifications. The first one consists in subsuming kinship phenomena under economic ones. Marxists will often reject a simple one-way determinism linking the former to the latter, yet they will argue that the kinship system "ultimately" belongs to the superstructure (or at least that it does so within capitalist societies) the functions of which "stand in a relationship of internal correspondence with the new conditions of production" (Godelier, 1972: 96). Kinship relations are thus given a "secondary role" which serves to consolidate the infrastructural mode of production. According to Engels, the modern practice of monogamy (and of prostitution) "arose from economic causes", namely "the concentration of considerable wealth in the hands of one person" and the "desire to bequeath this wealth to this man's children and to no one else's" (Marx, 1969: 511). Modern family relations replicate themselves the wider relations of production: "In the family, he [the man] is the bourgeois; the wife represents the proletariat" (Marx, 1969: 510).

Proponents of the formalist or neo-classical school of economics also occasionally undertake the task of subsuming kinship relations under the general rubric of economic behaviour (as they define it). With adequate formalist expertise, it is possible - and apparently desirable - to define "love" as "a marketable commodity" and to understand marriage systems "in economic terms" (Schneider, 1974: 130, 137, 140; see also Gray, 1968: 260).

... many of the unsolved questions about the rules and social structure would benefit from economic analysis. Such an analysis is likely to show that problems of allocation of resources for valued things, including women, children, men, livestock, inanimate objects, and obligations, generate many of the surface structures that occupy descent theorists and alliance theorists at the expense of the underlying processes. (Schneider, 1974: 142-3)

To assume that kinship alliances are related to economic phenomena is both useful and necessary, but to reduce the former to the latter by showing that the economic is the determining factor, or the dominant structure, produces an oversimplification of social reality. One might argue that this reduction may be justifiable in the study of Western social structures, but that it leads to a fallacious understanding of primitive cultures where the kinship system often regulates all social relations (Godelier, 1972: 96).

Observons d'abord que le système de parenté ne possède pas la même importance dans toutes les cultures. Il fournit à certaines le principe actif qui règle toutes les relations sociales, ou la plupart d'entre elles. Dans d'autres groupes, comme notre société, cette fonction est absente ou très diminuée. (Lévi-Strauss, 1958: 58)

Even though widely accepted, this claim does little to solve some more fundamental issues. Anthropologists who adhere to the theory of economic determinism will object to this middle-of-the-road avenue, and rightly so, to the extent that it seriously underestimates the role of economic variables among "other cultures". Students of kinship relations within Western societies may equally reject this facile compromise and resort to psychoanalytical insights to demonstrate the specificity and fundamental role of kinship phenomena in our own society.

A second reduction of societal complexity may result from a simple inversion of the latter approach, i.e., by viewing the economic structure as an extension or a consolidation of underlying kinship relations. One might thus choose to view "Civilization" itself as arising from a libidinal agglomeration of individuals and of family relations and thus "discover the beginnings of its development i.e., of the 'social instinct' in a narrower circle, such as that of the family" (Freud, 1967: 2). According to Freud, it is not capitalism which upholds the practice of monogamy or the male control over the "work of civilization" (Freud, 1972: 40). It is rather monogamy, or the suppression of sexual life, which gives rise to civilization, it is the basic instinct of aggression or of death which creates private property - not vice-versa -, and it is because women are less capable of carrying out "instinctual sublimations" that they cannot assume the difficult business of men, i.e., Civilization. (Freud, 1972: 40, 42, 50, 80).

The temptation to reduce economic relations to kinship phenomena has been quite strong within anthropological studies of non-Western societies. The fact that the family or the nuclear household is the "basic unit" of a given society is rarely questioned by anthropologists, and is probably the most widely accepted cliché in modern anthropological writings. Ethnographies seldom fail to mention that the family is the basic unit of production and of consumption, and that the process of production and of labour use is strongly influenced, if not dominated, by sociocultural considerations, and especially by kinship obligations (Wharton, 1970: 16). Such generalizations eventually lead to the conclusion that there is no differentiation in non-Western cultures between economic and kinship aspects of social life, that there is an "internal"

relationship between them (Godelier, 1972: 95), and that economic exchanges within primitive societies consist of reciprocal "material gift and counter gift-giving induced by social obligation derived, typically, from kinship" (Dalton, 1968: 153).

The primacy of kinship phenomena has been often asserted in biologically oriented interpretations of societal solidarities. Both Murdock and Radcliffe-Brown agree as to the universality of the nuclear family (father + mother + children) and view the "elementary family as the basic unit of kinship structure" (Radcliffe-Brown, 1964: 4-5; see also Murdock, 1949: 2-3), so that

relationships of the second order are those which depend on the connection of two elementary families through a common member. (Radcliffe-Brown, 1924: 2)

Radcliffe-Brown defines the elementary family as the fundamental unit of social order in primitive societies (Radcliffe-Brown, 1924: 84-5), and Murdock feels able to assert that "it exists as a distinct and strongly functional group in every society" and that it universally performs "... four functions fundamental to human social life - the sexual, the economic, the reproductive and the educational" (Murdock, 1949: 2-3; 1968: 237; see also Leach, 1966: 27).

Structural anthropology has rejected this combination of biological and atomistic metaphors in exchange for another metaphor, that of language, with the ultimate objective of reconstructing total systems of communications embracing the exchange of women, of goods and services, and of messages (Lévi-Strauss, 1949: 96, 108-9; 1958: 37-112, 326).

Un système de parenté ne consiste pas dans les liens objectifs de filiation ou de consanguinité donnés entre

les individus; il n'existe que dans la conscience des hommes, il est un système arbitraire de représentations, non le développement spontané d'une situation de fait ... Dans la société humaine, la parenté n'est admise à s'établir et à se perpétuer que par, et à travers, des modalités déterminées d'alliance. (Lévi-Strauss, 1958: 61)

However, this general programmatic statement has not impeded Lévi-Strauss from resorting to a third oversimplifying definition of the kinship-economic link, to the advantage of an irreconcilable divorce between various forms of social exchange: on the one hand, kinship "rules" would belong to the superstructural domain of symbols, myths and messages, where reign the quasi-autonomous laws of the human mind; on the other hand, economic exchanges would belong to a diachronic infrastructure (with history and demography) which produces tensions and contradictions to be revealed and overcome through symbolic elaborations.⁷

The following chapters will offer a general explanation as to the interpenetration of kinship and economic exchanges in Puerto Inca, without resorting to a reductionist "hierarchy of structure" argument⁸ or to a theoretical isolation of both spheres of social life. I shall rather attempt to follow the programmatic outline of a general communication theory, and thus define social reality as a complex mode of exchange involving the circulation of complementary values, such as commodities, women, and messages.

7. Lévi-Strauss, 1949: 128, 327; 1962: 90, 173-4, 306-7; 1967: 28; 1968c: 27-8.

8. Dumont, 1966: 295-6, 298; Godelier, 1972: 92.

B. Cognatic Kindreds and the Production of Exchange-Value

Consanguine relatives are united by a ban on endogamous marriages, thus forcing similar genealogical units, namely cognatic kindreds, to exchange similar values, i.e., women, the accumulation of which is proscribed by the rule of monogamy. Kinship and economic systems function thus in diametrically opposed ways, since the latter regulates the circulation of different, complementary and cumulative values, i.e., commodities, between different and hierarchically interdependent occupational units. The resulting disjunctive contrast that may be drawn between a mechanical kinship order and an organic economic order prevails in Puerto Inca not only in synchronic terms, but also from a diachronic perspective: kinship values and units remain similar from one generation to the next, while economic values and units are increasingly differentiated through a quantitative expansion of wealth and of organizational complexity, or through a qualitative development of commodities, forces and relations of production.

Comparative generalizations do not suffice, however, in explicating the structural interpenetration of kinship and economic phenomena. It has been shown, for example, that kinship units are structured in conjunction with economic variables: nuclear units, i.e., elementary families and kindreds, are strongly inclined to consolidate their proscriptive solidarity by co-residing within the same household and by sharing other economic values (allocation of food, mutual assistance, inheritance transfer, etc.). We face thus the impossibility and undesirability of divorcing kinship solidarities from economic phenomena, or of defining their relationship in formal terms only.

However, the search for a proper theoretical interpretation may

lead to another fallacy, that of viewing kinship alliances as reflecting or solidifying an economic infrastructure. The latter reductionism may be avoided not by arbitrarily isolating both spheres of social reality, but rather through a systematic reconstruction of the structural interdependence which presides over their integrated coexistence. To assume that such a structure of interdependence does exist is to recognize the fundamental fact that women and means of livelihood, although distinct, are inseparable values of exchange: women must have access to means of livelihood, they are themselves agents of production and bearers, therefore, of economic variables; hence the necessity for a society to regulate consanguine and affinal alliances in coordination with the prevailing flow of material goods and services.

A simple coexistence of these contrasting subsystems is hardly compatible with the emergence of an overall social structure. On the one hand, the mechanical structure of kinship exchanges is in a sense threatened by the circulation of commodities and by the corresponding rules of utility maximization. If the rules of wealth accumulation were to determine the allocation of women, then profit-making could result from incestuous and cumulative (polygamous) exchanges of women, and thus from the accumulation of the economic opportunities to which women may give access.

A reversal of the exchange-value rationality must thus emerge among members of nuclear units: utility-maximization is effectively replaced by the reciprocal exchange of use-values. Firstly, the practice of monogamy stresses the non-cumulativeness of kinship values themselves (women) and renders impossible what it condemns, namely the

growth of wealth through the accumulation of affinal alliances. Secondly, the economic values to which women give access are restricted to use-values, so that affinal alliances involve limited transfers of commodities: female services, such as sex, domestic tasks, child bearing and rearing, are excluded from commodity exchanges which are under the control of men. Thirdly, rules of mutual assistance and of balanced reciprocity regulate the circulation of means of livelihood between members of nuclear units, who thus share similar standards of living and similar ecological niches through village, barrio or household cohabitation. This redistributive process is facilitated by the political and economic recognition of the individual's right to dispose of his wealth as he wishes. Thus, a use-value mode of exchange determines firstly, the definition of women as non-cumulative kinship values; secondly, the withdrawal of female services from the circulation of commodities; and thirdly, the prescription of a non-maximizing flow of material wealth within kinship units.

On the other hand, the production of exchange-values must cope with the fact that a centralized control of resources can be neutralized by obligations of economic reciprocity among kinfolk, and by indiscriminate affinal alliances cross-cutting occupational and class boundaries, with the ensuing decentralizing redistribution of commodities and of factors of production. This threat is partially counteracted by two factors:

1. Obligations of mutual assistance are restricted to immediate nuclear kinfolk, with a special emphasis on consanguine bonds (parent-child, sibling-sibling) as distinct from the bonds contracted through the husband-wife alliance;
2. Women have a very limited control over commodities and factors of production in general, hence a limited transfer of exchange-values through affinal alliances.

Nevertheless, obligations towards parents or married children and siblings may still entail redistributive flows of commodities beyond the boundaries of the nuclear household, and threaten the hierarchical structure of economic exchanges. Puerto Inca's adaptive strategy lies in the practice of class endogamy which allows upper-strata families to avoid unprofitable coalitions with lower-strata units. As demonstrated in Chapter 6, statistical preference is effectively given to intra-class marriages which reverse the initial rule of exogamy: members of the same economic class form kinship coalitions not through a ban on endogamous marriages, as among consanguines, but rather through a strong propensity to intermarry. The preferential practice of class endogamy prevents the uneconomic proliferation of inter-class redistributive flows of wealth. Nuclear boundaries facilitate furthermore the practice of class endogamy, in that they multiply the number of exchanging units by reducing them to very small groupings.

Similar reasons underly the preferential treatment which favours (statistically) the occurrence of upward exogamous alliances as opposed to downward exogamous alliances. Given the tendency of men to control wealth and of obligations of mutual assistance to give priority to consanguine bonds, marriages involving upper-strata men and lower-strata women should entail the distribution of less wealth than downward exogamous marriages: the wealthy man is obliged to help affines in the former case, while it is his consanguine who is in need of assistance in the latter case (see Diagram 7). Upward exogamous alliances are therefore less uneconomic than downward alliances, and they are effectively preferred, in statistical terms, over the latter.

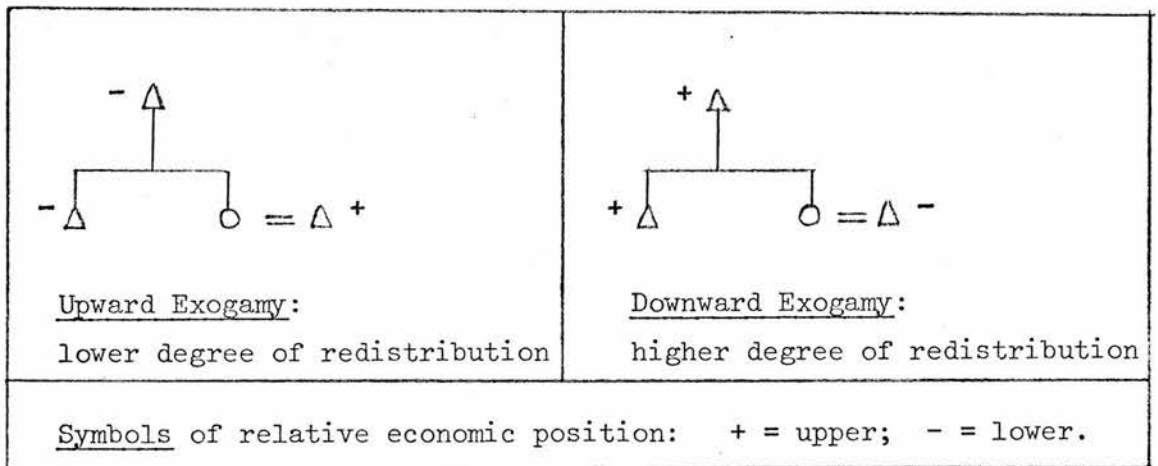


Diagram 7: Economic Redistribution by Types of Exogamous Affinal Alliances .

For the same reasons, cases of downward exogamy between non-adjacent strata occur less often than those between adjacent strata, since they involve obligations to bridge a wider economic gap.

Kinship and economic systems of exchange must go beyond a simple treaty of peaceful coexistence. Structural analysis has revealed, indeed, a twofold relationship of interdependence. Firstly, these two modes of exchange are structured in contradistinction with one another; women and kindred units are defined as being what commodities and occupational units are not, and vice-versa (mechanical/organic orders). Secondly, each must cope with threats arising from the other system's rules of exchange. On the one hand, the kinship system does so by inverting the rules of economic exchanges: flows of material values between nuclear kin are thus to conform with the rules of a use-value rationality, not with those of utility maximization. On the other hand, the economic system responds to kinship "threats" by inverting the rule of exogamy through the preferential practice of class endogamy, thus avoiding uneconomic coalitions which may decentralize the

allocation of wealth. The resulting rank-order of statistically preferred affinal alliances is as follows:

1. Class endogamy
2. Upward exogamy: upper-strata man + lower-strata woman
3. Downward exogamy: lower-strata man + upper-strata woman
 - a. between adjacent strata;
 - b. between non-adjacent strata.

The foregoing structure of interdependence between kinship and economic phenomena creates, however, an additional set of structural contradictions. Kinship units tend to consolidate their classificatory solidarity through household, barrio and village co-residence, and through the sharing of similar standards of living and similar occupational activities. Yet the basic objective of a utility-maximizing mode of production, that of increasing total wealth, necessitates minimum degrees of occupational and residential mobility: otherwise labour and commodity markets cannot expand, qualitatively or quantitatively, and the discovery and production of new resources are under severe limitations.

The latter dilemma is dealt with in the following manner. Although the formation of cognatic kindreds produces a network of overlapping units, residential solidarities favour the formation of distinct (non-overlapping) and relatively small kin groups which can migrate with relative ease if economic advantages can be thus gained. Elementary families (parents and non-adult children) form separate household units, and household fission occurs almost automatically when children become parents themselves. Village kindreds tend also to select their members in such a way that they may produce distinct and detachable units: priority is given on the one hand to parent-adult child cohabit-

ation, as in the two-generation elementary family, and, on the other hand, to parent-adult daughter cohabitation (within the same village or barrio). Indeed, available data indicate that village kindreds usually embrace kins of different generations, and that there is a greater propensity for men born in Puerto Inca and in the Pachitea Valley to leave their native locality than their female counterparts. The first two-generation pattern may be explained by the fact that parent-child obligations are more binding than sibling-sibling ones (as in the elementary family). The second uxorilocal pattern results from the fact that a woman has less control over wealth and must rely more often upon actual or potential assistance from her parents, while men, as they are commodity owners and providers and as they marry later, can more easily migrate in search of better standards of living for themselves and their kins. (Hammel, 1961; Martinez, 1969: 175-6)

Residential mobility correlates with control of wealth in another significant way. Upper-strata members, especially males, rely less heavily upon economic assistance from their kin and may capitalize with greater security on those economic opportunities to which migration may give access. Upper-class kins, especially males, thus disperse more often and form smaller village kindreds than lower-class kins. The demographic history of Puerto Inca has been significantly influenced by the latter factor. Migrants of the upper-strata Lower Ucayali region, the majority of whom were men, were responsible for the initial demographic expansion of Puerto Inca. The village developed as a result of endogamous alliances between these Lower Ucayali migrants, and also of exogamous marriages with Pachitea women to compensate for the shortage of Ucayali women. The practice of upward exogamy (upper-

strata men + lower-strata women) did offer economic advantages for lower-strata Pachitea kindreds, but it also decreased the number of locally available women for Pachitea male dwellers, and provided an additional motivation for these male adults to leave their native village or valley in search of both kinship and economic values. Upward exogamous alliances are not therefore accidental deviations from the preferential norm of class endogamy. On the contrary, they are functional, in the manner described above, to the diachronic expansion of the exchange-value mode of production.

Population movements at the wider regional level are moulded thus by two complementary processes: one of demographic and economic deconcentration from territorial centres to the rural periphery; and one of centralization - again demographic and economic - from the rural periphery to the newly formed village (i.e., Puerto Inca), which acquires a middle-strata position in terms both of spatial concentricity and of economic wealth. The formation of barrios in Puerto Inca followed similar patterns. Older residential units, namely the central Loma and the peripheral Alrededores, expanded through endogamous and upward exogamous alliances, and through continual inward migratory flows, thus leading to the foundation and growth of middle-strata barrios.

CHAPTER 7: COMPADRINAZGO (RITUAL KINSHIP)

1. CO-PARENTHOOD RITES AND OBLIGATIONS

As elsewhere in Latin America, Compadrinazgo rituals form an important part of Puerto Inca's social life. Rites of co-parenthood involve two interrelated types of alliances: on the one hand, padrinazgo which links a godparent (male padrino and female madrina) to an initiate (ahijado,a), usually a child; and on the other hand, compadrazgo which binds the godparents to the parents of the initiate through co-parenthood; male and female co-parents are addressed and referred to respectively as compadre (also generic term) and comadre (see Diagram 8).

The most frequent and most important, i.e., most binding and durable, forms of compadrinazgo alliances are based upon Catholic rituals and beliefs, with a special emphasis on baptism.¹ The godparent of a newly baptised child is expected to "secure the well-being" of the latter, to help him if the father dies or is without means. If the baptised child is of school age, the padrino is often expected to pay for a good proportion of the clothes and equipment required for the academic year. The godchild must be respectful and faithful towards his padrino and must make himself available whenever his assistance is solicited. Co-parents must be respectful towards one another, without any breach of etiquette, and must exchange mutual services if need be.

The second most important type of ritual kinship in Puerto Inca is associated to the religious ceremony of marriage; civil marriages or common law unions cannot give rise to compadrinazgo alliances since they

1. See Paul & Paul, 1952: 182; Ravicz, 1967: 242; Redfield, 1967: 99; Weitlaner, 1954: 52; etc.

are not sanctioned by the Catholic Church. Godparents usually contribute to expenditures incurred by the wedding celebrations, and are considered to be in a position to help if problems arise between their godchildren or between their respective families. However, this type of padrinazgo alliance seems to exclude compadrazgo bonds: the parents of the bride and groom are not compadres of the padrinos. Yet the triangular network of relationships is still generated by marriage padrinazgo since the padrinos usually become the baptism godparents of the couple's first child and cease to be the godparents of the young couple, they are rather treated as compadres.²

Confirmation and first communion compadrinazgo rituals are performed collectively, i.e., with one individual or couple chosen as padrino(s) for the whole group of ahijados. The bond is mostly ceremonial and does not entail any binding co-parenthood relationship between the padrinos and the parents of the children, or between godparents and godchildren. The Corte de pelo ("Hair cut"; also called Lanta tipina) compadrinazgo is of greater significance and is commonly practiced throughout Peru. Godparents are asked to sponsor a fund-raising fiesta for a four-year old child whose hair has been let to grow to more than shoulder length for the purposes of this event. The child sits in the middle of the dancing room, with his hair tied in numerous locks. The fiesta begins with the godparents cutting the largest lock and donating a sum of money for the child, usually between 30 and 100 soles (\$0.75 to \$2.50 Am.). The same gesture may then be repeated by anyone during the fiesta, including the godparents, until all hair locks have been cut; new locks may be improvised at will. Guests comprise relatives, friends,

2. Similar practices have been observed by Isbell, 1972; Madsen, 1960: 93; Ravicz, 1967: 246.

and if possible the wealthiest members of the community, the godparents being preferably of this category. A good proportion of the expenses incurred by such celebrations are to be paid by the padrinos. Even though this type of compadrazgo is geared towards one specific event, the resulting relationships between compadres and between padrinos and ahijado are quite durable and almost as binding as the baptism bonds.

Other less important forms of compadrazgo rituals may occur at the blessing of a newly constructed building of public use, (e.g., school or clinic), at sport encounters where an individual is asked to sponsor a team, or at the birth of a child (called corte de ombligo), where the madrina acts as a midwife by cutting the umbilical cord with a new pair of scissors (she is also expected to donate alcohol or clothes). If the new born is dying, parents ask the village priest or his lay substitute, an elderly man employed as a part-time secretary to the mayor, to perform the baptismal rite with the use of holy water (hence the name agua socorro, also called yacucheo). The rite is followed by a fiesta of drinking and dancing as a means to celebrate the saving of the child's soul; if death does occur, the coffin is usually donated by the padrinos.

If a child is for some reason without any godparent, it is possible for parents to solicit a couple by inviting them, during the San Antonio or Las Mercedes fiestas, to untie the red handkerchief that has been tied to the arm of the child. (Compadrazgo de pañuelo.)

A significant proscriptive obligation accompanies those durable and binding forms of compadrazgo alliances (i.e., baptism, marriage, corte de pelo, agua socorro, compadrazgo de pañuelo), namely a ban on matrimonial or sexual relations between compadres and between padrinos and ahijados; given the kin-like solidarity that exists between these individuals, such relations would indeed be viewed as incestuous and, there-

fore, are strongly condemned. It is commonly believed that compadres who commit incestuous sins are transformed into runa mula (Quechua: "man mule") which gallop at night through the streets of the village, whinnying noisily and spitting fire, and which can be caught with a strong lasso in a specific densely forested area of the Loma barrio. Similarly, one informant recalls having been chased, again at night and in a densely forested part of the Bajada, by an enormous maquisapa monkey (Ateles ater) which was in reality "an evil transformation of the living soul" of a Bajada dweller who is known to have had sexual relations with his own daughter. Cosmological recriminations of uncultural incestuous acts occur thus at those hours and places where Nature invades social space, i.e., at night and in densely forested areas of the village.

2. MULTIPLICITY OF TYPES AND FUNCTIONS

Most students of Compadrinazgo would agree as to the conspicuous presence and proliferation of such rituals throughout Spanish-speaking societies of Latin America. Yet there is little agreement, over and beyond a few vague descriptive generalities, as to the sociological functions of ritual co-parenthood. The abundant anthropological literature which deals with this topic either emphasizes the versatility and multiplicity of forms and functions which compadrinazgo alliances can assume,³ or centres around one or a combination of four major debates dealing respectively with the historical, kinship, economic and integrative aspects of the observed phenomena.

The first debate results from "attempts to identify a European or Indian background for its (compadrinazgo) various components traits" (Mintz & Wolf, 1968: 328). Mintz and Wolf and others claim that the

3. Gillin, 1945; Paul, 1942; Ravicz, 1967.

historical antecedents of such ritual practices must be understood essentially with reference to the development and expansion of Western societies and of Catholic institutions.⁴ Others argue that traditional indigenous forms of social behaviour prevail within compadrazgo (e.g., Isbell, 1972: 24). Proponents of syncretistic explanations favour neither claim, and prefer to assign different origins, i.e., pre-Columbian and Columbian, to varying components of these rituals.⁵ More recent investigations have abandoned these historical issues and have concentrated on the functional interdependence which links the co-parenthood system with other aspects of culture, such as the kinship and economic networks of exchanges.

Analyses of the relationship of compadrazgo with kinship systems have produced again polarized claims, each supported by an abundant mass of ethnographic observations. According to Paul (1942), compadrazgo can in certain cases serve to intensify existing kinship bonds, or in other cases to expand one's kinship network by extending it to unrelated individuals through ritual means.⁶ However, other anthropologists have observed the predominance of either the intensification function⁷ or the extension function.⁸

A third controversy has emerged from discussions concerning the

4. Mintz & Wolf, 1968: 340, 342; Ravicz, 1967: 250.

5. E.g., Foster, 1948: 264; Parsons, 1936: 524-5; Redfield, 1967: 98-100.

6. See also Albó, 1972: 27; Bourricaud, 1962: 175; De la Fuente, 1949: 168; Mintz & Wolf, 1968: 354; Mishkin, 1946: 453; Osborn, 1968; Price, 1965: 310-322; Redfield, 1967: 99; Thompson, 1971; Weitlaner, 1954: 152.

7. Deshon, 1963; Escobar, 1972; Metzger, 1959: 19; Solien, 1960: 150; Vasquez, 1966: 294; Villa R., 1945: 90.

8. Beals, 1946: 103; Belote, 1972: 12; Bourricaud, 1962: 175; Cotler, 1970: 546; Delgado de Thays, 1965: 40-1; Eisenstadt, 1956; Fried, 1962; Isbell, 1972: 23-4; Lewis, 1960: 66; Nader, 1960: 7; Nash, 1969: 65-7; Ravicz, 1967: 239; Stavenhagen, 1975: 187; Wagley, 1949: 18.

economic aspects of compadrazgo. Mintz and Wolf have proposed a two-fold classification of possible economic coalitions that compadrazgo can entail, i.e., vertical (interclass, asymmetrical) and horizontal (intraclass, symmetrical).⁹ Few studies have revealed the predominance of the horizontal principle (e.g., Vasquez, 1966: 294), while many have shown a strong preference for vertical alliances.¹⁰ Unfortunately, statistical data are rarely given in support for the suggested generalizations and a certain confusion reigns in the operationalization of the concepts of verticality and horizontality: these refer in some cases to the actual flow of economic values between the parties involved in the coalition, and in other cases to the economic strata to which these parties belong - irrespective of what they do exchange.

The fourth debate, of a more general nature, centres around the contribution of compadrazgo to social integration, from a synchronic perspective (i.e., social control, intensification of collective solidarity), or from a diachronic one (i.e., favouring or not favouring social change). Even though some anthropologists have attempted to offer a middle of the road solution,¹¹ most have viewed this contribution in either positive terms¹² or in negative dysfunctional terms.¹³

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9. Mintz & Wolf, 1968; see also Albó, 1972: 27; Deshon, 1963; Lewis, 1960: 66; Malengreau, 1972; Osborn, 1968; Price, 1965: 310-22; Soler, 1958: 224.
10. Beals, 1946: 103; Belote, 1972: 12; Bourricaud, 1962: 175; Cotler, 1970: 546; De la Fuente, 1967: 443-4; Fried, 1962; Gillin, 1951: 62; Gossen, 1974: 117; Lewis, 1951: 350; Martinez, 1969: 185; Mayer, 1972: 9; Mishkin, 1946: 453; Prado, 1965: 112; Ravicz, 1967: 250; Redfield, 1941: 222-3; Redfield, 1967: 98-100; Stavenhagen, 1975: 187; Thompson, 1971: 382; Vasquez, 1965.
11. E.g., Deshon, 1963; Ravicz, 1967: 250.
12. Eisenstadt, 1956; Holmberg, 1960: 73; Mintz & Wolf, 1950: 354; Ravicz, 1967: 250.
13. E.g., Sayres, 1956.

3. VARIATIONS ON A THEME

Comparisons between varying forms and functions of godparenthood in Latin America are possible only in so far as these rituals have something in common and contain a common recognizable theme. "Although variation occurs in nearly every element, nowhere is the system unrecognizable" (Mintz & Wolf, 1968: 242). However, studies of compadriazgo rituals have overstressed the observed diversity of forms and functions and have rarely attempted to examine the contents and implications of this common theme. Functionalism purports to discover the sociological functions of the observed phenomena, yet it fails to produce with its own tools a prior definition of such phenomena.

Some anthropologists have resorted to the classificatory approach to remedy the explanatory shortcomings of functionalism. Eisenstadt, for example, suggests that compadriazgo alliances fit into a broader analytical category, that of ritualized personal relations (blood brotherhood, best friends, etc.), which can be characterized basically as voluntary, personal and fully institutionalized patterns of interaction dominated by particularistic rules of behaviour (Eisenstadt, 1956: 90; see also Wolf, 1967: 303). Other classificatory dichotomies have served elsewhere to obtain an anthropological definition of godparenthood (extensive-intensive, vertical-horizontal, integrative-disintegrative, dyadic-polyadic, achieved-ascribed, etc.). Most of these classifications fail however to grasp some of the essential contradistinctive features of compadriazgo rituals within their own cultural contexts, and give the misleading impression that social phenomena are understood once they are categorized (Dumont, 1966: 271).

Godparenthood, as practiced in Latin America, rests upon a homology with kinship alliances: compadres are essentially co-parents, i.e.,

parents of the same child, thus sharing equivalent kinship positions. Recognized obligations clearly specify that, within certain limits, godparents are to their godchildren what parents are to their own children. Compadrinazgo terms of address and reference also reassert this homology in that they are derivatives of terms prevailing within the nuclear family: padrino, madrina, compadre, comadre, and ahijado(a) are all terminological extensions of padre, madre and hijo. And finally, the incest prohibition which is so fundamental to the delineation of nuclear kinship units, is equally proclaimed within compadrinazgo alliances: marriage or sexual relations between compadres or between godparents and their godchildren is universally proscribed within the most

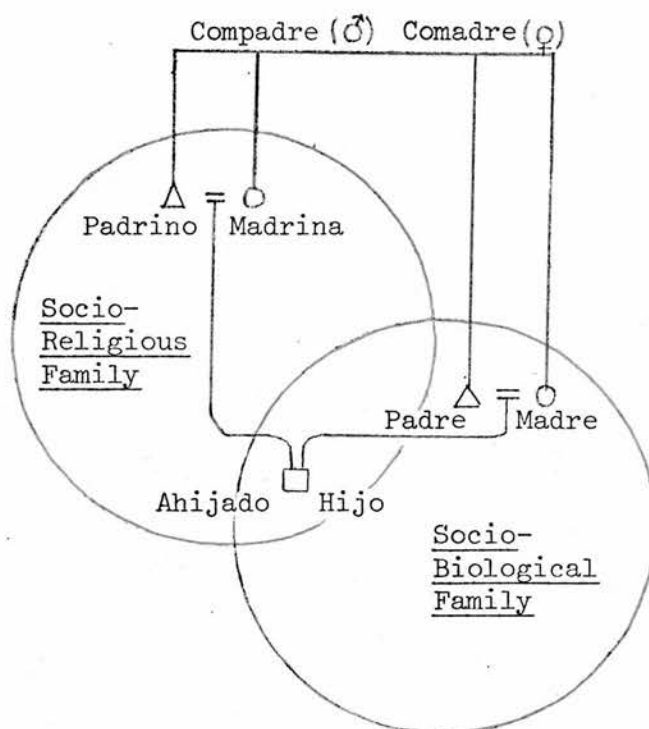


Diagram 8: Structure of Compadrinazgo Unit

important forms of such alliances. In this sense, compadres do think of their relationship as kin-like and the system is therefore a kin-like grouping.¹⁴ (Lévi-strauss, 1968 b: 183)

Yet godparenthood is also based upon a homology with affinal alliances. Firstly, godparents are like affines, they are chosen, parents are not. Secondly, membership within the compadrinazgo nuclear kin-like unit is determined not through biological bonds as with consanguines, but rather through initiation rites, the most important of which is Baptism. And thirdly, compadres, differently from siblings, are related in an asymmetrical fashion: one's sibling is necessarily the uncle or aunt of one's children, but one's compadre is not necessarily the godparent of one's children (see Diagram 8). Affinal exchanges entail an asymmetry between wife-givers and wife-receivers; similarly, compadrinazgo operates a distinction between the sponsoring compadre, i.e., the padrino, and the soliciting compadre, i.e., the godchild's parent.

The foregoing structure of elementary homologies and contradistinctions may provide some answers to the questions formulated within the debates mentioned earlier concerning the nature and functions of compadrinazgo. Firstly, godparenthood alliances are necessarily extensive and cannot be seen as simply reflecting and intensifying pre-existing bonds: parents are never and cannot be godparents to their own children, and consanguine kin-like bonds are extended to non-parents, relatives or not, who henceforth assume positions and obligations which they did not assume before. Furthermore, they create asymmetrical relationships

14. Ravicz underestimates considerably the significance of this homology with kinship formations when he argues that compadrinazgo does not "attempt to create kinship relations in its image" and that sexual avoidance simply reflects the nature and emotional intensity of the compadre relationship and the resulting absence of external display (i.e., respeto). (Ravicz, 1967: 238, 242)

which do not exist within consanguine units.

Secondly, the flow of status and economic values that results from compadrazgo alliances is essentially asymmetrical. On the one hand, a godparent is responsible for introducing his godchild into the Catholic community and for his education within the Catholic faith, and thus occupies a higher cosmological position in comparison to the socio-biological parent. The creation of this socio-religious father role is highly compatible with the propensity that exists within Catholicism to multiply the intermediary strata which will serve to bridge the cosmological gap separating God from men. The ensuing status asymmetry is well confirmed by the fact that only one compadre is a padrino, that it is commonly stated (and observed) that "there is and should be more 'respeto' for padrinos than for parents", and that there is always, in spite of the terminological reciprocity and mutual respect which prevail between compadres, at least a "slight (status) imbalance favouring the padrino" (Ravicz, 1967: 240-1). It is often reported that a padrino's prestige or leadership potential may be enhanced, as it is in Puerto Inca, by increasing the number of his ahijados.¹⁵

On the other hand, compadrazgo prescribes an asymmetrical flow of economic values, but with an inversion of the giving-receiving roles: a padrino is given a higher status, but his obligations towards his godchildren and compadres entail financial expenditures which are rarely cancelled out by equal returns (Ravicz, 1967: 245; Price, 1965). Even though compadres may occasionally exchange mutual services which may cancel out, the padrino has additional obligations towards his godchild

15. Albó, 1972; Lewis, 1951: 350; Ravicz, 1967: 249; Redfield, 1967: 99; Rubel, 1955: 1038.

which serve to alleviate the burden of economic responsibilities that parents have towards their children. It is thus often the case that lower class parents will capitalize upon such profitable exchanges - or at least attempt to do so - by contracting ritual co-parenthood bonds with wealthier individuals, whether they be relatives or not, for the benefit of their children and family.

Thirdly, compadrinazgo practices cannot be viewed as accidentally or superficially associated with Catholic rituals and beliefs. As already mentioned, the Catholic perception of a hierarchical cosmos underlies the status asymmetry that exists between a padrino and his compadre. Most forms of compadrinazgo, especially the binding and durable ones, are contracted through the performance of Catholic rituals. The voluntary basis of compadrinazgo membership is also congruent with the formation of Catholic communities which is viewed as resulting from voluntary personal choices, not from ascriptive mechanisms such as predestination or consanguinity. Finally, the fact that godparenthood rituals are deeply embedded into Catholic beliefs is well confirmed by the tendency, within Protestant minorities in Puerto Inca and in other communities of Peru, to abandon and even proscribe ritual kinship practices.

The latter generalizations are, as will be seen, essential to the understanding of the relationships between consanguine, affinal, economic and ritual kinship alliances. Two controversial questions have however been neglected. Do people select as padrinos wealthier individuals or members of their own economic strata, and do they tend to be relatives or non-relatives? Given the scarcity of statistical information in the literature dealing with these questions, I shall concentrate on my own case-study and relate the ensuing findings to the anthropological studies reviewed earlier.

4. COMPADRINAZGO AND STRATIFICATION IN PUERTO INCA

A. Baptism Compadrinazgo and Residential and Economic Strata

Data have been gathered for 563 cases of baptism compadrinazgo, by far the most important type of ritual kinship in Peru¹⁶, and for 76 cases of marriage compadrinazgo. Only in a few exceptional cases are compadres related consanguineously or even affinally; kinship criteria of selection are thus "extensive". As for the economic criteria of selection, there is ample statistical evidence that compadrinazgo bonds do effectively respond to residential and occupational boundaries.

Data as to the barrios of residence of baptism compadres are available in 239 cases. Figures indicate that the padrino position is more often associated to upper barrio strata in comparison to the soliciting-compadre position (i.e., parent of godchild). About 73% (175/239) of all padrinos are dwellers of the two upper-strata barrios of Puerto Inca, i.e., the Loma (46.9%) and the Bajada (26.4%); yet only 44.8% (107/239) of all baptism coalitions involve Loma or Bajada parents soliciting others to serve as godparents for their children. As shown in Table 47, the ratio of godparents to godchildren is in direct correlation with the barrio stratification.

Endogamous coalitions (both compadres residing in the same barrio) occur less often than exogamous ones in absolute terms. It is important, however, to evaluate the significance of these frequencies by comparing the observed figures with the expected ones. Table 48 yields thus the following rank-order of statistically preferred choices: endogamy, upward exogamy (godparent ranking higher than godchild's parents), and

16. And in Latin America; see Paul & Paul, 1952: 182; Ravicz, 1967: 242; Redfield, 1967: 99; Weitlaner, 1954: 52.

downward exogamy as the least preferred choice, especially between non-adjacent barrio ranks (e.g., Loreto godparent + Loma godchild). This rank-order of preferences replicates the distribution of affinal alliances within and between barrios (see Table 36) and does not point towards any differentiation between affinal and ritual kinship alliances.

Barrio-Strata of Godchild	% of Total Adults	Barrio-Strata of Godparents							Ratio of Godparents to Godchildren
		1 Loma	2 Bajada	3 Lor.	4 DosM.	5 Alred.	Total	%	
1. Loma	17.8%	34	11	7	0	2	54	22.6%	2.07
2. Bajada	28.8%	20	22	10	0	1	53	22.2%	1.19
3. Loreto	24.9%	20	16	12	3	1	52	21.7%	0.71
4. DosMayo	12.8%	15	9	5	15	0	44	18.4%	0.45
5. Alred.	15.6%	23	5	3	2	3	36	15.1%	0.19
TOTAL	100 %	112	63	37	20	7	239		
Row %		46.9	26.3	15.5	8.4	2.9		100 %	

Table 47: Barrios of Residence of Baptism Godparents and Godchildren

Data pertaining to the occupations of the paired baptism co-parents have been gathered for 500 cases. Again the evidence shows that members of the upper occupational strata prefer to be solicited as godparents than to solicit others to become godparents of their children; the corresponding frequency ratio (Table 49, last column) correlates positively with the observed occupational stratification. The resulting rank-order of statistically preferred alliances indicates however that parents of godchildren prefer to choose godparents not within their own occupational strata, but rather from upper ones. Upward exogamous choices, especially between non-adjacent strata, occur thus more often (in relative terms) than endogamous choices; downward occupational endogamy,

especially between non-adjacent strata, is again the least preferred coalition. (See Table 50)

Rank-order of Statistically Preferred Barrio Coalitions between Baptism Co-parents	O Observed Frequency	E Expected Frequency	O/E Deviation from Expected
1. Endogamy (same barrio)	86	49.06	1.75
2. <u>Upward Exogamy</u> (godparent ranking higher than godchild's parent)			
-Non-adj. barrio ranks	75	55.53	1.35
-Adjacent barrio ranks	43	39.95	1.08
3. <u>Downward Exogamy</u> (godparent ranking lower than godchild's parent)			
-Adjacent barrio ranks	24	42.27	1/1.76
-Non-adj. barrio ranks	11	51.95	1/4.72
TOTAL	239	239.00	

Table 48: Rank-order of Statistically Preferred Barrio Coalitions between Baptism Co-parents (Expected figures calculated on the basis of the observed frequency of adults and of godchildren by barrios, as given in Table 47; e.g., the expected frequency of Loma-Loma coalitions equals $(.178 \times .226 \times 239)$, (i.e., 9.61))

Occupational Stratum of Godchild's Parent (Strata in Chap. 1)	% of Active Popul.	Occupational Stratum of Godparent					Ratio of Godparents to Godch.		
		1	2	3	4	5	TOTAL	%	
1. Missionaries, merchts, carptrs, gov. empl. (1)	19.2%	49	7	3	4	1	64	12.8%	4.03
2. Lumber bosses (2)	4.5%	14	3	0	3	0	20	4.0%	2.20
3. Trades, ass't carptrs. cattle raisers (2)	13.5%	44	4	4	5	5	62	12.4%	1.00
4. Perm. Labour, gold, lumberers (3)	27.9%	42	5	9	8	18	82	16.4%	0.62
5. Occ. Labour, coop. members, farmers (4)	34.9%	109	25	46	31	61	272	54.4%	0.31
TOTAL	100 %	258	44	62	51	85	500		
Row %		51.6	8.8	12.4	10.2	17		100 %	

Table 49: Occupational Strata of Baptism Godparents and Godchildren's Parents

Rank-order of Statistically Preferred Occupational Coalitions Between Baptism Co-parents	O Observed Frequency	E Expected Frequency	O/E Deviation from Expected
1. Upward Exogamy	329	226.11	1.45
-Non-adj. Occup. Ranks	271	132.52	2.04
-Adjacent Occup. Ranks	58	93.59	1/1.61
2. Endogamy	125	139.36	1/1.12
3. Downward Exogamy			
-Adjacent Occup. Ranks	30	51.50	1/1.72
-Non-adj. Occup. Ranks	16	83.03	1/5.19
TOTAL	500	500.00	

Table 50: Rank-order of Statistically Preferred Occupational Coalitions between Baptism Co-parents (Expected frequencies calculated on the basis of the distribution of adults and godchildren by Occupational Strata, as given in Table 47)

B. Marriage Godparenthood and Occupational Strata

Baptism godparents tend to be members of one's barrio, but they are chosen from higher occupational strata. Similar findings can be obtained from an analysis of marriage compadrinazgo cases. As shown in the following tables (51 and 52), the higher the occupational stratum, the more often individuals are chosen as marriage godparents, in absolute terms as well as in proportion to the stratum's number of marriage godchildren. Statistical preferences replicate the rank-order given in Table 43: preference is given firstly to upward exogamous choices, especially between non-adjacent occupational strata; secondly to endogamous alliances; downward exogamy is rarely practiced (2 cases).

Occupational Stratum of Godchild	% of Active Popul.	Occupational Stratum of Godparent					Ratio of Godparents to Godchild.
		1 + 2	3 + 4	5	TOTAL	%	
1 + 2	23.7%	19	1	0	20	31.3%	2.45
3 + 4	41.4%	13	4	1	18	28.1%	0.67
5	34.9%	17	7	2	26	40.6%	0.12
TOTAL	100 %	49	12	3	64		
Row %		76.6%	18.8%	4.6%		100 %	

Table 51: Occupational Strata of Marriage Godparents and Godchildren (Strata as given in Table 47)

Rank-order of Statistically Preferred Occupational Coalitions between Marriage Godparents and Godchildren	O Observed Frequency	E Expected Frequency	O/E Deviation from Expected
1. Upward Exogamy			
-Non-adj. Occup. Ranks	17	6.16	2.76
-Adjacent Occup. Ranks	20	15.02	1.33
2. Endogamy	25	21.27	1.18
3. Downward Exogamy			
-Adjacent Occup. Ranks	2	14.57	1/7.29
-Non-adj. Occup. Ranks	0	6.99	0.00
TOTAL	64	64.00	

Table 52: Rank-order of Statistically Preferred Occupational Coalitions between Marriage Godparents and Godchildren (Expected frequencies calculated on the basis of the distribution of adults and marriage godchildren by occupational strata, as given in Table 51)

Religious marriages entail more expenditures than civil marriages or common law unions, and are, for this reason, celebrated more often within higher occupational strata, hence the higher incidence of

matrimonial compadrinazgo alliances within these upper strata. About 73% (22/30) of all marriage godparenthood cases for which the barrios of residence of godparents and godchildren are known, involve Loma godparents sponsoring Loma godchildren. As shown in Table 53, religious marriages occur more frequently within upper occupational strata, common law unions are more characteristic of lower strata, while civil marriages tend to be performed more frequently within middle classes. Similar correlations between ranked types of marriages and economic stratification have been observed elsewhere in Peru (Alers-Montalvo, 1964: 135).

Occupational Strata	Religious Marriages	Row %	Civil Marriages	Row %	Common Law	Row %	TOTAL
1	15	60.0%	6	24.0%	4	16.0%	25
2	6	66.7%	1	11.1%	2	22.2%	9
3	1	7.1%	7	50.0%	6	42.9%	14
4	4	10.0%	8	20.0%	28	70.0%	40
5	10	15.6%	11	17.2%	43	67.2%	64
TOTAL	36	23.7%	33	21.7%	83	54.6%	152

Table 53: Type of Marriage by Occupational Strata (as given in Table 42)

5. RITUAL KINSHIP, CONSANGUINITY, AFFINITY AND CLASS STRUCTURE

The flow of prestige and of wealth is asymmetrically structured within godparenthood alliances, to the advantage respectively of the godparent and of his co-parent. The actual criteria of godparent selection support the latter claim: members of lower strata frequently solicit (i.e., more often than should be expected) wealthier individuals to become godparents of their children. The findings derived from the preceding analyses point therefore towards a striking similarity between

ritual kinship and affinal alliances: in both cases, statistical preference is clearly given to upward exogamous alliances, as opposed to downward exogamous coalitions in which wife-receivers or godparents rank lower in economic terms than their wife-receivers or godchildren (compare Tables 50 and 52 with Tables 33 and 37). In other words, exogamous alliances usually unite wealthier wife-receivers and godparents with poorer wife-givers and godchildren (and their parents).

Compadrinazgo exchanges differ however from affinal ones in the following crucial way. Marriages are preferentially endogamous, while co-parenthood favours downward exogamous alliances. Vertical distance is additionally emphasized within co-parenthood units by the higher incidence of coalitions between non-adjacent strata as opposed to coalitions between adjacent strata; the preferential practice of endogamy within matrimonial alliances entails, on the contrary, a preference for coalitions between adjacent strata over marriages between distant or non-adjacent strata (compare Tables 50 and 52 with Tables 36 and 39). In brief, economic differentiation tends to be minimized in affinal exchanges, while it is maximized in co-parenthood alliances.

These latter statistical contrasts imply that compadrinazgo alliance emphasizes the wealth redistribution function (between distant strata) much more than do affinal exchanges. Members of an economic class are inclined to intermarry, but co-parenthood cannot favour the practice of class endogamy in so far as it thrives on the complementarity between wealthier individuals who seek prestige and those of lesser means who seek wealth. Almost two thirds (366/564) of all compadrinazgo coalitions thus involve godparents ranking higher in occupational terms than their soliciting co-parents or godchildren. Compadrinazgo thus succeeds in performing what neither consanguine nor affinal solidarities could

achieve: that of enabling an individual to choose those from whom he may expect economic assistance as if they were his own consanguines (Mayer, 1972: 12). Selecting a godparent preferably from one's own barrio (see Table 48) stresses furthermore the consanguine-like bonds which are to prevail between co-parents.

Yet this wealth redistribution function is not without major limitations. From a quantitative point of view, it involves a very limited amount of economic values which can hardly disrupt the hierarchical allocation of products and of factors of production which prevails in Puerto Inca. As argued by Mintz and Wolf, "the rare usages of compadrazgo in inheritance indicate the lack of utility of this mechanism in dynamically affecting prevailing patterns of ownership" (Mintz & Wolf, 1968: 344). Moreover, the increased prestige or influence which accrues to godparents may give access, through patron-client relationships, to economic opportunities which may transform the godparent's initial donations into profitable investments (Stavenhagen, 1975: 187-8). And finally, from a qualitative or structural point of view, compadrinazgo alliances are to some extent superstructural: on the one hand, they presuppose the nuclear structure of kinship units which they ritually simulate, and the kin obligations of mutual assistance which they prescribe. And, on the other hand, they presuppose the hierarchical distribution of wealth which they attempt, almost in vain, to invert to the advantage of members of lower income groups.

The flow of economic values between affinal, consanguine, and ritual kins, is determined not by the strategy of maximization which regulates the circulation of commodities, but rather by a use-value rationality. Yet kinship rules as such cannot serve to formulate a use-value ideology of mutual assistance, since they involve little else than the prohibition

for consanguines to intermarry. As suggested in Chapter 10, the Catholic principle of Charity fulfils the latter function by offering what neither economic nor kinship transactions could produce, namely a putatively altruistic mode of reciprocity. However, let us postpone this discussion and direct our attention, in Chapters 8 and 9, to those non-altruistic, primitive-like practices of vegetalismo (herbal healing) and brujería (sorcery and witchcraft) which prevail in Puerto Inca.

PART 3

COSMOLOGICAL MODE OF EXCHANGE

CHAPTER 8: VEGETALISMO (HERBAL HEALING)

1. POPULAR HERBAL REMEDIES (VEGETALISMO CASERO)

Village dwellers of the Peruvian Amazon are quite knowledgeable with respect to the medical uses of a multitude of plants which they either cultivate or find with relative ease in their rain forest environment. Although some individuals are locally or regionally renowned as médicos, vegetalistas, curanderos, or curiosos, all terms referring to expertise in herbal healing, many adults, especially women, display considerable know-how as to the curing properties and the preparation of various medical plants.

Table 5⁴ gives a summarized description of herbal remedies commonly used in Puerto Inca. The information has been gathered through interviews of twelve adult residents of the community. The first column gives the local or regional name designating a specific plant the scientific name of which is given in the second column (whenever identification has been possible). Column 3 indicates what sicknesses can be cured with such plants. Column 4 indicates how the plant must be prepared and applied for the cure to be successful. This list of 29 different healing herbs is certainly not exhaustive and many other plants which are thought to possess curative properties are of common use in the Peruvian Selva.

Undoubtedly, many of these plants do have curative properties and one might easily hypothesize that the resulting healing efficacy has significantly contributed to the preservation of such practices, in spite of the increasing recognition of modern medicine's own successes. It is not uncommon for Peruvian or foreign doctors residing in the Peruvian Selva to recognize the healing merits of vegetalismo, without, however, accepting the non-scientific etiology which is associated to it.

Local Name	Scientific Name	Sicknesses	Preparation and Application
Chiriqui-Sanango (tree leaves)	Rauwolfia duckei	Rheumatism, bone pains, inflammation	Leaves hashed and boiled with one cup of alcohol (<u>aguardiente</u>) and a handful of almidon. Affected area washed with preparation.
Ajo-sacha (bark of creeping bush)		Rheumatism, bone pains, inflammation. Used as an analgesic.	7 roots rasped and mixed with alcohol (gives the body a strong odour of garlic). Or 3 roots rasped, dissolved in cold water and drunk immediately (in the morning), followed by a bath.
Sangre de grado (or sangre de drago) (red resin of a tree)	Croton salutaris	Cuts, menstruation	Applied to affected area (after washing cut). For menstruation: a few tablespoons absorbed each day with hot water and alcohol.
Llanten (leaves of garden plant)	Plantago Major L. (plantain)	Convulsions, bronchitis, internal fever	Liquid extracted from leaves and mixed with beaten egg white and 2 drops of lemon juice. One teaspoon per hour, or applied with plaster (facilitates breathing).
Suelda con suelda (leaves of creeping plant)	Loranthaceas (phoradendron quadrang., Oryctanthus amplexicaulis)	Internal wounds, stomach aches, fractures, haemorrhages	Leaves mixed with alcohol and left to mix for 3 days; a few cups taken each morning and evening. For wounds: leaves ground and mixed with alcohol and applied to wound with bandage (kept for 1 or 2 days).
Malva (Leaves of garden plant)	Malvaceas	Kidney irritations, and for ligatures	Leaves squeezed in water, strained and mixed with 2 lemon drops. Absorbed every morning and evening; or head washed with hot water and leaves.
Sacha Huiro or caña ácida ¹	Zingiberaceas: Dimerocestus tessmanii	Used as laxative or expectorant, for convulsive cough and <u>tosferina</u> . Also an emetic.	Stem ground and a cup of juice taken by patient on empty stomach.
Ubos or ciruelo (tree bark)	Spondias mombin	Infected wounds and cuts	Bark boiled and liquid applied to affected area.

Table 54: Herbal Remedies

1. Huiro is a Quechua word which refers to the stem of a young corn. Sacha Huiro is found in purma plots and marshes.

Local Name	Scientific Name	Sicknesses	Preparation and Application
Renaquilla (liana)	Ficuscaballina, F.mathensii (moraceas and gutiferas)	Fracture, dislocation, wounds	Liana boiled and liquid absorbed. Or bark rasped and taken with water or alcohol, each morning, and with a bath to prevent fever (<u>caloria</u>).
Yuquilla blanca (forest creeper)		Eye pains and conjunctivitis	Ground or rasped, put in water and juice extracted. One or 2 drops in each eye, 3 times a day.
Nugño pichana	Excrofularia- cea; Scoparia dulcis	Laxative, expectorant, or sedative for intestinal fevers, convulsive cough and <u>tosferina</u>	Grass ground.
Piñón	Euforbiacea. Jathropa gos- sypifolia	Laxative, nose ulcer, skin disea- ses, stomach and vaginal ulcers. Also as emetic.	One teaspoon of resin with 2-3 drops of lemon, each morning. For ulcers: applied to affected area with cotton. Greater quantity to be absorbed for emetic effect.
Lanzetilla		Sedative for inter- nal fever and measles	Boiled and large quantity absorbed, 3 times a day or whenever thirsty.
Aire sacha		Liver irritations	10-12 leaves boiled; cold liquid absorbed in the morning, for 9 days.
Agengi- bre	Ginger	Stomach aches, colds, dysentery	Ground and mixed with alcohol; a few tablespoons 3 times a day.
Ishanga	Urticacea: Boehmeria pavonii	As analgesic and for measles	Leaves boiled for half an hour; cold liquid absorbed whenever thirsty.
Amaciza	Erythrina glauca and E. esculenta	Infections	Leaves or bark boiled for 20 minutes; body covered with liquid (starting with head).
Chuchuhuasi	Alacacea: His- teria pallida	Rheumatism, ulcers	Rasped and cooked.
Hoje (tree resin)	Apocinacea: Echites specta- bilis. Morace- as: Ficus gla- brata and F. anthelmintica	Intestinal worms, anaemia (i.e., "lack or weakening of blood").	Left to mix with alcohol so that it doesn't burn the skin or the stomach. A few tablespoons taken in the morning for 9 days; afterwards, patient must take a laxative to "clean his stomach" (e.g., milk of magnesium).

Table 54: (cont'd) Herbal Remedies

Local Name	Scientific Name	Sicknesses	Preparation and Application
Paico	Chenopodium ambrosioides	Parasites, cough, to purify blood (for skin disease); and as a disinfectant	Leaves ground; 2 teaspoons sufficient for children's parasites (purgative effect). For wounds: leaves boiled with salt and applied to wound with alcohol and pork fat (in plaster); or wound simply washed with preparation.
Arco Sacha (purma tree)		Infected wound	Leaves ground and mixed with camphor and pork fat. Applied with plaster to affected area and renewed after 2 or 3 hours.
Algodón (cotton leaves)	Cotton gossypium	Headaches, colics. Used as a sedative.	For headaches: patient sits in a mixture of hot water and leaves. For colics: leaves in tea; or stomach rubbed with a few warm leaves.
Ipururo del agua (tree bark)		"Bone cold", bronchitis	Bark rasped in water or alcohol. Few cups taken each morning on empty stomach. Bath required if taken with alcohol.
Abuta (liana)		Fertilizes sterile women and cures sexual weakening of men	Liana boiled and cold liquid absorbed. Or rasped and mixed with alcohol and honey. Taken each morning with a bath "to prevent the colour from going to the head".
Bellaco Caspe	Thevetia peruviana, Plumeria tarapotensis, Bombax aquaticum	Emetic, for tumours and wounds, dislocations, weakness	For weakness: rasped and boiled. For tumour and other sicknesses: resin applied with cotton to affected area.
Toe	Cornutia adorata	Swellings, skin tumours, headache. Also a sedative.	For tumour: few leaves ground and applied to tumour. For headache: 2 leaves thrown into flames and placed on forehead with handkerchief.
Caña brava		Kidney swelling or irritation	Root boiled in water; absorbed often during the day.
Chanca piedra (grass in plot)		Kidney or liver inflammation	Grass ground and half a glass absorbed in the morning. Or boiled and absorbed often during the day.
Llanchama (tree resin)	Manicaria saccifera (esterculiaceo)	Fractures and dislocations	A few tablespoons absorbed with alcohol in the morning, for 9 days. Or taken with hot water.

Table 54: (cont'd) Herbal Remedies

Vegetalismo has thus acquired the status of an "empirical medicine", i.e., a healing knowledge which has managed to achieve a certain degree of curative efficacy, through repeated experimentation of plant uses, but which fails in accounting for the medical properties of such plants.

The "empirical medicine" euphemism throws little light on the phenomena under study. It operates an arbitrary divorce between two essential components of a belief system, its theory and its practice. As shall be seen in the following sections, the assumptions underlying vegetalismo beliefs and rituals are entirely different from those basic to modern medicine and science, so that herbal healing cannot be reduced to a clumsy embryonic version of science.

A. Men and Plants, Body and Spirit

It is commonly stated in Puerto Inca that each plant has a madre, i.e., a mother (Dobkin, 1973: 79), and that a cure is not caused by the absorption or external application of a given herbal preparation. Rather it results from the mother's benevolent intervention through the inter-medium of the chosen plant. Men and plants are similarly constituted in that they both consist of a body and a spirit. But a plant differs from a man in so far as its body (the plant itself) is issued, like a child, from the mother-spirit, while a man's spirit is contained within his body. Spirits of the plant kingdom are defined in contradistinction to human spirits in another important way. Men are characterized by an unstable propensity towards a body/spirit disjunction, i.e., towards sickness and, eventually, death. The spirit departs from the deceased body (Métraux, 1967: 93; Weiss, 1969: 56) and becomes a tunchi, a wandering bodiless spirit which cannot be seen, but which can be recognized at night by its lugubrious and ominous whistle. Conversely, plant-spirits are

characterized by a stable conjunction between mother-spirit and plant-body. Indeed plants may individually die, but the plant species or genus will survive. According to the village specialist healer, various Toe plants are branches of a common tree the trunk of which lies somewhere in Africa; branches may die, but the genus tree survives. This plant-body/plant-mother conjunction is furthermore consolidated by the plant-mothers' habit to absorb their own body: for example, Toe and Ayahuasca herbal drinks are the common beverages of the Toe and Ayahuasca plant-mothers, respectively.²

Sickness is understood as a partial dislocation or spatial disjunction between body and spirit and the healer's objective is to reunite both. The seriousness of an illness is symptomatic of the distance which separates the body from the spirit, and healers will occasionally refuse to treat very sick patients if it is believed that their spirit has gone too far away or beyond a point of no return (Métraux, 1967: 96). According to Zevallos, a local curandero, the spirit of a witchcraft victim is at an altitude of five metres above its body, and the patient dies when the spirit reaches thirty metres. The tunchi spirits of deceased individuals are also said to move about at a certain altitude above the soil and above men. Death puts an end to human oscillations between temporary states of health and sickness, and the individual's spirit withdraws completely from his body.

A summary of these various contradistinctions would yield the following set of symbolic equations:

1. Plant = Spirit \cup Body (Conjunction)
2. Healthy Man = Spirit // Body (Intersection)
3. Sick Man = Spirit \cap Body (Disjunction)

2. Métraux, Harner and others fail to grasp the differentiation and conjunctive relationship that exists between plant spirits and their bodies (Métraux, 1967: 91-2, 110; Harner, 1973: 17).

A by-product of these symbolic postulates is the belief according to which plants sown and cultivated by men have less healing power than natural plants. Like sick men, these cultivated plants are weakened as a result of a partial separation between body and spirit: although issued from spiritual mothers who dwell in the natural forest environment, these plants are produced by men and reside within man's environment, i.e., in a plot or garden.

B. Healing Prescriptions and Proscriptions

Healing practices require more than the absorption or application of a herbal remedy: the individual must also comply with a series of precisely defined prescriptions and proscriptions. Herbal recipes do not suffice in bringing about health improvements; it is in so far as they are part of a list of instructions given by the plant-mother that they can have effects on the patient's health condition. Medical information is not solely transmitted from parents to children, or from knowledgeable healers to less informed laymen; rather it also originates from the mother of the plant and is communicated through dreams or through hallucinations produced by the absorption of the herbal preparation itself. Patterns do emerge within these varying directives and many recipes are commonly used, but this does not entail any rigid uniformity in the preparation or application of medicinal remedies. (Métraux, 1967: 83)

Healing prescriptions vary considerably from one case to another, according to the nature and gravity of the illness. A patient who cannot absorb anything will not be required to drink a herbal preparation: a vapour bath or an external application might be equally effective. However, it must be emphasized that such prescriptions are considered as necessary, but not as sufficient in achieving the healing results. Medical studies dealing with vegetalismo in the Peruvian rain forest

overemphasize the importance of such prescriptions and fail to see that they make sense only in association with healing proscriptions, i.e., dietas ("diets"). The list of dietary restrictions included in the plant-mother's directives is quite limited, and dietary programmes almost always comprise a few or all of the following taboos:

1. Avoid "having (sexual) contact"; (Dobkin,1973: 70; Weiss, 1969: 103)
2. Avoid being seen by a stranger; if possible, go away from the village (and stay in the forest outskirts);
3. Avoid the sun, stay in bed or in house;
4. Do not eat salt or condiments (or eat little of it); (Métraux,1967: 108; Dobkin,1973: 70)
5. Do not eat sweets; (Dobkin,1973: 70)
6. Do not eat pork fat; (Dobkin,1973: 70; Métraux,1967: 108)
7. Do not eat venison meat such as Huangana; (Métraux,1967: 108)
8. Do not eat hot food.

Although apparently quite heteroclitite, these various prohibitions reassert similar themes. Firstly, the patient must restrain from cultural exchanges with other persons: sexual, social and spatial isolation is required (1, 2 and 3). Secondly, the patient should not absorb cultural foods, i.e., that which is highly valued by men but quite superfluous to other living species. Salt and condiments only add flavour to what is eaten and are peripheral to the central dish itself. Salt also enables men to preserve meat and fish for a week or two. This condiment thus points towards a twofold differentiation between men and animals: the former are capable of transforming (as with hot food) and preserving food, the latter are not. Sweets fall into a similar category: they are highly valued by men, yet they are viewed as an addition to natural nutrition. Again pork fat is peripheral to the main dish, not as a seasoning or as a superfluous delicacy, but rather as a frying substance. Similar to salt which modifies food and prolongs the natural duration of perishable meat, pork fat serves to alter natural food and is used as a combustible for lighting, hence as a means to prolong the

limited duration of natural daylight. Isolation from Culture must be therefore observed by modifying both social and eating habits.

Thirdly, venison such as huangana is sometimes prohibited since it is unclean (sucio): a huangana "eats anything" (come cochinadas), hence the foul smell given off by the meat (huanganas have fetid glands which emit foul odours when they are chased). Some healers ask their patients to restrain from eating any meat at all for most animals are like the huangana, they "eat almost anything" and are consequently infected with parasites. Eggs are occasionally prohibited since chickens are known to eat anything they can find (e.g., worms). Animals which choose their food indiscriminately cannot be eaten by ill men who must comply with strict dietary programmes. Rice, corn, manioc, noodles, fruits and vegetables, all these usually are permissible sources of nutrition.

Popular healing practices work towards the reunification of the patient's body and spirit through a twofold ritual. The patient must, on the one hand, absorb a herbal remedy containing the body of a plant-spirit. This metonymic ritual of assimilation needs, on the other hand, to be complemented by a metaphorical imitation of spirits of the plant kingdom: the patient is not to be seen by strangers, he prefers obscurity to daylight and the forest to the inhabited village, he does not eat hot food, he does not make use of salt and pork fat, nor does he eat indiscriminately as do the huangana or healthy persons for that matter. Illness is produced by a foreign body penetrating the human body and forcing the person's spirit to withdraw from its body habitat. Healing rituals attempt to counteract this body/spirit disjunction by generating the opposite process, i.e., a simulated mother-spirit absorbing her own plant-body. A disjunctive disorder (illness) is thus neutralized by a conjunctive re-ordering performed by the patient himself: his spirit's propensity to

depart from his body is offset by a simulated reunification of a plant-body and her mother-spirit.

The inversion re-establishes an equilibrium through the antithetical interplay of two conflicting forces and the patient is restored to his initial condition, that of a healthy intersection between body and spirit. However, the observed cyclical oscillation between health and illness is not entirely stable since the human body and spirit will be eventually separated by death. The healing process is far from being infallible, and aggravation of illness and death are constant threats. Healing prescriptions and prohibitions must therefore be followed scrupulously, and strict compliance to all directives is essential to counteract Man's fragile condition. If the patient does not faithfully comply with the plant-mother's instructions, the mother-spirit will cease to help the patient and the remedy will be powerless. Plant-mothers are also very jealous (celosas) to the extent that they may turn against the unfaithful patient and provoke his death. (Dobkin, 1973: 70)

An informant once acted imprudently by not thoroughly observing the prescribed diet: he ate a few bananas and yet knew well that the Chuchuhuasi mother had forbidden such food in his eight day diet. When night came he had a dream, in which the mother of the plant presented herself in the form of a small male soldier who reproached the patient with his fault and prescribed a new treatment involving twice the portion of herbal medicine he had already taken, plus a more severe diet, i.e., sixteen days without eating specified foods and without interacting sexually or socially with other people. Had he not followed these new directives, the mother-spirit, he alleges, would probably have killed him.

The risk is great, and plant-mothers must fear men's clumsiness and unfaithfulness. The patient can fail to properly imitate the behaviour of

plant-spirits and would thus attempt the impossible and deadly task of unifying two incompatible entities: the powerful plant-body would be absorbed not by a simulated mother-spirit, but rather by a weak human body.

2. SPECIALIST HEALER'S INTERMEDIATION

A. The Toero Healer and Toe Genios (Genii)

Although healing techniques can be used by any knowledgeable adult, some local or regional curanderos are famed as expert healers. In contrast with popular curing rituals, healing sessions performed by these specialists stress the necessity of the healer's intermediation between the patient and plant-mothers.

Puerto Inca has only one expert curandero named Cesar Zevallos Chinchuya. He is much more knowledgeable on healing science than anyone else in the village, yet he is viewed and views himself as one specialist among many others. Indeed he is a toero, a healer who cures mostly with Toe plants and with the help of Toe spirits or genii (genios). This fragmentation of medical knowledge does not give rise to scientific cooperation as within modern medicine; on the contrary, the toero must defend himself from, and compete with, other healers' powers. For example, the ayahuasquero has always been his mortal enemy and they are constantly in conflict with one another. They must "keep their distance", Zevallos claims, for ayahuasca is a creeping bush, while Toe is a small tree; they belong to different botanical classes and cannot therefore cooperate.³

3. Similarly, the catahuero specialist is a dangerous enemy of the toero for he always tries to avenge himself; the catahui plant (Erythroxilacea: Erythroxilon paraense, Hura crepitans) also belongs to a distinct botanical class since it serves, not to heal, as does Toe, but rather to kill through poisoning (its resin serves as a barbasco poison for fishing).

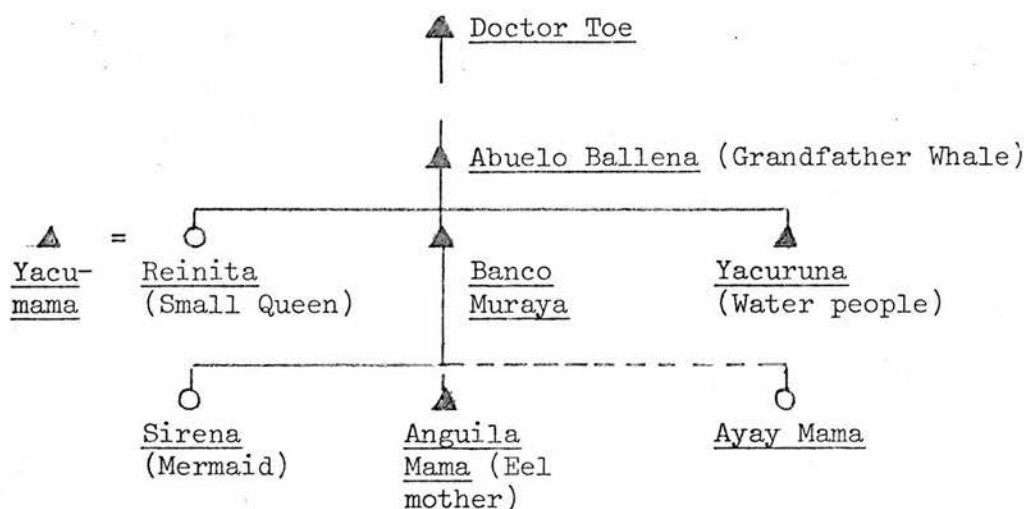


Diagram 9: Toe Mothers or Genii (Water Spirits) (--- : link not entirely defined)

Role Attribution:

1. Abuelo Ballena: (Grandfather Whale); commands everything, he is the most powerful, the one "who does everything". When the patient is very sick, he is the only one who may do something. He does not harm, he only cures.
2. Yacuruna: (from Quechua, meaning "Water people"); he is the Ballena's messenger, he "passes the word" to his father. He gives injections to the patient and sees what quantity must be injected. He is the one who brings everything. He is not harmful. He is the eldest son.
3. Reinita: (Small queen); she carries and distributes messages and cards (?) and speaks with all genios. She transmits any message she receives.
4. Banco Muraya: (Muraya is a Shipibo word meaning brujo, i.e., sorcerer); he is a very elegant man who wears a watch and looks like a gringo (white foreigner). He cures the patient, reduces and eliminates the pain. He is a messenger of the Abuelo Ballena. (Also known to be an enormous water monster.)
5. Yacu-mama: (Quechua word meaning water-mother); he brings messages to the Abuelo Ballena and brings back information to the healer (curandero). (It is generally believed that the Yacu-mama is a boa living in the deep waters of lakes and rivers.)
6. Sirena: (Mermaid); she is very beautiful, she is also called the sanitaria ("nurse"). She comes with her briefcase and asks the doctor what he wants. She keeps a book with a list of all plants and their names and reveals them to the doctor. She also brings the instruments of the student healers, and goes from house to house to cure patients.
7. Ayaymama: (nocturnal bird with lugubrious chirp, as if it was calling its mother: "ay, ay, ay, mama!"). His attribution is to know; he studies to know if some patient is under a spell. He projects a beam

of light on persons in order to see if they are performing evil deeds.

8. Anguila mama: (Eel mother); he is a sorcerer (brujo) and does evil. He "gives back", punishes, like the guardia (police).
9. Others: (not included in Diagram 9)
 - Chicuro: bird heard at night with a chirp similar to that of a chick; he is not a genie (genio), but rather a guide. He brings medicine or messages to more important (mayores) genios. He can "give back the harm" (devolver el daño) with previous authorization of the sirena. (See Harner, 1973: 21) He is the one who knows what sickness the patient has. He is a bird which flies to bring the secrets to the genios.
 - Arcanas: soldiers or protectors which stand by the doctor (curandero) to help him.

Location of Genios' Houses:

<u>Abuelo Ballena</u> :	3 km behind Asia.
<u>Banco Muraya</u> :	in Ecuador.
<u>Yacuruna</u> :	in Spain.
<u>Reinita</u> :	without any specific location, she moves around.
<u>Yacumama</u> :	in Bolivia.
<u>Sirena</u> :	in Asia, but without any specific location.
<u>Toe</u> :	a large trunk in Africa (<u>Toe</u> plants are branches of this trunk).

The etiology expanded by Zevallos is much more elaborate than the one precedingly outlined, but it does postulate the same symbolic equations. Illness is viewed as a spatial disjunction between body and spirit; plant-bodies and plant-spirits are not subjected to such a separation; and human life thrives on an intersection between body and spirit. Healing involves again the absorption of a herbal remedy and the compliance with a strict diet which ritually transforms the patient into a plant-spirit. Neglect in complying with the mother's directives may entail discontinuation of the spirit's assistance, or a potentially dangerous reaction of jealousy on her part.

However, the spiritual world known to the specialist healer is more

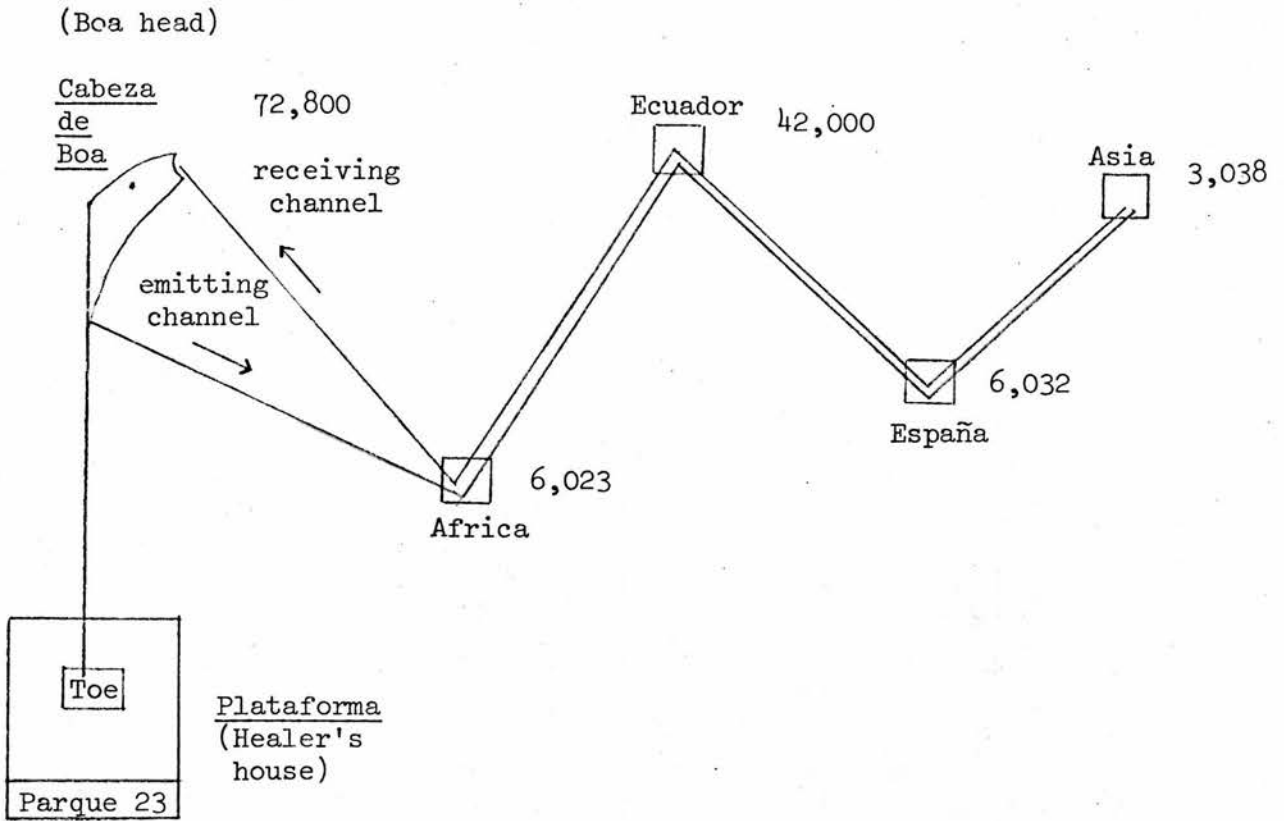
complex than it is for the profane. Diagram 9 gives a summary of the genealogical links between Toe spirits or genii. All members of this spirit family descend from Doctor Toe and they are all assistants of the latter. The different characteristics and attributes of these genios are given under the diagram. Furthermore, these genii are linked within a network of communication, a drawing of which has been given by the curandero himself (see Diagram 10).

The spiritual motherhood of the Toe plant is assumed by a multiplicity of beings who reside in different parts of the world, who belong to various living species (boa, eel, whale, mermaid, bird) and who occupy different positions within various networks of alliance (genealogical, communicational, etc.). Yet Toe spirits are members of the same ontological class (mothers of the Toe plant), most of them live in deep waters of rivers and lakes, they belong to the same genealogical tree and they participate in the same collective task, that of curing sick men.

The genealogical tree is pyramidally shaped: the family contains four generations with the Doctor Toe and Abuelo Ballena occupying the first and second apical positions. Banco Muraya occupies a third apex and the fourth generation is issued from him. Sirena and Anguila Mama are alternatively defined as parallel cousins or as siblings, a terminological equation basic to the kinship system of the neighbouring Campas.⁴

Spatial remoteness correlates significantly with genealogical distance. The two apical grandfathers (Doctor Toe and Abuelo Ballena) reside in remote continents, i.e., in Africa and "three kilometers behind Asia", respectively. Africa is probably seen as the most distant place of residence for it is associated with physical characteristics which differ

4. Zevallos is himself of Campa origin and is more fluent in Campa than in Spanish.



N.B.: "These are like air waves. Genii and plants are distributed among these houses and countries." (Zevallos)

Diagram 10: Channels of Communication between Healer and Genios

Healing Songs and Messages:

- | | |
|--|---|
| a) Transmitiendo, aquí 23-802
Transmitiendo Bancocito, 6023, Africa Toe
Transmitiendo Bancocito, 38000, Bolivia Toe
Transmitiendo Bancocito, 42000, Africa Toe
Transmitiendo Bancocito, 3038, Asia Toe | To establish
contact with
<u>genios</u> |
| b) Doctorcito, Ayúdame, cura ya pues mis pacientes.
Sana, sana mis pacientes. Doctorcito, ayúdame.
Enséname mi receta. Ayuda pues doctorcito,
Ayuda pues mis pacientes. | <u>Genios'</u> assis-
tance solicited |
| c) Ayúdame Doctorcito, Toe Toe, comprende ya.
Enséname medicina, Doctor Toe, cúrame ya,
Ayúdame Señor Doctor. | " |
| d) Ayúdame Doctorcito, Doctorcito Curandero.
Póneme medicina, medicina necesito,
Enséname medicina. Medicina necesito,
Ayúdame pobrecito, pobrecito Doctorcito. | " |
| e) Yacu, Yacu, Yacu, ayúdame (Bis),
Ayúdame Yacu a mi,
Sana, sana, sana mis pacientes
Yacu, Yacu, Yacu, Yacu. | " |
| f) Doctorcito, ayúdanos, trae ya pues medicina.
Cura ya pues mis pacientes. Sana, sana
Mi paciente. Doctorcito, ayúdanos. | " |

markedly from those of Amazonian inhabitants. Spirits of the third generation live in closer countries, i.e., in Bolivia, Ecuador and Spain. The age seniority of Yacuruna is conveniently associated with Spain, which connotes greater remoteness and political superiority (through past Conquest and present domination of Hispanic institutions). However, Banco Muraya occupies an apical position, while Yacuruna does not. This distinction is spatially asserted by the fact that Banco Muraya lives in Ecuador, hence down river or north of the Pachitea Valley. The down river location

connotes socio-economic superiority (see Chapter 4), that of urban centres and wealthy foreigners. Banco Muraya is himself an affluent and elegant gringo. As for Yacumama, he lives in Bolivia, in the upriver territory of the Quechuas. Inca subjects and their present-day Quechua descendants have always been simultaneously feared, despised as inferiors, and treated as enemies by their Amazonian neighbours. Hence the affinal wife-receiving position of Yacumama: as an affinal, he is viewed both as a hostile wife-taker and as an inferior wife-receiver who is in debt towards his wife-giver.

Members of the fourth generation and the non-kin Chicuro are without any specific residential location. They commute freely from one place to another and may thus bridge the spatial gaps that separate the healer from more distant and more powerful genios, such as the Abuelo Ballena and Doctor Toe. Spatial mobility tends also to be characteristic of female spirits. The Reinita (small queen) "moves around" and the beautiful Sirena (mermaid) lives in Asia but without any specific location. The Anguila mama, the Chicuro and the Ayay mama are all identified with reference to motherhood: the first one as a "mother-eel", and the other two as young birds calling for their mothers.

The allocation of spatial and genealogical positions serves firstly, to codify the distance which separates the healer from his genios, in one case with reference to ego's place of residence (the Pachitea Valley), and in the other case with reference to a common apical ancestor (Doctor Toe); and, secondly, it specifies the channels through which exchanges may be performed. Residential and kinship codes thus point towards an overall system of communication involving the patient, the healer and his Toe spirits. But let us first return to our initial endeavour, that of understanding Vegetalismo as a mode of cosmological exchange.

Popular healing rituals seek to cure sick men by transforming patients into plant-spirits absorbing their own plant-bodies, thus resorting to a body/spirit reunification remedy. The specialized version of vegetalismo offers an alternative solution: that of entering into a network of exchange with plant-mothers. Patients can modify their physical condition by imitating those to whom illness is unknown, i.e., plant-spirits; but they can also better their health through reciprocal exchanges with the latter. Reciprocity requires two things: each party involved must have access to values which the other one does not possess, and both sets of values must be desired by those who do not own them. Plant-mothers have a special knowledge or power in that they hold the secret of stable health (body U spirit conjunction). Yet men's faith is necessary to them; they are very jealous if it is not bestowed upon them, and quite understandably so, for without it they cease to exist, or rather, their existence ceases to be recognized. Men exist, but they are afflicted by a propensity towards illness and death and must therefore seek the assistance of plant-mothers.

Such an exchange cannot lead to an annulment of complementarity, for men would cease to be sick or to die, an unlikely event, and the existence of plant-spirits would not need the recognition of men, another impossible event. The distance which lies between men and plant-spirits is furthermore maintained by mechanisms of intermediation: the specialist healer stands between men and plant-spirits and enables them to exchange coveted values without draining the initial source of reciprocity. A curandero has access to the secret knowledge and power of Toe genios and is thus able to cure sick men; but he must also secure men's faithfulness and allegiance, for such are the values that genios seek.

The multiplicity of Toe spirits results from an additional variation

on the essential theme of intermediation. The crucial role of subordinate genios consists in bridging the cosmological gap separating the healer from the grandfather of all Toe spirits, Doctor Toe himself. A chain of intermediary locations and generations offers a well-defined itinerary linking closeness to remoteness. Kinship and residential codes therefore point towards a key system, that of communication. Genios live mostly in rivers not by sheer coincidence: riverine dwellers know too well that distant sites are simultaneously sending and receiving the same environmental resource, i.e., water, for remoteness lies both up-river and down-river.

The stated function of genios often consists of transmitting information between the healer and the genios, or between the genios themselves. As already suggested, this system of exchange follows an itinerary which reasserts the remoteness of apical generations and of distant sites. In an attempt to summarize the allocation of tasks among genios, Zevallos laid out the following communicational flow chart (Diagram 11):

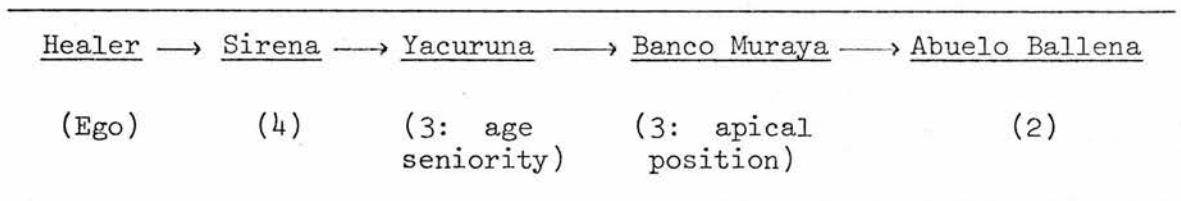


Diagram 11: Flow of Messages between Healer and Genios (numbers in parentheses correspond to the generational position of genios; this information was not included in the diagram given by Zevallos)

All genios share one similar task, that of receiving and transmitting messages, or in Zevallos' words, to "pass the voice" (pasar la voz). Yet they

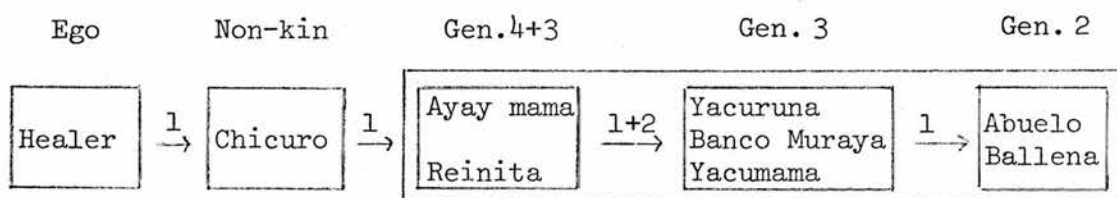
differ as to the position they occupy within the chain of communication: Sirena transmits what she has received from the healer to Yacuruna, Yacuruna to Banco Muraya, and the latter to Abuelo Ballena. As previously shown (see Diagram 10), Sirena belongs to generation 4, Yacuruna and Banco Muraya to generation 3, and Abuelo Ballena to generation 2, hence a clearly defined genealogical route. As for the link between Yacuruna and Banco Muraya, its orientation reasserts the genealogical precedence of Banco Muraya who occupies the third apical position from which the fourth generation is issued.

A close study of the task distribution given under Diagram 9 leads to similar conclusions. As represented by the upper part of Diagram 12, the healer-to-Abuelo Ballena itinerary of messages is again congruent with the genealogical ordering of Toe genios. The Abuelo Ballena is assisted by three messengers who belong to the generation immediately issued from him. Yacuruna and Banco Muraya receive information from Ayay mama who is a member of the fourth generation (issued from Banco Muraya). Reinita is a female genio who transmits messages to all other genios: correspondingly, she stands, within the communicational flow chart, in an inferior position in comparison to her husband (Yacumama) or brothers (Banco Muraya and Yacuruna). The chicuro bird is not a genio proper, not even one of their kins, and yet it is not a human being: it is quite apt therefore to serve as an intermediary between the healer and Toe genios, especially as it is endowed with the power to fly.

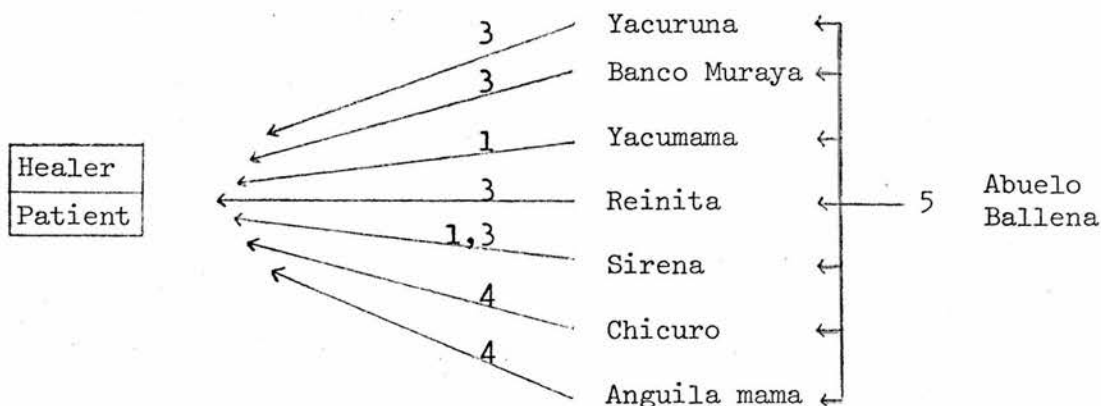
Intermediation through such a chain of communications poses however a problem. The reverse Abuelo Ballena-to-healer movement of values cannot proceed in a similar chain-like fashion, i.e., through successively ordered acts of transmission. The healer-to-genii flow of values is cumulative in the sense that the transmission of information goes from many individuals to

an apical spirit, the Abuelo Ballena, hence the accumulation of messages, prestige and power at the distant genealogical summit. But a reverse chain-like feedback of information and power would entail an unacceptable outcome, that of amassing values within subordinate generations, or at least of passing on a quantity of values equivalent to that possessed by the ancestral genie.

From Healer to Abuelo Ballena:



From Abuelo Ballena to Healer (and patient):



Legend: 1 = transmits messages
 2 = assistant to
 3 = medical task
 4 = "gives back harm"
 5 = "does everything", cures very sick patients

Diagram 12: Communications and Role Distribution among Genios

The lower part of Diagram 12 shows how the reverse flow of values (Abuelo Ballena-to-healer) resorts to the mechanism of intermediation

without upsetting the genio hierarchy. The Abuelo Ballena distributes synchronously his knowledge or power among his spiritual offspring; yet he remains the one who "does everything", the most powerful genio, he is the only one who has sufficient power to cure very sick patients.

Subordinate spirits cannot overthrow the hierarchy of Toe genios, since their powers are dependent upon the accumulation of information and the concentration of power at their genealogical summit. However, as a general recipient of information and assistance brought by all genios, the healer is recollecting all that has been scattered among subordinate spirits and occupies thus a position similar to that of Abuelo Ballena. As shall be seen later on, Zevallos does stand, within his school of healers, in a position which resembles that of the latter ancestral genie. Nevertheless, the healer is still a man and, like other men, he is susceptible to illness (and death) and can be harmed by the Toe genios themselves. Healers are thus obliged to "pass on" what they have acquired through their alliance with plant-spirits: any attempt to keep the knowledge for themselves, or to capitalize upon it for profit-making, will entail severe cosmological recriminations from Toe spirits. Genii must keep a close eye on the healer's actions to secure their own existence: if the curandero does not heal his patients or if he uses his powers for his own benefit, spirits will lose men's faith and allegiance; or if the healer reveals everything that he has learned from the genios, again for selfish purposes, then plant-spirits will cease to differ from men who will know as much as they do.

A last comment on the network of communications between the healer and Toe genios, with special reference to a diagram produced by Zevallos himself (Diagram 10). Zevallos' cosmological symbolism involves the frequent reappearance of a numerical code which displays a disconcerting

arbitrariness in the selection of numbers. However, the absence of any mathematical pattern provides the key to the code itself. Numbers are understood in so far as they are part of a logical system which, in this case, is based upon the decimal principle of computation. Numbers may connote, on the other hand, a haphazard order of serial contiguity - as opposed to any other conceivable logic (e.g., increasing or decreasing series) - if they are ordered at random. Places of residences in Diagram 10 are designated through a set of arbitrarily chosen numbers: their noticeable magnitude (5 out of 6 are beyond 3,000) reasserts this randomness since there is "a chance in a thousand" that these numbers will be selected. Within a chainlike network of communication, distance can be perceived from the point of view of ego, in this case the healer, or from the point of alter, i.e., any genio. In the former case, any additional act of transmission increases the remoteness of the last receiver. This perspective underlies the allocation of residential locations within Diagram 10, since spatial remoteness increases with additional acts of message transmission: information is sent to Ecuador before Spain, and to Spain before Asia. Africa's position deviates from this pattern as a result of another symbolic factor yet to be identified.

Perceived from the point of view of alter, i.e., any genio, distance is relative: Ecuador is adjacent to Spain, but it is not to Asia, and so on. The common residence of genios, i.e., rivers, display a similar paradox: from the point of view of genio A, location X may lie up river and Y down river, while for genio B, both X and Y may lie up river or down river. The numerical code, by conveying this alternative relativist perception of the communicational system, adds considerably to the healer's most valuable source of power, i.e., the coding and decoding complexity and esoterism of his communications with Toe spirits.

One number differs markedly from all others. Indeed the healer's house number (23) is quite low in comparison to all other numbers which range from 3,038 to 72,800. This measurable gap is congruent with the healer's position within the observed network of communication since it confirms the cosmological remoteness that separates the healer (and his residence) from all genios (and their residence). Although there is only one chain of communications, there are effectively two cosmological levels: the world of men to which the healer belongs, and the world of Toe spirits. This onto-logical split is additionally symbolized by the unmatched numerical distance that lies between the healer's house (23, the lowest number of the series), and the antenna head (72,800, the largest number of the series).

The existence of two cosmological levels necessitates the use of two different channels of communication, i.e., a boa-tree-antenna and a pair of undulating lines; the former serves to link the healer to the Toe genios, while the latter regulates the circulation of messages between genios themselves. Communications between genios are channelled through "waves" (ondas), hence the undulating lines in the upper part of Diagram 10. As in English, onda means either water-wave or air-wave. The ambiguity serves its purpose: as already seen, spirits are either water dwellers (mermaid, whale, water-people, boa or water-mother, eel-mother) or residents of the air (ayay mama and chicuro birds). Finally, the river analogy may help us to understand the presence of two undulating lines. From ego's point of view, the down river flow of water does not coincide with the up river flow: in one case, waves are moving towards him, while in the other case, they are moving away from him. Yet both movements are part of one single itinerary, the continuity of which enables ego to engage in a reciprocal flow of values with distant sites. This representation of space reflects

an important feature of Zevallos' communicational code: a two-way flow of values can relate men to spirits only if values sent in one direction differ from those sent in the opposite direction, hence the differentiation between the sending and receiving channels of communication. As with a river flow, ego can receive values from distant sites only if he is simultaneously sending values to remote sites, and vice-versa.

Waves may channel messages between genios, but they can hardly directly reach those who live on earth, such as the healer. The boa-antenna provides the intermediary channel, for it is highly versatile. Its trunk resides on earth, close to the healer's house, yet its head shares the habitat of both sky and water dwellers: the head reaches the sky, but it is also the head of a water dweller, i.e., the boa. The boa-antenna is thus the ideal representation of a transformational channel of communication linking the healer to the Toe genios.

Two minor features remain to be decoded. Firstly, the healer resides on earth, yet he must stand on a platform in order to communicate with the genios (see Diagram 10). As a cosmological intermediary, Zevallos attempts to bridge the spatial gap that separates men from genios either by elevating himself above the earth, closer therefore to the sky, or by making an occasional journey (or claiming that he does) to the depths of the Pachitea River; these redefinitions of his habitat consolidate his alliance with Toe spirits since genios are both water and sky dwellers.

Secondly, Africa's position in Diagram 10 deviates from the observed congruence between spatial and communicational remoteness from the healer's point of view. However, it must be remembered that the vertical antenna is itself referred to as a Toe tree, which is but a branch of the Toe trunk located in Africa. Messages emitted by the healer go through the

transformational boa-antenna and then pass through the African trunk before they can reach other locations such as Ecuador, Spain and Asia. The message-songs given under the diagram confirms this interpretative claim: the healer first communicates with Africa and then with Bolivia, but to contact Asia he must again go through the African central tower of communications.

B. A School of Healers

The presence of a specialist healer and of subordinate genios greatly facilitates the intermediation between men and genios, and between the healer and the apical spirits of the Toe genealogy. Yet another discontinuity, that between ordinary men and the healer, remains to be overcome through mechanisms of intermediation. This function is secured by the formation of a school of healers, the organization of which simulates those relations prevailing within the genio genealogy itself.

Zevallos is assisted by a few apprentice healers whose titles and attributions are summarized here -

1. Médico (Doctor): Cesar Zevallos Chinchuya. He is the most knowledgeable member of the team and has been named Coronel (colonel) by the Ciencia Natural (Natural Science).
2. Doctora: Isabel Rivera. She has one year of experience and knows less than the médico (Zevallos). She receives the patients and gives them injections. When the médico is away, she sends him urgent messages and the patient's number; the médico can hear her from distant sites.
3. Vocal: ("member") Ubidencia Rivera. She has 6 months of experience. She goes to see the doctora and the others, she attends monthly meetings as a vocal and she knows the attributions of each student. She knows at what time the patient has arrived and what sickness he has; for the first two days, she takes care of the patients and feeds them. She is responsible for the death of any patient under her care. Afterwards, patients are under the treatment of the médico and the doctora.
4. Triunfadora: Emita Rivera. She has one year and a half of experience and is called "the one who has triumphed" since she has passed school exams with flying colours. She identifies and classifies herbs and obtains specified quantities of such and such a plant.

5. Inspector: Bernardo Rivera. He is also called the niño inspector ("child inspector"). He accompanies and guides the triumfadora, nothing more.
6. Alumno: ("student") Guayaban. He has two years of experience. However, he has not learned anything and has revealed all the secrets he learned, thus putting the genios to shame (pasar verguenza). He works quite badly for he uses his knowledge for evil and selfish purposes: he throws spells on innocent victims so that he may cure them and be paid for it. He must be expelled from the school.
7. Alumno: Agustin Rivera. He has two years of experience. He is the father of the doctora, vocal, triumfadora and inspector. He has learned a great deal and has been able to save the life of the médico who suffered from a severe case of diarrhoea and stomach aches. It took him only fifteen minutes to cure Zevallos. Sometimes the médico cannot cure himself since he cannot suck or blow on certain parts of his own body; he needs therefore the assistance of his students to whom he has taught the "natural science".

Zevallos' healing school resembles the organizational structure of the genio community in three different ways. Firstly, apprentice healers are members of one single family. Augustin Rivera is the father of the doctora, the vocal, the triumfadora and the inspector. Zevallos is not a consanguine member of this family, but rather an affine: he is to marry with one of Augustin's daughters, i.e., the doctora. The Rivera family comprises only two generations, yet the second generation is composed of two age-groups involving the younger child-inspector and the doctora and triumfadora sisters respectively.

Secondly, the resulting three-level genealogy presides over the hierarchical distribution of experience, knowledge and healing power. The father has two years of experience and is the only one who has sufficient knowledge to cure the head doctor (Zevallos); the triumfadora, doctora and vocal have 1.5, 1 and 0.5 years of training respectively, while the child-inspector has none at all and serves only as a guide to the triumfadora.

Thirdly, as with plant-spirits, the genealogical apex is occupied by a man and the descending generation is almost exclusively composed of women.

However, kinship relations among these healing specialists differ in a significant way from those prevailing among Toe genios. Similar to the affinal Yacumama who is the husband of Abuelo Ballena's daughter, the non-kin Zevallos is to marry with the daughter of Augustin. But Yacumama is inferior to the apical Abuelo Ballena, while Zevallos stands above his father-in-law as a teacher stands above his pupil.

The latter status inversion correlates with a fundamental difference that separates healers from genios. Asked if a curandero should marry, Zevallos answered that they should preferably do so for a woman is always needed to handle house chores and to assist the healer in his medical duties (e.g., preparing herbal remedies). Zevallos is therefore confronted with the following dilemma. As an intermediary between spirits and men, he must comply with rules of both worlds: as with men, a wife's assistance must be secured, but as with spirits, subordination must be regulated by descent. Yet an apical healer cannot stand both as a father and as a husband to one of his female assistants. Spirits are not confronted with such a problem since the genealogical structure suffices in determining the system of relations among genios. Zevallos' situation displays and overcomes at the same time the latter contradiction. In contrast to ordinary men who are indebted towards their wife-giving father-in-law, Zevallos stands as equal to Augustin: as a teacher "who knows more", he is superior to the latter, but as a receiver of a wife and of female assistants, he stands in debt to Augustin. Each has a superior control over different values the exchange of which entails an equalizing effect on their comparative status. Augustin is thus the only one who can cure the master-healer, and has already saved the life of Zevallos through a master-like display of healing expertise.

Not a man for he is not in debt to his wife-giver, and yet not a

spirit for his subordinates are not of his own offspring. Such is the life of a cosmological middle-man.

Healers do not inherit their knowledge through biological transmission, from parents to children, or through a sudden gesture of generosity on the part of plant-spirits. Although a spiritual vision is usually required as a "rite de passage", apprentice healers are like students within a school (to use Zevallos' analogy) and they must go through an arduous training extending over a considerable period of time (Métraux, 1967: 85). This is the case for both Augustin and Guayaban who have spent two years as members of Zevallos' Toe school. Their subordinate status was initially clearly defined since they had little knowledge of the Ciencia Natural. However, since they have now become experienced apprentices and potential médicos themselves, their dependence towards their teacher is withering away. Other students of Zevallos (Augustin's children) do not face this eventuality: as they are women, they cannot aspire to break away from their teacher and to compete with him, their competence must rather be achieved as successful assistants of the latter médico. (Métraux, 1967: 81-2, 109)

Augustin's ensuing strategy is not that of a competitor. By giving a daughter in marriage and his other daughters as medical assistants, he succeeds in securing an equality of status against possible clashes with his own instructor. The destiny of the non-kin Guayaban takes the opposite road. Augustin is a successful student, Guayaban "hasn't learned anything". The former makes good use of his knowledge for he attends to the needs of his teacher, while the latter reverses such exemplary behaviour in all possible ways. Firstly, Guayaban reveals the genios' secrets to ordinary men, thus "passing on shame" to Toe spirits. Degradation (or loss of status) indeed afflicts the genio clan and the Toe school since

what they alone knew is now an open secret. Secondly, Guayaban is using his acquired knowledge for evil and selfish profit-making purposes: Zevallos claims that this student is throwing spells on innocent victims who, not knowing the identity of their persecutor (dañino), pay for Guayaban's healing services. He is thus breaking a fundamental rule of exchange. Evil can be returned, but it cannot be initiated with impunity: any resulting benefit will be eventually cancelled out by a returning calamity, either from the victimized person or from betrayed genios. Thirdly, Guayaban is a wife-taker (and not a wife-receiver or wife-giver). He has thrown an evil spell on Zevallos' future wife in exchange for a payment from this woman's vengeful ex-husband. Zevallos has succeeded in protecting his betrothed by putting her under the protection of his own arcanas (protective spirits). However, the spell was transmitted to her child who is in bed with a swollen leg (typical symptom of witchcraft).

Guayaban's path must thus lead to separation from, and competition with, his own teacher. He is to be accused of incompetence and evil doings by other school members and to be expelled from the group at a monthly meeting.

A final analogy may be drawn between genios and healers. We have seen that Toe spirits reside in remote countries in order to keep their distance from men. Healers have a common residence which is also isolated and distant from the village centre, i.e., on the other side of the river and in the forest itself, a few hundred metres away from the river bank. They also live at higher altitudes: their houses are built on the highest spot of the village outskirts, and they are located on the western up-river side of the Pachitea River, with the Andean Sierra in the more distant background. Puerto Inca lies at a lower altitude and with the lower down-river Amazonian basin extending to its east (see Map 3, p.120). Quite appropriately, night and darkness are western events, while daylight emerges at the eastern horizon

Zevallos' house hides away from the dwellings of Guayaban and the Rivera family, on a more elevated and distant location. This residential choice is reminiscent of Abuelo Ballena's spatial remoteness and is well adapted to his closeness to air-channel of communications with Toe spirits.

C. Healing through Intermediation

Few of Zevallos' herbal remedies differ from those commonly used by adult dwellers of Puerto Inca (see Table 55). Nor does he prescribe unusual dietary restrictions: the patient is again asked to isolate himself from others in spatial, social and sexual terms, and to restrain from eating salt, pork fat, sweet, unclean meat, hot food, and so on. The healing treatment offered by Zevallos does not therefore exclude the etiological principles which prevail within popular healing practices: health betterment is still obtained by the absorption of a plant-body and the simulation of a plant-spirit, hence a beneficial ritual of body-spirit reunification.

However, Zevallos' services offer an additional method to counteract illness and the threat of death, that of entering - through his intermediation - into a network of exchange with plant-spirits. To succeed in fulfilling his duties as a mediator, a curandero must comply with two essential requirements: firstly, he can heal only to the extent that he resembles those who possess healing power, i.e., plant-spirits; and secondly, he must be able to communicate directly with these genios in order to obtain the information and power needed to perform healing rituals. Thus the alliance that exists between a healer and a genio rests upon both principles of similarity and of reciprocity. We have seen in the foregoing section that healers and genios exchange complementary values through a complex network of communications, that the internal organization of the healing school replicates those relations which prevail within the genio clan,

Local and Scientific Names	Sicknesses	Preparation and Application
<p><u>Sanango</u> (<u>Aporinacea</u>: <u>Tabernaemontana sanango</u>; <u>Menispermacea</u>: <u>Abuta grandifolia</u>, <u>A. concolor</u>) <u>Uchu sanango</u> (<u>Uchu</u> means "pepper" in <u>Quechua</u>) (Other: <u>Tigre s.</u>, <u>maiz s.</u>, <u>chiric s.</u>)</p>	<p>Rheumatism, nervous sicknesses</p>	<p>Diet (for witchcraft spell): 8 days with no fat, pork fat, or sexual contact (<u>genios</u> are jealous and do not like the bad odour that is given off by women). Not to go outside at night for the plant-mother is jealous. If diet is not followed, patient can't sleep and "turns mad".</p>
<p><u>Yacu ishanga</u> (?)</p>	<p>"Water blow" (<u>Choque de agua</u>)</p>	
<p><u>Piripiri</u> (<u>Scleria melalerica</u>, <u>Cyperus articulatus</u>, <u>C. sphacelatus</u>, <u>Dichromena amazonica</u>) (Harner, 1973: 22)</p>	<p><u>Yacupiripiri</u>: - for diarrhoea - bad luck (<u>saladera</u>) (Dobkin, 1973: 77) - fever and rainbow burn (<u>quemason de arco</u>: e.g., child's leg inflammation) - stomach ache</p>	<p>Ground and eaten. Not to eat sweets since they "revive" worms. Bath taken with 21 leaves of <u>albaca</u> (<u>Ocimum micranthum</u>) (2 leaves of each plant) Ground and applied cold to affected area. No fish for 8 days, no pork, turtle, <u>majas</u> (<u>Coelogenys fuluus</u>), etc. 12 small portions, cooked and taken warm (but not hot). Diet: 2 days without sweets, salt, sexual contact (woman is bad and provokes sickness, she always "envenoms").</p>
<p><u>Piripiri Rayo</u></p>	<p>For arm ache, to cast spell or to cure from a spell, to defend body.</p>	<p>No preparation. To give spell: 4 days of rigorous diet. For arm ache: ground and put in plaster (sometimes cooked and applied hot). If for parasite, no diet. But if to cure from a spell (e.g., <u>cutipado</u> by <u>Lupuna</u> tree with mud), then diet prescribed. For stomach ache: no sweets since the stomach is dirty or with worms; no pork fat or meat.</p>
<p><u>Piripiri Espiritu</u></p>	<p>For frightened child (<u>asustado</u>) (Dobkin, 1973: 76)</p>	<p>Ground and given as a drink, followed by a bath.</p>
<p><u>Papaya</u> leaves, 150 <u>Tutuna</u> leaves (?), 50 orange leaves, 80 <u>toranja</u> leaves, half a handful of salt, 4 burnt rocks.</p>	<p>Swollen leg</p>	<p>All plants mixed in pot, well cooked. Diet: no egg (since chickens eat anything, i.e., <u>cochinadas</u>), no fish. Leg given a vapour bath.</p>

Table 55: A Curandero's Healing Techniques (cont'd)

Local and Scientific Names	Sicknesses	Preparation and Application
<u>Terramicina</u> and <u>copaiba</u> oil and plant 07	Diarrhoea	Plant 07 ground and given to patient in order to "stop the stomach swelling".
<u>Totiwa</u> , <u>tatiwa</u> , <u>cefras</u> , <u>rayos sol</u> (?)	Pepper or needle spell	Vapour bath in order to extract <u>chonta</u> (arrow) which falls.
<u>Ondura</u> or <u>cartesilla</u> (?)	For sterile woman (blood is not thick and does not coagulate when there is sexual contact). Also for man who "is not able".	
<u>Renaquilla</u> (sedative), <u>Sapohuasca</u> (Sapindacea: <u>Paullinia caloptera</u> ; Euforbiacea: <u>Dalechampia dioscoreifolia</u>)	To cure the <u>médico's</u> sick mother who has a shoulder inflammation. Also for stepfather's tumour.	
<u>Ayahuasca</u> (Malpighiaceas: <u>Banisteria Caapi</u> , <u>B. quitensis</u> , <u>B. metallicolor</u>)	(See analysis of <u>Ayahuasca</u> sessions)	Diet: no turtle, fat, <u>sajino</u> , <u>huangana</u> , <u>añuje</u> , <u>majas</u> , pepper, alcohol, salt. Can be eaten: fish, oil, beans and noodles.
<u>Corazón Toe</u> "Toe heart"	Like pills, it counteracts nausea produced by <u>Toe</u> . Like a measles vaccination.	Can also be used for any sickness since it brings the <u>genios</u> . Ground and chewed. Diet: no salt, fat, turtle, nothing until patient is cured. Only rice and beans. It has a very strong nauseating effect; it strikes suddenly and leaves you like dead, it has 5,700 degrees. But the <u>médico</u> guides the patient so that the <u>Toe</u> spirit does not carry patient away for always. <u>Toe</u> has power and strength, it has 5,500 degrees of temperature.
<u>Toe</u> (Verbanacea: <u>Cornutia adorata</u>)		Diet: no meat, especially <u>huangana</u> which is dirty, it eats anything (<u>cochinadas</u>) and has parasites. Sex allowed only 15 days afterwards. Can eat rice, beans, noodles, a bit of salt. Everything taken cold, since warm food weakens or dissolves the medicine.

Table 55: (cont'd) A Curandero's Healing Techniques

and finally that the location of the healers' dwellings is reminiscent of the spatial remoteness of Toe genios. Data pertaining to healing techniques equally confirm the significance of the latter twofold alliance (similarity/reciprocity).

Zevallos claims that those who are not initiated to the ciencia natural often fail to appreciate the sacrifices and hardships that he must endure for the benefit of men's health. Indeed a toero (healer specialized in the use of Toe plants) acquires his knowledge and power through an arduous training involving many months of social and spatial isolation, sexual deprivation and severe dietary restraints.⁵ Also he must frequently stay up at night in order to attend to his patients and to communicate more easily with Toe spirits.⁶ Plant-spirits are also isolated from men, they do not eat what men eat and they prefer darkness to daylight; yet such behaviour comes to them naturally and does not deprive them of what they need, as it does in the case of human healers.

Zevallos imitates the behaviour of Toe genios in another important way: he drinks what is known to be "their beverage" (su bebida), i.e., the Toe plant itself (Torre, 1966: 8/4-5). This form of commensalism involves more than a simple experimentation of the effects and possible uses of a given plant. As already seen in our analysis of popular healing practices, the absorption of a herbal preparation leads towards health betterment not because of some medicinal properties inherent to the plant itself, but rather because it enables the patient to simulate the body/spirit conjunction that characterizes genio spirits and their plant-bodies. Zevallos resembles his own patient to the extent that he too must resort to a body/

5. Dobkin, 1973: 32; Harner, 1973: 18; Métraux, 1967: 86-87; Torre, 1966: 8/4.

6. Harner, 1973: 23; Métraux, 1967: 94.

spirit reunification symbolism: however, his purpose is to rid himself not of a given illness, but rather of his human condition which limits his access to those healing secrets and powers which are under the control of genios. To achieve this objective, the curandero has to simulate Toe genios on a quasi-permanent basis, thus acquiring the life-style and the status of a toero.

A toero derives his healing power and knowledge not only from a simulation of Toe genios, but also from a continuous flow of exchange with the latter spirits. Contacts with plant-spirits are usually initiated with the smoking of a cigar and/or the chewing of a handful of coca leaves mixed with lime and chamairo (Bignoniaceas), all ingredients being constantly available in his moral (a small woven shoulder-bag worn by Campa men). Chewing coca leaves has a qualitative effect similar to that of smoking his strong alcohol-dipped cigar, or to that of absorbing alcohol or the hallucinogenic Toe potion: it can be taken to "elevate one's temperature" and to communicate with genios. According to Zevallos, his knowledge and power increase with a greater absorption of alcohol: the higher his "temperature", the easier it is for him to converse with genios, to teach the ciencia natural, and to accomplish his "miracles". Plants themselves have varying degrees of temperature and strength (called cefras) which can be measured by the number of "lines" observed on the leaves.

However, coca and tobacco have a special communicational function in that they enable the médico to call the genios or to send them messages. Drinking alcohol or a hallucinogenic herb such as toe or ayahuasca requires total absorption and produces effects which alter the functioning of all senses, while chewing coca leaves or smoking a cigar involves only partial assimilation (leaves are spat out and smoke is expelled), a lower degree of "dizziness" (mareación), and a special effect on the body, that of numbing

the mouth. Coca and tobacco are thus associated with the alteration and expelling-function of a body orifice which serves as the organ of speech: correspondingly, they are used to transform ordinary rules of speech so as to enable the médico to communicate with Toe genios.

The assistance of genios may be obtained only if they are initially called by the médico. The healer establishes a first contact through a low monotonous whistling which is without meaning for human beings, but which can be deciphered by spirits, and especially by the chicuro bird who is in charge of transmitting messages to Toe genios. Whistling serves mostly to attract the attention of plant-spirits so that they may be receptive to subsequent messages. The healer henceforth resorts to singing to solicit medicinal information and healing assistance (see songs given under Diagram 10). This musical "mental cry for favours" differs from whistling for it is composed of meaningful words, and from normal human speech for it complies with strict rules of word selection and musical intonation. The alteration of normal human speech is also achieved by a noticeable lowering of the voice and by the use of an idiom unknown to the patient(s) (e.g., Campa or Amuesha).⁷

The genio responds to the healer's call by sending the medical information needed for the cure: the message may include a general diagnosis and references to the book and pages that must be consulted.⁸

Sentences answered (by the genio): vomiting, diarrhoea, fever. See book 72,001. Immediately ask the patient how long he has been taking the purgative. The patient says from six to eight months. Very good, says the genio. Immediately look up page 42. (Zevallos' own account of a healing session.)

Information can also be received through rituals of adivinación, i.e., oracle revelations. The present or future state of a patient can thus

7. Dobkin,1973: 70; Métraux,1967: 84,95,106.

8. Métraux,1967: 95.

be known by deciphering special signs sent by plant-mothers (Métraux,1967: 100). Two examples of adivinación were observed, each confirming our interpretation of coca use with reference to its communicational function. The first case was observed during a healing session: Zevallos took a particle of the coca leaves he was chewing, looked at it and "read" a reassuring omen - the patient would soon recover. In the second case, a cigarette was used as a sign-producing object. Zevallos threw it on the table and read the results according to the position of the face-drawing printed near the filter: if the drawing is looking face down, there is little chance of saving the patient, but if it is not, then the patient will be saved. In both cases, the sign-producing object is issued from the mouth (organ of speech), and also from a genio since it consists of a plant-mother's herbal body. Such signs are chosen as message-oracles not only because they are issued from the healer's mouth and as such resemble human messages, but also because they differ from ordinary human speech: indeed they are issued from plant-mothers. (See also Torre,1966: 8/10)

Zevallos' "mental cry for favours" is not solely answered with the transmission of relevant information and knowledge; assistance from genios also comes in the form of powerful healing tools. A curandero has the power to extract or expel - by sucking or blowing - the foreign substance which has penetrated into the patient's body. The healer sucks (chupar) the affected area in order to extract the "air" (atmosfera) (Harner,1973: 25) or substance (not the spirit as claimed by Harner,1973: 17) which causes the illness. Zevallos explains that the latter substance is attracted by a powerful "magnet" (imán) which the genio has placed into his mouth. Once extracted, the detrimental substance is ejected from within the mouth to avoid absorbing it (Harner,1973: 23). An

alternative technique consists in expelling the sickness by "sucking" (chupar) a cigar and blowing (soplar) the smoke on the affected area. This soplada method is another variation on the body/spirit reunification theme: the patient must again absorb the plant-body of a plant-mother (in this case by inhaling it), with the only difference that the plant is transformed into smoke, and not into a liquid, and that the smoke is issued not directly from a genio, but rather from its intermediary substitute, namely the healer (Métraux,1967: 90). However, Zevallos does not necessarily "blow" directly on the patient. He may also blow on a herbal remedy so that it may receive the genio's healing force which is to be absorbed by the patient.

	Healing Rituals		Communicational Rituals		
Absorbing-into-body rituals	<u>Chupar</u>		Chewing		
	Suck	Smoke			
Expelling-from-body rituals	Spit	Blow (<u>soplar</u>)	Oracles (Adivinar)	Sing	Whistle

Table 56: Classification of Healing Rituals Involving the Intermediation of a Curandero⁹

Table 56 summarizes the preceding analysis of those healing techniques which require the intermediation of a curandero. Absorbing-into-body rituals are followed by expelling-from-body rituals which perform either a healing or a communicational function. As already mentioned, messages sent to or received from genios are appropriately channeled through both the healer's mouth-orifice and through a genio's plant-body: they are

9. See also Dobkin,1973: 70; Harner,1973: 23; Métraux,1967: 90, 93, 94, 96, 113; Robinson,1972: 92-3; Torre,1966: 8/5.

thus simultaneously issued from man and from a plant-mother. Similarly, the extracting or expelling of the intruding illness is appropriately performed by resorting to the absorbing or expelling function of the healer's mouth, and to a plant-body issued from a genio. The soplada is done with tobacco, while the chupada is done with a "magnet" (imán) which resembles a plant-body: indeed Zevallos described this imán as resembling a Chicklet chewing gum, i.e., a sticky substance which is chewed like coca leaves and which is equally derived from a botanical source. Both rituals serve to conjoin a plant-body with a dieting, spirit-like patient, and thus to extract or expel the incompatible substance which causes the illness.

Zevallos claims that his regular consumption of alcohol greatly facilitates his communication with Toe spirits since it "elevates his temperature" and enables his spirit to "fly" (Métraux, 1967: 86). Herbal preparations often include a dose of aguardiente (alcohol) for the same purpose, that of elevating the patient's spirit so that it may resemble a plant-mother. Alcoholic beverages produce the same effect as hallucinogenic plants, i.e., mareación ("dizziness"), and are equally derivable from botanical sources. Yet alcohol - like coca and tobacco - allows the healer only to speak (conversar) with genios: one has to drink the Toe potion to "see" or "meet with" Toe genios.

D. Faith and Payment of Goods

Health cannot be obtained freely, and Zevallos' teaching or healing services must be paid with goods (especially alcohol), money, or labour (Métraux, 1967: 114). Money is usually preferred, but a patient who is without means may pay with goods that he owns, or with a few days or weeks of labour on the healer's plot. Knowledge is subject to the same condition:

one must pay for it and/or submit to the healer's authority.

The cost of health may be quite exorbitant. One patient was suffering from an acute illness which "modern doctors" identified as an incurable case of chronic arthritis (according to data obtained from his brother). After many vain attempts at finding the appropriate cure, he went to Zevallos who succeeded in restoring his health after five months of intensive treatment.¹⁰ However, the total cost was relatively expensive: the patient paid a total sum of 2,000 soles (\$47 Am.), and regularly supplied the healer with alcohol, medicine, tobacco, coca and chamairo, and rifle bullets.

According to Zevallos, a simple consultation will usually cost about 150 soles and a subsequent healing treatment will be available for a minimum sum of 300 soles, for a total therefore of 450 soles (\$10.50 Am.), the equivalent of 7.5 days of a labourer's wage earnings. For a comprehensive tuition of 6,000 soles (\$140 Am.), he was prepared to "sing all his secrets" to any anthropologist, but he did agree, after the customary bargaining and with prior authorization from his genios, to reveal his knowledge at a lower cost.

"Favours" are not obtained freely from the genios themselves. Zevallos contends that half of the payment which he receives from a patient must go to the genios.

When do you pay me? Half now, magnificent! When you are better, you will pay it. No money, then you work for me in my chacra (cultivated plot) and I will pay for you /to the genios/, the bill is therefore on my account. The deadline is passed and the bill is not paid. Sirena comes and says: the patient has not paid, he is ungrateful; why not give him back his sickness? But I cannot accept for I will be on bad terms with him, so I pay. But then, I must discontinue the healing; then I decide to stop curing. First I charge you 300: it's cheap, you have the money in your pocket to pay the genios. You left me comprometido ("committed"), I don't have to pay myself. I must see the patient

10. To the contrary of Torre's claims (1966: 8/17), patients do not necessarily expect an instantaneous cure.

to know if he will pay so that I am not in bad terms with them /genios/ (...) He exposes my life by putting me in bad terms with genios, for the genio doesn't give me anything, it's a dangerous thing to do. If you don't want to pay for the curandero's hard work, then go to the clinic or go to another médico for we shall not go against other doctors.

However, loyalty matters more to genios and faith has an important value for exchange purposes. Both the healer and the genios explicitly require that patients believe strongly in their powers; otherwise all remedies will be totally useless and healing services will be withdrawn (Dobkin, 1973: 81).¹¹ (A healer must be respected as much as a prestigious godparent and the parents of a sick child will effectively address him as compadre.)

Those patients who come to me, have faith in me and in the mother purgative. And you will see the improvement in your health. But if you do not believe in me or in the genio, then it's no use, for no one will cure you and I am not the one who heals; I am but a shadow, an apparent shadow. The genio heals.

(...) The médico cries asking the genios' help so that they will cure the son who is at the footstep of the pantheon. The father must have faith, otherwise it is not possible to cure him.

The curandero in turn must be loyal to Toe genios by not revealing their secrets and by securing men's faith through proper healing treatment. Plant-mothers demand that the healer fulfil his duties satisfactorily, that he attend his patients "at any time of the day". During a healing session, a genio can know if the healer is effectively doing his job by looking for healing traces on the hands of the curandero himself.

The resulting flow of exchanges is essentially triadic in the sense that a return on what has been given can be obtained only indirectly, i.e., through an additional transaction involving the debtor and a third party. The values that a healer receives from his patient (money and loyalty) must be given to the genios: otherwise the curandero cannot obtain the knowledge

11. To view this form of "reverence" or "adoration" as an element of priestly rituals and not of shamanism, as Weiss does (1973: 40-47), is to neglect entirely the importance of "faith" as a value of exchange sought by spirits in shamanistic rituals.

and power that he needs to cure his patient (Métraux, 1967: 114). Similarly, the values that a healer receives from the genios must be "paid for" by healing men and by securing their loyalty and faith towards genios. (See Diagram 13)

Zevallos stresses the fact that any breach of reciprocity threatens the latter circular structure of exchanges. If a patient proves to be ungrateful by not paying his bill, the healer's life is endangered, for the genios' claim to a portion of the payment (money and gratitude) will be left unsatisfied. Similarly, if the healer does not perform his duties as a curandero, genios will lose men's faith and will therefore withdraw their favours (power and knowledge) from their intermediary. Guayaban's behaviour is a case in point: he is accused of degrading Toe genios, i.e., of depriving plant-mothers of their source of prestige by revealing all their secrets and by using the ciencia natural to cast spells on future patients, again for selfish profit-making purposes.

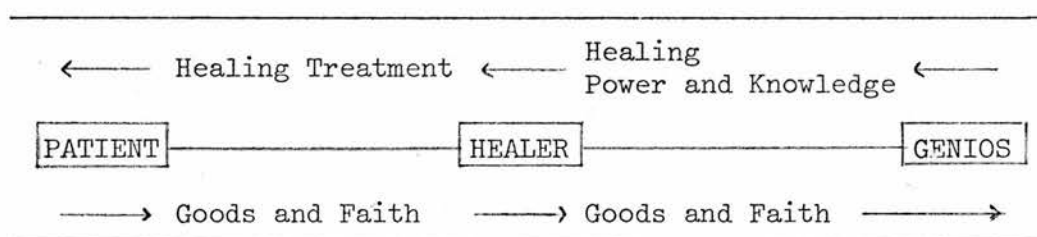


Diagram 13: Triadic Flow of Exchange between Patient, Healer and Genios

However, such breaches of reciprocity cannot lead to a profit-making mode of transaction. They will rather entail recriminatory withdrawals of acquired values: the sickness will be "returned" to the ungrateful patient, and Guayaban will be deprived of his healing powers. Healing is thus possible only in so far as witchcraft practices (brujería) offer

available mechanisms to re-establish a broken equilibrium of reciprocal exchanges (Métraux,1967: 89,99,115; Torre,1966: 8/6). And as will be shown in the next chapter, witchcraft practices offer such mechanisms simply by inverting the semantic structure of healing symbolism.

CHAPTER 9: BRUJERIA (SORCERY AND WITCHCRAFT)

1. POPULAR SORCERY

Sorcery rituals are frequently performed in Puerto Inca and misfortunes of various sorts, from a swollen leg to bad luck in hunting, are understood as resulting from evil spells cast by vengeful enemies. Although the specialist brujo has greater knowledge and power in such crafts, any knowledgeable layman can resort to the use of sorcery to achieve certain ends. Popular sorcery practices can serve a wide variety of purposes: to transform a husband into a passive and non-jealous spouse, to throw a charm spell on a person of the opposite sex, to find out the identity of a robber, or to inflict vengeance on one's enemy.

A. Techniques to "Return the Harm"

Table 57 gives a few illustrations of sorcery techniques which enable a person to "return the harm" (devolver el daño) to his enemies. Although apparently quite arbitrary and undecipherable, these symbolic constructions rest upon solid logical foundations the structure of which can be revealed through a detailed analysis of the semantic contradistinctions underlying such rituals.

The sorcery techniques given in Table 57 involve the burial, puncturing or burning of an object associated with the victim in one of the following ways. Firstly, the object may be external to the victim. Clothes cover the body and can be removed, they are both peripheral to, and distinct from, the victim's body. A shoe is an appropriate object for it covers an anatomical extremity, hence an additional expression of the externality theme. The object

Victim and Object Associated with Victim	Other Object and Prescriptions	Restrictions and Effects
1. Enemy's picture obtained from someone else.	Eyes stung 10 times with needle and buried face-down in well-hidden place, e.g., under a dead body. Exact prayer to be pronounced.	<u>Ego</u> must not be seen and no one must know. Victim soon starts to thin and eventually dies by drying.
2. Enemy's clothes.	Buried at 5-6 p.m. at the shaded side of a <u>comejen</u> (termitary).	Victim dies through emaciation.
3. Two (eye-like) <u>huairuru</u> beads and name of victim.	Beads fried in fat and stung with needle; name uttered.	Eyes burn; they burst if beads are stung.
4. Meal leftovers of enemy.	Buried at the shaded side of a <u>comején</u> (termitary). Rest of leftovers are hidden.	No one must know. Stomach swelling and death.
5. Enemy's right shoe.	Buried at night in the centre of the cemetery.	Death by swelling (starting with feet).
6. Enemy: unknown <u>brujo</u> who killed <u>ego's</u> relative or close friend. Object: heel skin taken from body of relative or friend (with razor blade).	Buried in hole made in <u>Lupuna colarada</u> tree; hole well closed afterwards.	Death by stomach swelling and bursting.
7. Footprint of unknown robber who has stolen something in <u>ego's</u> house.	Footprint stung with ray sting.	Robber can soon be recognized by leg wound.
8. Bone of hunter's catch.	Bone ground with rock, mixed with red pepper and human excrements, and buried in ashes of a cooking fire.	Hunter becomes an <u>afasi</u> , a bad hunter who never aims properly.
9. Leftovers (e.g., seeds) of a fruit stolen by unknown robber.	Kept in a small bag, placed in a <u>comején</u> (termitary) and hole closed.	Victim soon loses all his teeth and can be easily recognized.
10. Joker who left his excrement in <u>ego's</u> house.	Excrement mixed with resin of <u>Pituguina</u> plant.	Joker recognized by unbearable rectum itching; ridiculed.

Table 57: Sorcery Techniques to "Return the Harm"

may also be similar to the outward appearance of a person: the form of a footprint resembles that of the victim's foot and yet can be separated from it. Pictures can also be used on the basis of both principles of external similarity and separability. As for the two huairuru beads (Ormosia coccinea), they are similar in number (2), size, form and bicoloured appearance with a person's eye-orifices; the decorative collar-use of these poisonous beads is another indication of the implicit reference to a visible-externality function. However, the identity of the victim is already specified in the cases of a picture or a footprint, but it is not when using huairuru beads: the name of the subject must therefore be uttered. And quite conveniently, a person's name shares the features which are common to the preceding objects since it belongs or refers to a given person without being inseparable from the latter: any person can utter such a word without even the presence of an interlocutor.

Secondly, the object may be externalized from within the subject. Excrement and meal leftovers can serve to codify this second version of the externality symbolism: both are rejected by the body, through defecation of eaten food in one case, or through refusal to absorb inedible or undesired parts of a meal as in the other case (e.g., fruit seeds, leftovers) (Torre, 66: 8/13).

Thirdly, the object associated with the victim may consist of bodily remains of a death or body/spirit disjunction caused by ego's victim. This is exemplified by bones of a hunter's catch and by skin fragments of a person killed by an unknown brujo. Bones are culinary leftovers: like fruit seeds, they are not eaten. Bones

can however serve another closely related semantic function: located within living bodies, they can be uncovered or externalized as leftovers of the natural decomposition process which accompanies death. As for the heel-skin of a brujo's victim, it is taken again from the remnants of a body/spirit disjunction entailed by death; moreover, both symbols "heel" and "skin" reassert the externality theme, the former with reference to an anatomical extremity, and the latter, to an anatomical envelope.

Human externality is thus codified in various ways: through elements of the physical anatomy (foot extremity and its foot-print analogue, skin envelope, eye-orifices, picture analogue of body), through residues of physiological processes (defecation, decomposition of cadaver, inedible food leftovers such as seeds or bones), through ornamental and/or clothing articles (collar-decoration, clothing envelope), or through the use of linguistic signs (name).

All the preceding objects which are associated with the victim are either buried in , or punctured with, another object borrowed from the zoological or botanical kingdom. They can be buried at night in the centre of the cemetery, under a dead body; in the ashes of a cooking fire with a mixture of red pepper and human excrement; inside , or at the shaded bottom of a comején (termitary of Neuroptero termes obscurum) or a Lupuna colorada tree (Bombaceo ceiba pentadra). The heterogeneity of the latter list of burial places conceals a significant leitmotiv: i.e., a death-like process of decomposition disjoining a resident from its habitat.

Termites are very destructive to their wooden habitat. As for Lupunas, they are commonly distinguished from other species on the

basis of two noticeable features: they are known to lose their first bark and they often reach gigantic heights of sixty metres or so, hence their usefulness as common landmarks for river navigation. Termitaries and Lupunas are thus both characterized by the destruction or abandonment of a wooden habitat: either through consumption habits of insect residents, or through the natural growth of a tree leading to the abandonment of a bark-envelope or of a forest environment of lower trees.

Like termites, men succeed in surviving by destroying part of their wooden environment: wood must be burnt to transform raw food into edible substances (and to cultivate swidden plots). The leftover particles (ashes) of the wooden structures which served as fuel for a cooking fire, offer thus another appropriate burial ground. This repeated disjunction between a wooden habitat and its resident (termites and men, Lupuna tree, unburnt particles) is equally characteristic of dead bodies: ashes are to wood what bones are to dead bodies since bone contents are separated after death from their putrified flesh envelope. The cemetery is the locus of a similar disjunction, but with an inversion of the decomposition process: the resident cadaver goes through a process of deterioration, while the cemetery habitat remains intact.

The burial act, which constitutes in itself a variation on the container/contents theme (for reasons yet to be discussed), is symbolically iterated through various prescriptions. A contained object is normally deprived of light: it must therefore be buried at night, on that side of the tree which is not exposed to the sun, or - if the object is a picture - it must be buried under a dead

body and turned face down, facing thus the earth like a cadaver. The centre/periphery dichotomy conveys the same contents/container rapport: one must thus bury the object of the victim at the centre of the cemetery, not at its periphery.

Frying the object in fat or covering it with the resin of a pituguina plant (i.e., pituca: Colocasia antiquorum?) may serve the same sorcery purposes. Fat is a functional component of the natural envelope of an animal's body, but it can also be used as an alterative frying substance in culinary preparations (or as a light-producing combustible). Similarly, resin is a normal component of plant material, yet it can also have destructive or irritating effects if extracted and applied on human skin (e.g., pituguina plant).

Finally the victim's object can be punctured with a ray sting or a needle. Although these sharp-pointed instruments are functional to their owners, either as a defensive weapon or as a productive tool, they are known to be destructive to the foreign bodies which they penetrate, causing either deterioration, pain, illness or death.

As stated in Chapter 8, illness and death result from the penetration of a foreign substance which causes the spirit to withdraw from its body. Healing rituals attempt to bring back the spirit to its body habitat by performing a counteracting reinternalization ritual: the patient simulates, with or without the intermediation of a specialist healer, a plant-mother absorbing its own plant-body. Sorcery rituals thrive on the same etiological assumption, namely that illness and death consist of a body/spirit disjunction. However, their objective is not to heal, but rather

to cause illness (or death), hence a complete reversal of the healing symbolism. Instead of simulating the reintegration of a plant-body into its spirit-mother, sorcery rituals require that the analogue of the victim's body (e.g., clothes, picture, footprint, skin, excrement, bones) be penetrated into (i.e., buried or fried), or be penetrated by (i.e., punctured), natural substances which are disjunctively related to their deteriorated habitat (termitary, Lupuna tree, ashes, cadaver, sting and needle) or to their deteriorated contents (cemetery, fat, resin). A lay sorcerer may thus harm his enemy by ritually simulating a death-like disjunction between the victim's body and his spirit: an analogue of the victim's body is penetrated into, or by, an incompatible substance which is disjunctively related to its natural habitat or resident (as opposed to plant-bodies which are conjunctively related to the plant-mothers from which they are issued).¹

Like vegetalismo, brujería purports to invert the existing order by simulating the inversion itself. This general principle is well exemplified by the sorcery ritual in which bones of a hunter's catch are ground, mixed with human excrement and red pepper, and buried into ashes of a cooking fire. As mentioned earlier, ashes are to wood what bones are to dead bodies, i.e., remains of a decomposition process. The grinding prescription reasserts the

1. The "magical substance" used in sorcery rituals differ therefore from those used in healing practices, to the contrary of Métraux's claims (1967: 91). Moreover, healing substances (plant-bodies) are effectively differentiated from their mother-spirits, they are not vaguely defined as the equivalent of the latter ("À notre avis, la substance magique, les objets pathogènes et les esprits auxiliaires incarnent trois aspects du même pouvoir magique (...) Ces idées sont peu différenciées (...) L'indistinction et la confusion des concepts que Hubert et Mauss considéraient comme propres à la pensée magique sont mises ici en évidence." (Métraux, 1967: 91-2, 110)

ash-and-bone homology by transforming the bones into ash-like powder. Yet bones are buried into ashes, not vice-versa. Putting the bone-excrement-pepper mixture into ashes of a cooking fire serves in fact a significant semantic function, that of completely inverting the normal cooking procedure: false food, i.e. peripheral seasoning (red pepper) and inedible parts or transformation of food (bones and excrement), is placed into a false fire, i.e. ash remains (and "burning" red pepper?). This anti-cuisine ritual leads to an anti-hunting affliction: the victim becomes an afasi, an unlucky hunter who cannot aim properly: the sorcery ritual thus simulates the failure-to-produce-food that will afflict the victim.

A successful hunter is transformed into a clumsy hunter. Similarly, the body envelope of the clothed victim deteriorates either through loss of weight and emaciation (techniques 1 and 2, Table 57), or through swelling and bursting (techniques 4, 5 and 6). The unknown-defecating-joker becomes a conspicuous-rectum-scratching-fool (technique 10); the unknown robber is afflicted with a conspicuous wound which he wants to get rid of (technique 7); the enemy who can see (with bead-like eyes) or can be seen (on photograph) loses his sight (eye-burning or eye-bursting) or becomes less visible (through emaciation) (techniques 3 and 1); and finally, the unknown-eating-robber is recognized by the loss of his teeth (eating tools).

B. Techniques to Dominate a Husband

As shown in Table 58, a woman can also resort to sorcery to transform her husband or lover into an easily dominated or non-jealous partner, hence an inversion of the expected role performance.

The object taken from the victim does not differ from those used in previous techniques (clothes, picture), with the exception of the husband's drink (e.g., coffee) which is not external to the victim (as clothes are), but rather is to be absorbed by him. However, the purpose of sorcery requires that an analogue of the victim's body be penetrated into or by an incompatible substance; to force the actual body of the victim to absorb or to be covered with this foreign substance (i.e., menstrual blood) obviously amounts to the same sorcerous operation.

The paradox of a non-jealous or easy-to-dominate husband (or lover) results from the ritual performance of an analogous state imposed on the victim: he is a man, and yet he has menstrual blood within himself (absorbed with coffee) or is wearing clothes which are stained with menstrual blood. Alternatively, a picture analogue of his own body is covered with female clothings (underwear) and is placed face down, incapable therefore of "seeing" the (sexual) infidelity of his wife or mistress.

Victim & Object Associated with Victim	Other Object & Prescriptions	Effects
11. Husband's clothes	Stained with <u>ego's</u> menstrual blood; stain left to dry	Soon after wearing his clothes, husband becomes easy to dominate
12. Husband's drink (e.g., coffee)	<u>Ego's</u> menstrual blood mixed into drink	Husband becomes passive, easy to dominate
13. Picture of husband or lover	Picture placed face down in <u>ego's</u> underwear (held with pin)	No jealous reaction to <u>ego's</u> infidelity
14. Husband's trousers and shirt	Limbs tied together & clothes beaten with horse's leg bone	No jealous reaction to <u>ego's</u> infidelity

Table 58: Sorcery Techniques to Dominate a Husband or a Lover

The last technique (14) displays a greater number of inversions. Firstly, the anatomy and functions of the body analogue are reversed: the shirt and trousers are turned upside down and tied together by the limbs, thus depriving the body analogue of its movement functions. Secondly, the wife deteriorates (i.e., beats) these clothes instead of preserving (i.e., washing) them as she usually does. And thirdly, instead of usefully covering the body of a living man, these clothes are harmfully covered with blows from the bodily contents of a dead animal (horse's leg bone).

These sorcery attempts at freeing women from the domination or jealousy of their husband or lover contain symbolic themes which are quite similar to those prevailing within returning-the-harm rituals. Nevertheless a new theme has made a discreet appearance. A lay sorcerer who is returning the harm to his enemy does not have to use an object related to his own body, while a woman who aims at altering her husband's behaviour must modify the use of parts specific to her own body (female underwear, menstruation blood), and specific to the performance of her domestic duties (preserving clothes and preparing edible food). This contrast is not accidental, it reflects a significant difference of objectives. The returning-the-harm sorcerer purports to alter the health condition (body/spirit rapport) of his victim, while a woman casting a passivity-spell on her husband seeks to alter the relationship that prevails between herself and her male victim, hence the necessity to simulate an inversion of the usual husband/wife (lover/mistress) contradistinction: on the one hand, the male body (or picture-analogue) is covered or penetrated with female clothes or blood, and, on the other hand, the woman

imitates her husband by giving to her spouse inedible food or unwearable clothes (or by "soiling" a picture-analogue of her husband's body).

C. Love-spells ("Pusanga")

A first glance at the requirements of love-spell rituals reveals a strange amalgam of healing practices and of sorcery attempts at returning-the-harm or altering the husband/wife complementarity (see Table 59). On the one hand, love-spell rituals require that the lay sorcerer comply with dietary restrictions which are quite similar to those observed in healing practices; and yet there is no need to absorb a plant-body. On the other hand, the body (or its analogue) of the love-spell victim must be combined with an incompatible substance derived from botanical or zoological sources, as in returning-the-harm sorcery. The following analysis shows that underneath this surface ambiguity lies a meaningful integration of semantic functions derived from both healing and sorcery symbolisms.

A lay sorcerer casting a love-spell on a person of the opposite sex must again have access to an analogue of the victim's body, i.e., something which is external to the body as the body is external to its contained spirit (e.g., urine or a handkerchief). Or the technique may involve the actual body of the victim: the sorcerer either touches an extremity of it, i.e., the hand (17, 20), throws something on her (21, 22), or he simply looks at her (16, 18, 19).

Sorcery prescriptions related to the use of a natural object are here developed in greater detail. For example, one must shoot

Victim's Object	Other Object and Prescriptions	(Dietary) Restrictions and Effects
15. ?	Bones of tanrilla bird shot on river bank, buried for 8 days, then dried and bones taken from wings and legs; only bones that can float in river are to be used.	<u>Ego</u> must rise early without speaking to anyone. When shot, bird must fall chest up. <u>Ego</u> must eat only <u>pango</u> for 8 days; on 1st and 8th day, no salt and no spices.
16. Woman's urine.	<p>Vulture's (<u>gallinazo</u>) middle toe cut and bird freed. Toe dried without insects or flies touching it. Toe used to make a horizontal scratch on urine, or a cross for a lifelong effect.</p> <p>Or <u>ego</u> looks through hole at the woman where she passes or where she usually works. She looks 3 times, as if someone was calling her, but she does not see <u>ego</u>.</p>	<p><u>Ego</u> must rise early and eat only <u>pango</u>. The woman desperately looks for the man and cries if he is indifferent to her.</p> <p>On 3rd day, <u>ego</u> must go far away, restrain from eating and from seeing any woman. Must diet for two additional days: only <u>pango</u> and must not be seen by woman. On 3rd day, woman asks about man, looks for him and tells him that she wants to be with him.</p>
17. On woman's hand when dancing.	Special drop of water obtained with great difficulties in Andes or "high selva". Water movement produced by heavy rains erode rocks producing small human-like statues. Cristalline <u>huakanki</u> water falls from genitals of male and female statues. After a long perillous journey, water taken with absolute silence, otherwise water ceases to fall. Drops sold for 50 soles by soldiers.	Male <u>huakanki</u> drop put on woman's hand when dancing. <u>Ego</u> must then immediately leave the <u>fiesta</u> and comply with a strict diet: no salt and without being seen for 3 days. Woman soon looks for man and desperately wants to give him her love, she cannot endure the spell of the <u>pusanga</u> .

Table 59: Love-spell Rituals (Cont'd)

Victim's Object	Other Object and Prescriptions	(Dietary) Restrictions and Effects
18. Blinking at desired woman.	<u>Ego</u> shoots a <u>tatatáo</u> bird (ferocious and predatory black bird) and must not be seen by bird; bird must fall on its back. Eyes then stung with needle and <u>ego's</u> eyes rubbed with bird's tear. Next day, <u>ego's</u> eyes are cured and one can dominate any woman just by blinking at her.	<u>Ego</u> must rise early and go to forest without being seen (to kill the bird). Diet all day: only water and stays in forest till 5 p.m.; then eats 1 banana and 2 roasted bananas. Can eat next day.
19. Victim looked at.	Black monkey shot; hunter must not be seen by monkey. Facial skin taken off and placed on circular wooden frame to dry, without letting flies touch it since they leave larvae (and spell will fail). Then skin is taken off and taken to <u>ego's</u> house and preserved in talc. For testing, <u>ego</u> hides, puts the mask on his face and looks at woman (where she is working); then leaves without being seen by woman.	<u>Ego</u> must rise early to go to the forest (to shoot the monkey). When looked at with the mask, the woman feels attracted and looks in <u>ego's</u> direction, but can't see anything; she looks 3 times. After 3 days, <u>ego</u> visits the woman and she receives him well and feels attracted to him.
20. Touching woman's hand.	As in technique 19. Head of a <u>wishwincho</u> bird cut and nailed to small wooden stick to dry until brains "make noise". Then brains taken out and preserved in talc in a container. To rub on <u>ego's</u> hand and shake the woman's hand; a day later, <u>ego</u> returns to see her.	<u>Ego</u> must leave the woman immediately after shaking her hand and must not be seen by her until next day. On 2nd day, woman waits for <u>ego</u> desperately and goes to see him if he doesn't come.
21. Object thrown on desired person.	Bat killed and blood mixed with fresh cow milk in new unused pot.	Mixture kept for one week before throwing on desired person.
22. Handkerchief.	Handkerchief kept on <u>ego's</u> chest, then burnt with <u>ego's</u> shirt and thrown in victim's hands.	After throwing ashes at victim, <u>ego</u> must hide away for 3 days and must not eat salt on the first day.
23. Handkerchief (or something belonging to victim)	Handkerchief tied to candle at midnight with a needle, kept under pillow and buried in cemetery a week afterwards.	

Table 59: (cont'd) Love-spell Rituals (See also Dobkin, 1969: 9-11)

a black monkey, take off its facial skin, dry it for a few days and keep it intact from insects or flies, and preserve the mask by covering it with talc. However, some common denominators may be extracted from the observed multiplicity of semantic prescriptions. Firstly, the object is usually associated with high altitude dwellers, such as birds, monkeys, or human-like statues located in the Andes or "high jungle". Secondly, the object is separated or extracted from the latter bird, monkey, or statue: one must obtain the bones of a tanrilla bird, a vulture's toe, a drop of water from the statue's genitals, a tear from the eyes of the tatatáo bird, the facial skin of a monkey, the brains of a wishwincho bird, or the blood of a bat mixed with fresh cow's milk.

Earlier analyses showed that natural objects used in sorcery procedures were semantically characterized by a disjunction between habitat and resident, or container and content. The same symbolic function underlies the selection of the latter sorcery instruments. Firstly, the animal is dissociated from its elevated habitat: it is killed and brought down to earth. As for the human-like statue, it is already marked by a death-connoting exile from its natural habitat: the human analogue is lifeless and is located in a very remote, elevated site uninhabited by, and inaccessible to, ordinary living people. Secondly, a body component is extracted from the animal or statue, hence an additional death-like disjunction between body components. This disjunctive symbolism is furthermore reinforced by secondary specifications stressing the body-externality theme: references are made to anatomical extremities (toes, limbs), anatomical envelopes (skin), external organs of sight (eyes),

physiological excretions (urine-like water, tears, milk, blood), or to remains of the physiological process of decomposition (bone remains, dried brains detached from skull).

The handkerchief techniques (22, 23) operate the same habitat/resident disjunction through simpler means: the handkerchief is put into fire, a naturally destructive habitat, or it is pinned (hence punctured and deteriorated) at midnight on a fire-producing object, i.e., a candle, and buried later in a cemetery, a burial ground characterized by the decomposition of its residing cadavers. Another combination of incompatible elements is simultaneously performed: the female piece of cloth (handkerchief) is combined with a male piece of clothing (shirt) or is kept close to the male body itself (on chest or under pillow). Similarly, the huakanki drop from the male statue must be rubbed on the desired woman.

Three recurrent themes remain to be explained. The first one involves those prescriptions avoiding the decomposition or alteration of the extracted natural objects: the bat's blood must be mixed with fresh cow's milk in a new unused pot; bones of the tanrilla bird must be well dried and must float on water, they should not therefore penetrate into, or be penetrated by, water; the vulture's toe, the monkey's facial skin and the wishwincho bird's brains must be dried and kept intact from insect larvae which would deteriorate the object. The monkey mask and the wishwincho brains must be preserved in talc, the blood-milk mixture must be kept for one week, the huakanki crystalline water must be well preserved against possible evaporation, the handkerchief must be kept for at least a week before being burnt or buried and must be pinned on a fire-and-

light-preserving object, i.e., a candle.

Secondly, the object extracted from natural sources must come into physical contact with the lay sorcerer himself: he rubs his hands or eyes with the huakanki water, the tatatáo tear, the wishwincho brains; he covers his face with the monkey mask, he keeps the handkerchief on his chest or under his pillow, or covers it with his own shirt; and he keeps the blood-and-milk mixture with himself for at least a week.

Thirdly, the lay sorcerer must follow strict dietary prescriptions which resemble those contained in healing practices: he must rise early in the morning without speaking to anyone; he must not be seen by anyone, not even by the bird or monkey which he kills: he is allowed to eat only his pango (strict subsistence meal consisting of bananas, rice, manioc, or some other staple food), without any salt or spices; and finally, women (and especially the desired one) must not see him, and he must remain isolated for a given period of time.

The latter themes were absent from the first sorcery rituals described earlier in this chapter, so that their function must be sought with reference to the semantic specificity of love-spell rituals. In contrast with returning-the-harm techniques, love spells aim not at transforming the victim, but rather at transforming the relationship existing between the desired person and the lay sorcerer himself. Love-spell rituals achieve this interactional transformation by asserting a logical complementarity between the desired victim and the sorcerous ego: the former feels attracted to the latter as a spiritless body is attracted to its bodiless spirit.

As with returning-the-harm rituals, love spells aim at

separating the victim's spirit from his or her body: to cast such a spell on someone of the opposite sex is in fact to "take her (or his) spirit away". Conversely, the sorcerer simulates the loss of his own body (as does the patient in healing rituals): he cannot be seen by animals, women or human beings in general, he does not eat cultural foods (salt, spices), and he avoids social interaction of any kind. The object disjunctively extracted from Nature comes into contact with both the victim and the sorcerer, but it produces different effects: while it causes the victim's spirit to depart from its body, it helps to "cure" the sorcerer. And quite understandably so, since this natural substance is incompatible with the human spirit of the victim, while it is compatible with the simulated non-human spirit of the sorcerer. The rituals to preserve the natural object enable the sorcerer to complete his simulation of a spirit/body stable conjunction: the persecutor's newly acquired externality is well preserved against possible decomposition. The victim suffers from the penetration of a foreign body which belongs to the spirit of the sorcerous persecutor: having lost her own spirit, her transformed body desperately looks or calls for the sorcerous spirit to which it belongs, namely her persecutor.

2. WITCHCRAFT

A. Techniques of a brujo

Zevallos' witchcraft techniques involve rituals which are quite similar to those previously described. Spells are again performed through a death-connoting combination of incompatible elements comprising the victim's body (or an analogue of it) and a

natural substance disjunctively separated from its habitat or resident (see Table 60). References to the victim's body are almost identical to those found in popular sorcery practices: they include the victim's footprint, clothes, hair, drink, writing, goods (beer) and habitat (house), and a visual (35), mental (37) or word-like (36, 37) representation of him/her (compare with word-representation used by lay sorcerer in technique no. 3). As for the other ingredients contained in Zevallos' brujería, the list involves substances which lay sorcerers use less often or not at all: e.g., salt, rocks, tobacco, alcohol, etc.. Yet, as demonstrated in the following analysis, the symbolic principles remain the same.

The victim's body-analogue is penetrated into a habitat in which man cannot reside: it is thrown into water (26, 28; Case 2) or fire (29, 37). Or it is penetrated by a destructive substance, such as an arrow (35; Case 3)² or a needle (23). Other substances equally convey this disjunctive theme: dirt which deteriorates dry and clean clothes (26), patequina (Dieffenbachia humilis, D. aba) which produces local anesthesia, the pungent (fire-like) red pepper spice (24), vomiting and excrement as metabolic decompositions (32, 30), and bone remains of a dead and deadly reptile (24). The repeated use of salt is unexpected, given the functional value that it has for men as a condiment and food preservative. Yet salt is also known as a body substance excreted through sweat or tears. The excretion of salt involves thus a twofold disjunction: with reference to the excretory action itself which separates a substance

2. The verb chontear means to throw a chonta arrow or thorns which are chewed and spat in directions of the four winds so as to sting one's victim. (Chonta: Euterpia edulis, palm tree, used for bow and arrows by neighbouring Indians) (Dobkin, 1973: 77; Harner, 1973: 21)

from its container, and with reference to the dysfunctional causes of this action, i.e., excessive heat, hard work, physical and/or psychological pain. In two different rituals, salt is "thrown" (arrojar means to "throw" or to "vomit") into the air (32), towards the sun, or into fire (29), thus increasing the intensity of the fire (at the expense of the victim) - a probable inversion of the propensity for heat (and the sun) to intensify the exudation of sweat and salt from the human body.

At first sight, the use of rocks might be explained simply by the need to add weight to clothes so that they may sink into water as intended (26). However, rocks are elsewhere thrown into fire (29), hence the necessity for a more rigorous interpretation which may account for the use of a white-rock-and-coal mixture in one ritual, and of a rock-and-lime amalgamation in another ritual. In both cases, a useful mineral substance (coal for fire, lime to sweeten coca) is combined with a useless rock; the opposition is additionally stressed by the combination of black coal with a white rock, and of a solid rock with powdered limestone. In both circumstances, the useful mineral is thrown into an alien habitat: instead of being added to one's saliva, as usually done, the lime is thrown into fire; instead of feeding a fire, coal is thrown into water.

Zevallos' witchcraft techniques prescribe the amalgamation of incompatible elements in various other ways. Female clothes (underwear) which cover a human nest are placed into an animal nest (30); a photographic symbol of sanctity is blasphemized with word-representations of evil (30); and ordinary human writing is mixed

with alcohol and tobacco, substances which enable the brujo to communicate not with men (as does writing), but rather with genios.

The effects entailed by the foregoing rituals reassert the disjunction simulated within the sorcery procedures. Mixing one's excrement with clothes of the victim produces a foul-odour affliction (30); the victim whose writing is destroyed becomes incapable of communicating - he "turns mad" (29); deterioration of the body-analogue by fire leads to a pustulant burning of the victim's skin (29, 37); the arrow-sending-persecutor becomes an arrow-receiving-victim (34); and throwing salt on the merchant's decomposed good (beer) brings commercial misfortunes to the salado ("salted" individual, i.e., someone who is unlucky) (32).

Zevallos' witchcraft expertise expresses itself through symbolic themes which are already familiar to lay sorcerers, yet it goes beyond the latter themes by resorting to an additional source of brujería, i.e., the genios themselves. A brujo is thus able to communicate with genios and to solicit their assistance in returning the harm or misfortune to the enemy of a client (34; Case 3), or in catching the spirit of a desired woman (38). Moreover, it is through this process of intermediation (man/brujo/genio) that ordinary men will be able to discover the identity of their sorcerous persecutors and to protect themselves from evil spells cast out by vengeful enemies.

Victim's Object	Other Object and Prescriptions	Restrictions and Effects
24. Footprint	Pepper, needles, <u>patequina</u> plant (<u>Araceas</u> : e.g., <u>philodendron</u>) and bones of a snake.	
25. For protection against attacks from other purgative-doctor	Bath with leaves of <u>albaca</u> and flowers of all sorts. For vengeance, the <u>toero</u> always attempt to harm the <u>catahuero's</u> (enemy) wife, trying to separate them.	The worst enemy of the <u>toero</u> is the <u>ayahuasquero</u> who always tries to harm the <u>toero</u> by robbing or killing. The <u>catahuero</u> , another enemy, always attempts to avenge himself; when he defecates, he sings and tries to harm the <u>toero</u> or his friends.
26. Clothes	Mixed with mud, rock and coal and thrown in water.	Victim must eat before the sorcerer. Victim dies a week afterwards.
27.	To catch a woman: one catches her spirit through the <u>genios</u> of the sorcerer.	Sorcerer must not eat until 1 p.m.; then woman starts looking for man.
28. Hair	Hair wrapped and mixed with water in a bottle which is thrown at the bottom of the river.	
29. Harm to the "natural science" with writing of victim.	Mixed with rock and lime, tobacco, alcohol, and burnt. A handful of salt also thrown in fire.	Soon the victim turns mad, his body starts to burn and pimples emerge everywhere on his body. Can be cured only by the <u>toero</u> .
30. Harm to family (<u>hogar</u>): female underwear taken by sorcerer.	When bathing, underwear mixed with excrement and put in chicken's nest. Then a picture of any saint is placed there and the words "hate, hate" are sung. This is repeated at night, until sunrise.	The woman's husband starts to smell foul odours from his wife and cannot stand her. They start fighting and separate. He prefers to smell a dog.
31. Harm to family (<u>hogar</u>): wife takes her own menstrual blood and husband's drink.	Woman puts her blood into her husband's drink (without assistance of sorcerer).	Husband begins to hate his wife and they separate.
32. Harm to business.	Sorcerer brings a bit of salt and goes near the door of the victim's store, throws the salt, then buys alcohol and gets drunk. Then throws up near the spot where salt has been thrown. Goes back to house, puts salt in his mouth and throws it up in air.	Rises early before breakfast. Ritual causes the business to fail. This has happened to A. Del Aguila, but he doesn't believe in <u>brujería</u> . His wife does, but she doesn't want to pay the required amount, i.e., 2,000 soles.

Table 60: Witchcraft Techniques (Cont'd)

Victim's Object	Other Object and Prescriptions	Restrictions and Effects
33.	Victim hypnotized with <u>yacupiripiri</u> (which sorcerer always carries in his pockets).	Money loans can be thus obtained, or authorities can be threatened.
34. To return the harm	Song with leaves: "Little leaf, little leaf, with your magnet (<u>imán</u>) and power, my beloved (<u>ama</u>) mermaid, return to the one who has harmed this man, return this misfortune (<u>desgracia</u>) which may be worse than for this man."	
35. Harm returned to other sorcerer with arrow sent by him.	Puts the arrow (<u>chonta</u>) in his mouth and looks with telescope for the evil sorcerer; when spotted, the <u>chonta</u> goes directly to him, like an arrow.	
36. To return the harm	Sorcerer chews <u>piripiri</u> to "throw" victim's spirit. <u>Piripiri</u> kept in mouth and then spat out.	This scares the victim who falls sick and feels agitated, as if he had climbed a tremendous mountain. Wants to sleep all the time and is worried, doesn't feel like himself.
37. To return the harm	At 5 p.m.: you think about the person while chewing <u>piripiri</u> , and then you throw (i.e., spit) the <u>piripiri</u> in the fire.	The victim suffers all over his body (irritations) and wants to die.
38. To catch a woman	"Little heart, mermaid come, help me, bring me this little woman, beautiful woman, giving me her spirit to my reason that I thought. Come, come, little woman, beautiful woman, little love. Mermaid, I pray you, give it to me, little woman, beautiful woman, beautiful woman."	<u>Brujo's</u> client must diet (no pepper) and must pay 1500-1600 soles. <u>Brujo</u> also diets and magnetizes (<u>icarar</u>). Client can also wake up early, smoke coca leaves in presence of woman (she doesn't know), and when you leave her, she thinks of you and thinks it's a miracle that you have visited her.
39. To catch a woman: song in her presence, in Amuesha (which "few understand")	"Where is the person. Come again. Thinking of me. Where are you my beloved. Come back. I love you. I love you. Think of me, my woman. I am the only one, there is no other man like me. Look, come to my side, come to cry in my loving arms. I am the man who receives you with ardent desires and hopes."	

Table 60: (cont'd) Witchcraft Techniques

Brujería Case 1: data obtained from brother of R. Vargas (patient of Zevallos).

From 1968 to 1971, people of Puerto Inca were suffering from a strange sickness and medical science could not identify the virus which was causing it. R. Vargas was one of the victims of the sickness. He was almost 23 years old and was born in Puerto Inca. The symptoms consisted of muscular pains and swollen joints. At the beginning, he tried curing himself with medical plants of the forest which he thought were quite effective since he had made use of them quite often and since he had seen others of his village do the same thing. But these remedies were not working and since he was in a critical situation, he was forced to resort to modern medicine and to contact doctors and male-nurses (enfermero) who told him it was chronic arthritis. He was told that little was known about it and that he had to find a way to cure himself. Quite discouraged, he stopped seeing doctors. He had been suffering from this illness for a year and he was forced to believe that it was due to some evil-from-people (mal de gente) witchcraft. However, his father, in a last attempt to cure him, sent him to Pucallpa where a few friends told him to see an "empirical doctor" called Alberto. He went to see him and the doctor told him that he was under a spell and promised that he would cure him within three months since his sickness was well advanced.

He started the treatment by giving him a daily dose of a medicine that he prepared himself without revealing its contents. After giving him the dose, he would place him in a very small room where there was a table in the centre and on it, a bible with a black cover. The espirista took the bible and made a few prayers in an unknown language and his physiomy and voice were changing. He looked like an eighty year old man, very different from what he was before. The old man he saw was talking and reaching his hands in the air and strange plants appeared and with them he started to rub all parts of the patient's body. Afterwards he prayed and then the doctor reappeared, although in reality he had been there all the time. The patient asked him how he transformed himself into an old man and how he made these plants appear in his hands if there was nothing else in the room apart from those things previously observed. But the doctor refused to answer any of his questions and told him that he was working with the spirits.

Three months passed and the patient's condition did not improve at all, so he decided to go back to Puerto Inca. Residents of Puerto Inca told him that he was under a spell, so he went to see a sorcerer named Cesar Zevallos who examined him and told him without hesitation that he was indeed under a spell and that he would cure him. He did not specify how long it would take. He started with a number of plants which he boiled in order to drink the juice and to rub all painful parts of the patient's body. This lasted for a week. Then each night, the doctor took ayahuasca in order to be sure that he knew what the situation was and concluded that the spell had been done with water and that the person responsible for this was someone the patient knew and with whom he once quarreled seriously; the offended person

inflicted harm on him to avenge himself. The doctor did not want to reveal the person's name for he did not want to run such a great risk, as he feared the reactions of the patient who afterwards could commit a crime; the doctor would be responsible since it is he who would have revealed the name. The treatment went on in the same way for a period of five months. The patient finally was feeling better and he came to the conclusion that witchcraft (brujería) did effectively exist.

The brujo was paid 2,000 soles for the full treatment, plus some medicine such as strong alcohol, ointments and camphor which was to be mixed with plants. He also asked for bullets to hunt partridges, since he hunted to feed both himself and the patient. He regularly asked for the following medicine: tobacco leaves, five kilos of coca, 1/2 kilo of chamairo. He chewed the coca during the healing session. He used the Toe as his principal healing plant and as his "doctor". The toe has a mother. He was also using the bark of sacha curacao, the ishanga colorada plant, and also leaves of manioc. The manioc leaves were put in water and the patient was given a bath in this water. He was also using uacamayo caspi to "ligature" sore feet: the patient stood in thirty cm of water for half an hour so that the feet would sweat. Ajo sacha was also used to make the feet sweat: ajo sacha was placed into hot water and the vapor would cause the feet to sweat. He was also using "sloan" ("from the pharmacy") which he mixed with water, camphor and ointments.

The sorcerer smoked his cigar which was made of finely ground tobacco leaves which he placed in a pot and cooked with a bit of water. He used the resulting essence called refined tobacco. He would chew the tobacco and drink the juice. He would start feeling the dizziness (mareación) and get drunk, and would then blow on the patient. Then he would suck on the sick parts, taking out inflammations (flemocidades) and throwing it away in his spit. Then he sang in a foreign language.

He started at 7 p.m. and stopped at 8 p.m.. Afterwards, he went to visit his Toe tree in the forest. The patient stayed in the sorcerer's house for five months. A few identical sessions were held every week. The other doctor of the sorcerer was the ayahuasca. He used to go and converse in order to know if the patient's health was improving and how to pursue the treatment. He came back at 10 o'clock (sober).

The diet prohibited sexual relations and alcohol for five months and he was not allowed to walk at night. After the treatment was over, he could not go out at night later than 8 p.m.. The evil spirits of other sorcerers start to circulate at that hour and the patient, as a result of the recent treatment, was susceptible to witchcraft and could thus again fall sick. Furthermore, he could not eat pork fat, acid fruits, pepper, spices and hot spices. He had to eat chicken, partridges, forest pigeons. The sorcerer prepared the food himself. Biscuits, manioc, noodles, nothing else. The patient had to obtain the food and the sorcerer prepared it.

The spell was done with pepper and needles; they were placed in the football field. When he stepped on it, the brujería was with him. There was also a piece of onion with the pepper. A person he knew did this to avenge himself, according to the sorcerer. The patient does not remember anything. He had a quarrel in a bar, but does not remember who it was with: it was a friend, says the brujo. The sorcerer offered him the means to avenge himself against this friend, returning the witchcraft exactly the same way. The patient refused. The sorcerer could not therefore do it since he had not received money for it. The friend had done this witchcraft (hechicería) through another sorcerer.

The patient's sorcerer was given 500 soles at the beginning of the treatment and the rest was given to him little by little during the subsequent weeks.

Taking ayahuasca, one can see the mother of the ayahuasca: it is an old man, with a beard and white hair. One can also see snakes, women and men. It is possible to see the person who is doing us harm. One can also listen to the birds singing.

Brujería Case 2: story given by C. Zevallos (brujo)

This good man had taken out some wood. A log of 60 inches was stolen from him. He came to see me and wanted me to find out (adivinar) who the robber was. Vela payed with a bottle of alcohol and 1,200 soles for this service. I got drunk and told him that I was seeing a few men gathered in a bar: they were Nuñez, Guillermo, Ampichi, Abraham Ampichi, Paco Ampichi, Leandro and a mister Cahuasa. I started to find out who it was (adivinar) and it came out to be Leandro Ampichi who is my own cousin. I thought about each one and 'pac!', it was my cousin. If I had wings, I could have flown when I realized suddenly who it was.

I told Vela that his log was at the mouth of the river Pompeo (near Santa Isabel). The caoba log was one metre deep in water and held with baskets full of rocks. Vela went and it came out exactly as I told him. He took his log and went to see the Guardia to have Leandro Ampichi arrested. They had some difficulties for they had to call me and I had to tell the truth. For this theft, the owner of the log got 1,600 soles from Leandro. Once this was finished, he sold his wood.

Leandro went to see his father, Ruperto Ampichi, who is an ayahuasquero, since he wanted to avenge himself. Ruperto was paid 1,200 to 1,500 soles and took his ayahuasca. He told his son that he was going to throw Vela's spirit into water. He called for me urgently so that I would start curing him. I told him that I would cure him and that Ruperto had caught his spirit by calling it: "Come, come, spirit!". I got some piripiri espíritu, I concentrated, and I saw that my uncle (Ruperto) had done this. I blew on the patient, I sucked him, I sang, and then I took his spirit out of the water to give it back to its body. The cure cost him 1,600 soles, according to the rules of the genio. His health came back.

He told me that he could not avenge himself for he was in love with Ruperto's daughter and Ruperto was my uncle. I put the stamp (sello) on my uncle so that Ruperto would know me well and would see that I had more power than he had and that he should not harm him (i.e., Vela).

Brujería Case 3: story given by C. Zevallos (brujo)

One day like any other, a mad woman came to see me for she had been thrown a spell in her vaginal organ. I used a tube to extract the illness. I sucked with a rubber tube on her 'central part' so as to pull out the arrow (chonta). I took it out. Then the mermaid (sirena) came to see me and with her magnet (imán) I blew on the woman who recovered.

One day, as I was fishing in a canoe and catching some fish, I wanted to stand up and urinate. I felt at that moment a burning penetrating my leg, it was the arrow (chonta) sent by Pancho Pezo. Pancho did this to me because he had inflicted harm on the lady (whom I cured) and also because I was taking his fish from him.

I was yelling and felt very sick. When I arrived at home, without any energy (sin ánimo), I felt like dying. My mother told me that they made me forget (they took him by surprise). I told her to bring patequina and pepper. I started a fire and made my leg sweat, using burning rocks, and the chonta fell. I bathed in warm water. I asked for a cup of mazato (manioc beer) and then for my tobacco and coca, in order to perform my vengeance operation against Pancho. I got dizzy (marear) and whistled to see Pancho. I concentrated and saw Pancho Pezo. He said: 'Cure yourself if you really are a doctor; you meddled in my affairs and took my catch away from me'.

I laughed at the ayahuasquero Pancho. 'Today you shall see who I am', I said. To avenge myself, I took a bit of tobacco and toe and got drunk. I asked Banco Muraya to kill him, with a song. I used iron, pepper, barbasco poison, and asked again the help of Banco Muraya to liquidate this noxious man. I obtained the help. I concentrated and saw him and sent him back the arrow (devolver la chonta) with patequina. Pancho's mouth started to rot. Pustules came out everywhere on his body, his face and his whole body swelled and he died eight days afterwards. His relatives never found out how he had died. Pancho was eating and he started to lose his head (destornillar) until he was throwing up blood. He died instantly.

We are now at a degree of 507. I do harm only when someone does me harm. I make believe to those who ask me to return the harm that I will do it, but I do not do this evil in reality and they do not know what they are paying for.

Brujería Case 4: story given by C. Zevallos (brujo)

I have been living in Puerto Inca for three years now. I was in Puerto Victoria, up river, before that. I had a woman here who was my wife (conviviente). Since they were living here and I was living up there alone, and since I had many relatives here and I cared for my parents-in-law who were poor - sometimes they fall sick and do not have means to cure themselves - since I was alone, I came here to be near them.

I was born in Puerto Victoria and I was getting old there. I have always worked as a farmer. I started with my 'curiosity' in 1952. Today we are in 1973, therefore 21 years have passed by. I have started because of this terrible wound that they inflicted on me. With this I have taught myself what I know as a healer. My leg was completely swollen, they inflicted this harm on me.

A fellow called Pancho did this to me. But he is dead now. The vengeance was as follows. As any other man, he had an adopted daughter who was with me. At the end, I asked for her hand. He did not want to give her to me because he was also "giving it to her, pumping her" - excuse the expression! So I went away, and although it was an important thing, I did as if I had not seen anything. But one day, I told myself: 'You, father, you do not want to give her away to me, for she is living with you. I will ask her hand another time'.

I told him: 'You know, Don Panchito, I as a man, I have lived many years and I have established a relationship ('I have arrived at fixing myself with') with your daughter, I want to make her part of my family. As a man, I am telling you this, for I am not going to abuse either, I am telling you well in advance. What do you think, do you agree or not?'

'No', he tells me. 'To marry my daughter, you must pay me 30,000 soles and after that you marry her. If you show me these 30,000 soles right away and give me half of it, 15,000 soles, then you may marry.'

'Right', I said. 'I am not offering wealth, only what I have. I have made up my mind here'. And afterwards, since the girl loved me, she said: 'Look, Zevallos, my father does not consent for he is living with me. He tells me that the day he finds me with you, that day he will kill me'.

'So he tells you that, does he?' I said. 'Very good. Then today I will do what is possible and he will know who I am, that old man. Look, here in Cahuapanas, buy beer and alcohol and everything'.

/I went to see the old man and told him/ 'Today is my birthday. As you know, it is my birthday today'.

'Well then', he said, 'I will provide two chickens'.

The old man got drunk. He was sleeping here with his shotgun close to him, loaded. Now let us see who commands, I told myself. 'Tonight, we are leaving, prepare your things', I told her. 'I shall be here around 9 o'clock'. 'Very good', she says. She prepared everything and I made her run away. The old man got up to look for her. But I was already in Bermudez where I went. He was angry.

I brought the girl during the night and offered to bring her to my house. I fought with the man. 'You know now that you must die, I will kill you with my own hands', he said. 'Well, do it then', I said.

One day, I was bathing. 'Chic!', I felt a pain, an insect gave me a terrible pain. It started that way. My leg was rotting. Thus I started taking all sorts of herbs, an infinity of herbs, and thus I learned.

I have thus learned in my dreams. I saw myself healing a patient. I therefore tried doing the same thing as other doctors were doing. One day, I was sitting at this hour of the day, thinking: how I would like to become myself a healer! As a sick man, I have taken saltón, chirisanango, maíz sanango, ayahuasca, tumbo huasca, toro huasca, ajos quiro, cortecilla, chacuma, and tobacco. No one has taught me. According to what the great ones say, I took these herbs to cure myself and I recovered from it. When I was healthy again, I knew that this /herb/ was good, this other was good. I continued to study.

B. Ayahuasca Sessions

The services of a brujo such as Zevallos include both healing and casting spells to return the harm to one's enemy or to catch the spirit of a desired man or woman. But it is also in his power to protect his client against possible witchcraft attacks and to give him access to secret information through hallucinogenic contact with plant-spirits.³ A brujo thus holds regular ayahuasca sessions⁴ where individuals are either cured from some illness, protected from their enemies' brujería, or informed as to the identity of their illness or of their persecutor. Seven brief accounts of these sessions (obtained from participating informants) are given in the following pages.

As in vegetalismo practices, the individual is required to simulate plant-mothers by following a strict diet (see Session 3)⁵, by avoiding cultural space and time (sessions are performed at night, in total darkness, and outside of the village), and by absorbing the body-drink of the ayahuasca plant-mother. Such rituals may bring health to the individual who is seeking it since they simulate a body/spirit reunification process (with purgative effects) and resort at the same time to the healing intervention of the brujo himself (through sucking and blowing and through obtention of informational and healing assistance from his genios) (see session 3).

3. Dobkin,1969: 12-13; Dobkin,1973: 79; Harner,1973: 5; Kensinger, 1973: 12-13; Métraux,1967: 113.

4. Harner,1973: 1-7; 172-3.

5. Dobkin,1973: 69; Kensinger,1973: 10.

Yet they can also lead to the acquisition of other coveted values, such as protection and information.

For someone who is concerned with preserving rather than restoring his health, the body/spirit reunification ritual serves to stabilize his health and to protect him from the possible penetration of destructive substances. The curandero strengthens this protective shield by "magnetizing" (icarar)⁶ the individual, i.e., by blowing his cigar smoke on his client's body, or by helping him to inhale the smoke (session 7); the curandero may magnetize the cigar itself by causing it to receive the protective strength of an impenetrable plant-body, i.e., the hardwood shihuahuaro tree (session 1). As with healing rituals, the soplada (blowing) enables the individual to absorb a plant-body (in the form of smoke) through the intermediary assistance of a specialist doctor. Curative objectives are replaced by preventive ones, yet the way to achieve these medicinal ends remains the same: again alien substances are rendered incompatible with a simulated plant-body/plant-mother stable conjunction.

The mareación (dizziness) that is produced by this hallucinogenic plant opens the door to a special network of communications where visual and audial messages differ from those commonly received in human communications. Secret information may

6. "Si amenaza algún fuerte temporal. el brujo icara un cigarro, lo enciende, le da fuertes chupadas y dirige el humo contra la nube: la tormenta desaparece. Si se trata de curar a un enfermo, el curandero prepara alguna tisana especial, o agua con jugo de limón, la icara con gestos y palabras enigmáticas, toma un sorbo y, sin tragarlo, aplica sus labios sobre la parte doliente del enfermo, hace varias chupadas sonoras y sucias y arroja la bebida; después, con el humo del cigarro, completa el icaro. Algunos se hacen icarar para que sus amigos no los traicionen, o sus enemigos no los hagan daño; otros buscan conjurar el mal que algún poderoso brujo les haya "cutipado" (el que es o ha sido víctima de algún malificio)." (Villarejo, 1943.)

thus be revealed (e.g., identity of one's persecutor), and strange things are seen and heard, as in a cinema.⁷ This usually is a frightening experience for the layman, but it is not for the maestro who is in constant communication with plant-mothers: he is in fact capable of emitting messages in this foreign language, through foreign lexical and musical codes, and of soliciting the assistance of plant-mothers (e.g., session 4). An ayahuasca session is in a sense dangerous for the layman since he is simulating an ontological condition (plant-body/plant-mother conjunction) which is not human and is thus running the risk of losing his human life instead of preserving it (participants often "want to die"). The mareación thus leads to a condition similar to sickness, and to the necessary intervention of the curandero and of his healing powers and techniques (e.g., sessions 1, 4, 5, 6, 7; see also Table 49).

The transformation of one's body is thus accompanied by one's initiation to a new system of communications. The handkerchief dance performed by the maestro conveys well the overall purpose of an ayahuasca session. On the one hand, a handkerchief is a piece of human clothing and is therefore an analogue of the human body (it covers the human body as the body covers the spirit); the curandero confirms this by passing the handkerchief around the

7. "By taking toe, one "sympathizes" (congenia) with the genios (...) You see all sorts of things that are difficult to learn: Toe boticario can be seen, Toe químico, the condition of the patient, the robber, animals, your relatives, what they think, you can see". (Zevallos)

patient's body (sessions 1 and 2). On the other hand, this body-analogue is modified so as to acquire the properties of both the body and language of plant-mothers: indeed the handkerchief gives off a perfumed odour as plants do, and it also dances to the rhythm of the maestro's musical communication with plant-mothers.

Ayahuasca Session 1:

A woman once sat at a round table with the healer in order to be blown with the cigar; this happened at the beginning of 1973, in a house a bit isolated from Puerto Inca.

The woman told her compadre, as they call him, that she wanted to be cured so that no witchcraft evil could enter into her body. The compadre invited her often. There she saw that many people went, at his invitation, to a site distant from the village. All gather and form a circle. The sorcerer or master distributes the ayahuasca liquid to all those who will drink it. Once taken, all said - after some time - that they felt dizzy and finally they put the lights off and it was dark. Immediately they heard people saying "here is the tunchi!", or small animals (pets) of the sorcerer (cat, small bird, the lechiya bird, and the chicua bird).

Then the master or sorcerer started to sing various names of strong trees, e.g., the shihuahuaru and others. He was passing a white handkerchief on the patient's head. Some patients who had taken the drink on many occasions with the sorcerer were also helping him to sing. The woman says that a few looked very sick as if they were going to die, they were vomiting and the master was blowing on them with his cigar so that they would calm down. The master did this to all of them. Once calmed down, he called them one after the other to cure them.

When it came to her turn, he only blew with his cigar which he had magnetized (icarado) with the shihuahuaru tree. He did this so that the evils that could be done to her would never enter into her. He did this simple thing by uttering the name of the tree. (Leonor Melendez, 43).

Ayahuasca Session 2:

This happened here, in Puerto Inca, a few years ago. The sorcerer was P. Dawa (from the Ucayali) and the sick patient was Amado Pastor Melendez. The doctor or healer was treating him for an evil-from-people (mal de gente spell) cast by his own labourer. His arm was covered with wounds which fell little by little into pieces; he had caught (meter la mano) his labourer but had not threatened him.

First he gave him ayahuasca to drink to make him dizzy (and sick). During his dizziness, this patient was seeing worms which were on his arm and were destroying his flesh. The doctor came closer and sucked these wounds and was singing at the same time. After sucking a few times, he took his handkerchief and made it dance as a clown in his hand, singing the name of the sick patient, and he then passed the handkerchief around the patient leaving a perfumed odour on him. (Nancy Vargas, 40).

Ayahuasca Session 3:

This happened many years ago, in Tournavista; the sorcerer was Pancho Dawa. Someone harmed this woman by burying her picture in the cemetery. When she took the ayahuasca purgative, the sorcerer told her that they did it to her so that she would slowly die drying. This woman went to the meetings where the healer cured: first, he gave them ayahuasca, and the dizziness came to this lady in the form of laughing and singing a little, and she got dizzy and understood everything.

The doctor pronounced her name, and once the light was put off, he came closer to her and blew on her with his cigar; then he passed his hand over her forehead and left her.

After everybody had gone through their dizziness, he gave them a diet that they had to follow. This woman had to diet every time that he cured her: she had to diet half a day, without touching water, without going close to the cooking fire, without eating salt, fat or sugar, and without having (sexual) contact. She was told that this half day diet is like a half-month diet following the ayahuasca session.

The woman (mistress) of her husband was harming her so that the husband would get tired with his wife and leave his family. (Reátegui, 39).

Ayahuasca Session 4:

This happened a few years ago, in Puerto Inca, in a round table with the healer Pancho Dawa. This woman says that once she was sick and consulted an "empirical doctor" for she wanted to know what she had by drinking the ayahuasca purgative.

The vegetalista (herb healer) invited her to a site distant from the village in order to take the purgative with other patients and people curious to know the effect of the purgative. They formed a circle in a room and the purgative-doctor (purguero) gave to each a small cup of the juice of the magnetized (icarado) ayahuasca creeping vine. After they had taken it, his handkerchief was dancing and he was hitting a few wooden sticks to accompany his song. The sorcerer was thus calling his genios asking them what evils or sicknesses his patients had and how to cure them. All those who took the drink were meanwhile dizzy. This woman thought she was seeing the Sira mountains falling on her; and then again, soon afterwards, the dizziness would come again. This time she started to vomit and wanted to die, hitting herself on one of the posts of the house. After she had vomited a few times and had thrown everything, the doctor blew on her, making her rest well, and explained what had happened and that it was necessary to take the purgative to vomit the trash that she was given and that caused her stomach aches. He told her that her friend (female) had done this to her so that her husband would get tired of seeing her sick like that all the time. (Teresa Reátegui, 39).

Ayahuasca Session 5:

This woman took ayahuasca to see what effect this hallucinogenic drink would produce. She says also that she took it in order to know what things are seen during the dizziness (mareación).

So they met one night in a place distant from the village and sat in a circle with the doctor in the centre distributing ayahuasca to each person in a small container (patesito: small container made out of the fruit of Cucurbitacea plants, extracting the endocarp layer and drying it afterwards) which the doctor-healer magnetized for each person.

Once he had offered the drink to all his patients, they all became dizzy and the herb-healer started singing. Each is caught by the dizziness according to his own physical state; some are affected rapidly, others take more time.

The woman says that she was soon taken by the dizziness. Only five minutes after taking it, she suddenly heard a noise; and afterwards, while the doctor was singing, she started seeing something like lights passing near her; and with the doctor still singing, she saw more things (figuras) as if she was seeing a film. First she saw her life; she could see all past moments of her youth and there were some moments where she regretted having disobeyed her parents. But she felt this as if these moments were really occurring then.

When the dizziness caught her increasingly, she wanted to speak but could not pronounce the words. Then the doctor realized that his patients could not endure it and he started blowing, magnetizing them. Little by little, it passed away and they came back to their normal state. The woman did not want to take it again for she was afraid of it more than anything else. She was scared living these things.

The doctor was Lorenzo Paredes, from Santa Rosa, Ucayali River. This happened in the house of José Bardales, in Puerto Inca, during the night. (Hilda Upiachihua, 28).

Ayahuasca Session 6:

The ayahuasca is a plant which can be obtained in very remote places of the jungle. It is not a plant like any other tree, but rather a sort of reddish vine. This man says that he takes this plant to see, for example, what is happening to his distant family, or to see something which he wants to see, or to inflict harm on some other person, or to see something of a person who has harmed him. Only a piece of that vine is cut and is brought where one cooks. To take this plant, one must first grind it and put it in a pot. It is then cooked from six o'clock in the morning to five o'clock in the afternoon, until the liquid becomes red. It is then left to cool. The man who is going to drink it has a specific hour at which

he will take it and has a container already prepared. It is done in a place removed from the house so that the noise does not interrupt him. If the doctor is taking it alone, he starts at ten o'clock at night. But if he takes it with someone else, it starts at seven o'clock (p.m.). Once taken, the doctor asks the man who is with him if he feels dizzy and if so, he starts to sing and the man starts to feel dizzy. It is said that it is like being in a cinema; one starts first to see things like snakes crawling on one's body, and then a series of persons. Then the doctor again asks if you are scared. If you answer yes, he starts blowing on you and asks what you want to see. You tell him and soon after you see what you wanted to see and you check to see what it is. This man says that he has sixteen years of apprenticeship and that he has not learned in order to kill, but rather to cure. But if for some reason, someone infuriates him or tries to harm him, he calls his pets (crias) through his ayahuasca purgative; these are small men. And he tells them what is happening and orders them to kill at that moment or to do something else. (Luis Inuma, 48).

Ayahuasca Session 7:

This sorcerer was saying that he was a healer and not a sorcerer, that he did not practice witchcraft. He wasn't living in Puerto Inca, he came rather to heal Arnulfo Rios' wife and Arnulfo also who had called him. He was known as the best healer of the zone. His family is in Masisea and he is also a distant relative of Pancho (i.e., informant). His name is Laurencio, he came from Santa Rosa, Ucayali; he is a forty year old mestizo, married and with young children. He stayed for a month in Arnulfo's house and was well taken care of. He arrived by plane from Pucallpa where he works.

We (three students) went by curiosity more than anything else and to be magnetized so that a wall would be put between us and the witchcraft so that the witchcraft may not pass. It was held in an old house here at the periphery of the village, in an abandoned house of J. N. Bardales (Loma). It was held at nine o'clock at night, for the later it is, the more religious it is. During the session, other sorcerers come and they might be powerful; if another sorcerer knows more than he does, he dies at that very moment. Since students are not accustomed, it is preferable to have it earlier; visitors who come later are more powerful. All sorcerers have it between 8 and 11.30 p.m.. The more powerful and dangerous circulate at later hours.

From 8 to 8.45, we discussed witchcraft. Then we took each a cup of ayahuasca dosis. Students took less than half a cup. We continued talking on the same subject.

Once he (brujo) was in Santa Rosa and one of his students (to whom he was teaching his secrets) was in Pucallpa. He had gone to sleep at 2 o'clock in the morning; he saw suddenly a flash of lightning which shook him and woke him up; he saw his student and knew thus that someone wanted to kill his student or had already done so. He wanted

to know what was happening and took some ayahuasca; ten minutes afterwards, he saw his student in a critical condition. Another sorcerer wanted to avenge himself and take the powers of the student away from him.

He woke up at five p.m. and went to Pucallpa. Two hours later, he received a message from the radio saying that he was urgently needed in Pucallpa. He arrived, his student wanted to die and was in agony. He treated him for six hours after which the student's health improved. Once better, the doctor recommended that he preserve his health and that he do not attempt to harm someone else. He told him what had happened and how he knew what was happening.

At nine o'clock, we (three students) took ayahuasca. Within a quarter of an hour, the sorcerer suddenly stopped the conversation and started speaking without addressing himself to us; he was drunk and dizzy. He put off the candle (mechero) and it was completely dark. We could not hear what he was saying. He was speaking, then he sang a strange song in a language other than Spanish. We started to feel dizzy, and our sight became blurred. He asked us how we felt and we said we felt drunk, but the effect was stronger than with beer. We remember everything that happened afterwards. We started vomiting and the doctor started to blow on us with a strong cigar, singing and speaking in a foreign language; he was thus "magnetizing" (icarando). The stronger the dizziness, the better it is, he said, one can see everything, the mother of ayahuasca, snakes, or the one who wants to inflict harm. He also magnetized Pancho by blowing on his head, and then on all parts of his body. Taking the head of Pancho, he gave him his cigar, and gave it three times to each of us (absorbing the smoke).

Pancho once went to find ayahuasca with Torillo Gamacho, at Tres Tiros. They walked half an hour in the jungle where Campas live and cultivate these plants. They cut pieces of the vine (15 cm) and gathered them in a small bag. The doctor was smoking at the same time, blowing on the plant so that it could have more effect. He was complimenting the plant. They gathered four kilos. He put off his cigar and buried it at the foot of the plant, so that the plant could smoke at midnight; it was a gift so that the plant would not get angry (reliarse). He took another cigar, a new one, and buried two new cigars at the foot of five plants. He had cut three plants, giving gifts.

CHAPTER 10: TRADITION AND PROGRESS

1. SYMBOLISM AND SOCIETY

We have seen in Chapters 8 and 9 that healing and sorcerous practices in Puerto Inca postulate the following premises:

1. Plants are characterized by a stable conjunction between their mother-spirit and their plant-body, while men are constantly threatened by the propensity of their spirit to withdraw from within their body.

2. Men can be restored to health by simulating those beings to whom illness and death are unknown. Healing rituals require that a patient imitate a plant-spirit, first by complying with a list of anti-cultural dietary proscriptions, and secondly, by absorbing a plant-spirit's favourite beverage, i.e., her own body; hence a health-producing body/spirit reinternalization process.

3. Simulation is not the only way to secure one's health: men can also enter into a network of exchanges with plant-spirits through the intermediation of a cosmological in-between and go-between, a curandero.

4. Healing is possible only in so far as witchcraft practices (brujería) offer available mechanisms to prevent or punish possible breaches of reciprocity and to re-establish a broken equilibrium of reciprocal exchanges. Brujería inverts not only the aims of vegetalismo (herbal healing), but also its method: instead of simulating the health-producing reinternalization of body within spirit, the individual performs a death-like combination of incompatible elements comprising the body of the victim (or its analogue) and a natural substance disjunctively related to its habitat or resident. Love-spell rituals and techniques-to-dominate-a-husband additionally involve a non-harmful alteration of the status of the persecutor himself, since the objective is to transform not just the victim, but rather the relationship that prevails between the victim and his/her persecutor.

Sorcery objectives can also be achieved through the intermediation of a brujo and with the assistance of his genios.

5. A curandero has also the power to protect his patient against the "penetration of witchcraft" and to give him access to secret information through hallucinogenic emulation of, and contact with, plant-spirits.

However useful the latter analyses may be, healing and sorcery rituals remain to be understood in their relationship with other modes of exchange in Puerto Inca. This task has been undertaken by many of those anthropologists who have studied such phenomena in South American societies; yet the interpretative results have yielded a wide array of conflicting claims. On the one hand, some have explained these practices as being functional to the structure of primitive societies, or as typifying "primitive mentality". Meggers argues that sorcery is to be understood as a "technique for control of population density" or as a "cultural mechanism (...) to prevent population concentration" and to prevent the depletion of scarce and widely scattered rain forest resources (Meggers, 1971: 110). Siskind also resorts to a functionalist argument, but with opposite results: instead of favouring demographic dispersal, ayahuasca rituals serve to unite widely dispersed hunters and gatherers:

In the ritual men share their visions and desires in the hours of dark blue nights lit by stars. A single fire warms them as the chanting and the transformation of shori hold them closely together. Like their shadows cast by moonlight on the cleared ground, the visions, the chanting, the closeness vanish in the reality of day. The ritual occurs and reoccurs, over and over, creating an hallucination of social unity. (Siskind, 1973b: 147, 168)

Other anthropologists, such as Métraux and Torre, have understood these practices not as functionally related to primitive social structures, but rather as illustrating the functioning of primitive men's mind. Métraux claims that no distinction is made between the magical substance, the pathogenic objects, and the auxiliary spirits which are involved in sorcerous rituals, hence the following conclusion:

L'indistinction et la confusion des concepts que Hubert et Mauss considéraient comme propres à la pensée magique sont mises ici en évidence. Il s'agirait, à la limite, d'un pouvoir abstrait qui, pour devenir actif, se matérialiserait. (Métraux, 1967: 92)

Similar generalizations are formulated by Torre who claims that Campa witchcraft practitioners fail to distinguish between a wish and an actual fact (deseo and hecho realizado), and that this confusion typifies the primitive logic of participación as expounded by Lévy-Bruhl (Torre, 1969: 8/7, 8/12, 8/16).

On the other hand, other anthropologists claim that sorcerous rituals are symptomatic of the "social disintegration that marks this rain forest culture of [urban-slum] poverty" and that they offer "capsulated tales of woe" which "must be enlarged to include the daily brew of misery" (Dobkin, 1969: 16; 1972).

Anxiety and stress which are constant companions of many rain forest slum-dwellers, can reach intolerable levels so that the drug healer receives a call to ameliorate acute symptoms. It is in these ritual, magical healing sessions that ayahuasca is used most effectively - entering into the realm of tenuous, uneasy interpersonal relations, and acting as a means to restore equilibrium in difficult situations. (Dobkin, 1973: 82-83)

Vegetalismo and brujería as practised in Puerto Inca are strikingly similar to those beliefs and rituals observed by the preceding anthropologists in other communities or ethnic groups of the Peruvian rain forest; yet none of the interpretative claims which these anthropologists offer seem to be supported by our case-study. Puerto Inca dwellers are Spanish-speaking, Catholic mestizos actively engaged in economic and kinship networks of exchange which are located well within the boundaries of wider non-primitive modes of exchange. The observed phenomena cannot therefore be interpreted as favouring primitive-like demographic dispersion, or as uniting scattered hunters

and gatherers. Neither can they be viewed as typifying the logic of primitive men, for their practitioners do not belong to primitive societies (see Parts 1 and 2 of this thesis).

Dobkin's approach offers an alternative to the latter views, yet it does lead to two major theoretical problems. Firstly, a total divorce is operated between structure and function: according to Dobkin, the observed symbolic structure exists within both primitive and non-primitive cultures and does so in so far as it serves different functions in different contexts. Syncretistic explanations rest upon the same structure/function divorce and fail to be beyond and beneath the apparent agglomeration of heteroclite beliefs and rituals.¹

Secondly, a symbolic system is simply seen as reflecting and expressing an economic situation of poverty and as counteracting the psychological and social tensions that result from it (Dobkin, 1973: 82-83). As shall be argued in the following pages, a sociological version of structural anthropology may provide us with a deeper insight into the nature of symbolic systems, without resorting to this twofold divorce between structure and function, and between (economic) infrastructure and (symbolic) superstructure. But let us first discuss the present contribution of structuralism to our understanding of symbolism within society.

Lévi-Strauss's structural anthropology displays three distinct definitions of symbolism. In Elementary Structures of Kinship, symbolism is firstly defined as Culture itself: a social system is viewed as a "socio-logique" comprising various structures of exchange and of

1. See for example W. Madsen, 1967: 369-391.

reciprocity, each of which may be studied as a complex elaboration of elementary symbolic oppositions. Not only is language similar to kinship (Lévi-Strauss, 1958: 41, 79), but it is also similar to Culture itself: underlying the exchange of words, women and commodities, there is this initial impulsion compelling men to exchange, and a dichotomizing representation of reality which emerges with "la fonction symbolique". Social reality is but a complex system of exchange of complementary values and an attempt to neutralize the contradictory values of objects which are apprehended as offering an immediate value for both the speaker and the listener, the giver and the receiver (Lévi-Strauss, 1949: 108-9; 1958: 70-1). A general theory of communications should eventually offer a meta-structural understanding of kinship, linguistic, political and economic exchanges. Social reality is thus a "symbolique concrète" based on the logical laws of the human mind (Lévi-Strauss, 1958: 81, 108).

Symbolism is Culture itself so that symbolic systems are symbolizing other symbolic systems, through logical relationships - transformational and homological. However, Lévi-Strauss's second definition of social phenomena points towards an interaction between a diachronic infrastructure (history, economy and demography), and a synchronic superstructure which operates with its own laws, those of the human mind. The function of superstructural elaborations is to overcome or reveal, through their own logical tools, the contradictions or tensions contained within the infrastructure. The Geste d'Asdiwal, the Murngin symbolic classification, the Bororo residential structure, and the structural role of totemic groups and castes, are all Lévi-Straussian illustrations of this second approach to symbolism (Lévi-

Strauss, 1949: 128, 327; 1958: 142-4, 365; 1962: 90, 173-4, 306-7; 1968c: 27-8).

Lévi-Strauss's impressive Mythologiques offer a third interpretation of symbolism. The theoretical orientation here becomes resolutely psychological in the sense that the ultimate objective of the analysis is nothing less than the discovery of the laws of the human mind. Symbolic representations are almost entirely separated from social behaviour: symbolic structures are interpreted as attempts of the human mind to express its own logical laws without reference to infra-structural events. Mythologiques are

l'esprit livré en tête-à-tête avec lui-même et échappant à l'obligation de composer avec les objets, se trouvant en quelque sorte réduit à s'imiter lui-même comme objet.
(Lévi-Strauss, 1964: 18)

Kinship structures are open to sociological constraints pertaining to social institutions and infrastructural events. Conversely, myths express the mind without having to come to terms with these constraints. To be able to hide or reveal infrastructural tensions, Man's thought, it is argued, must already be constituted with its own laws, the study of which defines the task of structural anthropology.

Lévi-Strauss's second and third interpretative approaches reassert a widespread tendency within social sciences to separate or divorce cognitive structures (symbols, beliefs, values, myths) from systems of action (economic, ecological, demographic, political). As observed by Berger and Luckman, "the sociology of knowledge has been particularly fascinated by Marx's twin concepts of 'superstructure/infrastructure'" (Berger, 1967: 6). The idea/action dichotomy presides over many of the anthropological controversies dealing with the nature

of symbols. Firstly, there are those for whom symbolism can be studied in quasi-total isolation from the social system: "thought structuralists" (Cohen, 1969: 225) thus concentrate on thought categories built into the cultural and human psyche, asserting that the symbolic order has an existence of its own and that it is not a simple mechanical reflection of the political, economic, or kinship order (e.g., Douglas, Turner, Beidelman, Lévi-Strauss in his Mythologiques); many of these anthropologists are especially concerned with the task of elucidating the specificity of either primitive men's thoughts or primitive thoughts of men ("La pensée des sauvages" as distinct from "la pensée sauvage") (e.g., Mauss, Lévy-Bruhl; see also Métraux and Torre).

Secondly, there are those who consider that cognitive structures must be analyzed as distinct from, but also as functionally linked to, the social system: this corresponds to Lévi-Strauss's second approach, and to the functionalist views espoused by British Social Anthropology (e.g., Leach, 1958, 1961; Radcliffe-Brown, 1964: 10-11; Gluckman, 1963; Evans-Pritchard, 1937: 25; see also Siskind's analysis of Ayahuasca sessions in the Peruvian rain forest, and Banaji's comments on British Anthropology, 1970: 77-78).

A third approach to symbolism tends to reduce values and symbols to the status of epiphenomena of action systems, with a special emphasis on economic determinism. On the one hand, substantivists and Marxists are strongly inclined to explain cultural ideas and values as super-structural elaborations determined and moulded by the underlying infra-structural mode of production (e.g., Meggers's and Dobkin's understanding of sorcery practices). On the other hand, recent developments in formal

economic anthropology, network and transaction theories, argue for the structural priority of actions over values (Barth, 1966: 14-21) and inevitably lead to the arbitrary isolation of action or behaviour from the ideological programme that determines its meaning (Ardener, 1971: 459).

The fundamental alternative has thus been to impose a divorce, in terms of an unexplained interaction or of the existence of two sets of sociological laws, between systems of action and systems of symbols; or to subsume symbolism under the system of action. The purpose of this thesis is to suggest that a sociological version of structuralism can successfully overcome the theoretical quarrels stemming from the latter conflicting perspectives of social reality. To the contrary of Leach's (1970) and Banaji's (1971: 83) appraisal of Lévi-Strauss's contribution to social sciences, the fruitful expansion of structural anthropology lies with the first sociological paradigm of symbolism as outlined in Les structures élémentaires de la parenté and in Anthropologie structurale. The objective is not to show how symbolic systems reflect, hide, consolidate, cement, or are determined by what lies outside the symbolic domain, i.e., the economic or political system. It is rather to reconstruct an overall "sociologique" comprising various sub-systems or modes of exchange the structure of which rests upon the meaningful homologies and contradistinctions that lie between them. Man's mind is not simply busying itself with the cult of its own image, or with the task of reflecting upon a meaningless and semantically vacuous world of social actions and relations. On the contrary, it already presides over the structural unity and differentiation which prevail within social reality.

The latter anthropological perspective has been articulated and operationalized within our study of Puerto Inca's economic and kinship modes of exchange. The attempt has been to reveal the structural homologies and contradistinctions that lie within and between these two systems of exchange, and thus to avoid the deterministic "hierarchy of structure" arguments, as well as the fruitless quarrels between holistic and non-holistic theories of social structure. The rejection of the infrastructure/superstructure schema also allows us to make full use of structuralism's most fundamental assumption, that of a necessary connection between function and structure : the function of any given mode of exchange is thus diacritic, it lies in the logical distance that binds it with, and separates it from, other forms of reciprocity (economy, language, kinship, myths, etc.). Correspondingly, structural anthropology can cease to shy away from the study of economic forms of exchange, of the diachronic ordering of social phenomena, and from the use of both statistical and mechanical models, to the advantage therefore of an overall theory of communication (Lévi-Strauss, 1949: ii, XXXV, XXXIX-XLII; 1958: 311, 314, 317, 320, 329-30; Ardener, 1971).

However, the findings of Chapters 8 and 9 confront us with the following inconsistency: dwellers of Puerto Inca engage in healing and witchcraft practices which are clearly reminiscent of their primitive neighbours' own beliefs and rituals, yet, as I have argued in Part 1 and Part 2 of this thesis, Puerto Inca's economic and kinship modes of exchange operate well within the boundaries of Western societies' wider networks of exchange. Are we thus to conclude that a given structure may effectively serve different functions within different societies, that the overall structure that we seek is a pure fiction which overlooks the inevitable presence of syncretistic amalgamations of non-integrated

phenomena borrowed from different societies and/or different epochs, and, therefore, that the overall mode of exchange under study fails to comply with the requirements of a sociological structuralism? Proponents of "dual economy" theories would certainly not hesitate to endorse the latter conclusions which are highly compatible with their interpretation of the functioning and history of underdeveloped economies. Yet they would fail to account for the following crucial facts. Although Puerto Inca dwellers engage in primitive-like practices such as vegetalismo and brujería, they also value modern medicine, scientific and educational "progress", and adhere to the beliefs and rituals of the Catholic faith. But what is more important and consequential for the structuring of all modes of exchange, is that their own understanding of the logical and historical relationship that exists between these two sets of beliefs and values does not reassert the premises of both symbolic systems: on the contrary, this understanding rests entirely upon the premises of modern values. Hence the total transformation of what their primitive neighbours understand by "Tradition": in Puerto Inca, Tradition is the antipode of Progress.

2. THE ADVANCE OF CIVILIZATION²

Modern education is highly valued within all sectors of Puerto Inca's population and it is not uncommon for Pachitea families to move to this community for the purpose of sending their children to public schools. Almost all adolescents and children of school age are effectively attending the classes given at the local college, kindergarten and primary institutions (for a total of 442 students). Parents unhesitatingly view

2 It must be stressed that the remaining part of this final chapter is somewhat speculative; its contribution lies mainly in a tentative outline of those structural homologies and complementaries that exist between "cosmological exchanges" and other forms of reciprocity (economic and kinship) in Puerto Inca.

schooling as a rewarding process leading to the accumulation of greater information and "Culture" (Cultura), to the benefit of their children and of future generations. Correspondingly, science is taught, as elsewhere in Western societies, as a cumulative and objective form of knowledge which is indispensable to the march of progress. Literacy is considered as a key variable in the improvement of educational standards and plays a major role in allowing for the tangible acquisition and expansion of greater amounts of information, both for the individual and the collective. Progress is prescribed within the use of the spoken language itself and Spanish language courses are given with the purpose of improving the syntactic, phonological and semantic performance of the individual. Puerto Inca dwellers also value the achievements of modern medical science and constantly resort (including healers themselves!) to modern pharmaceutical products and to local and regional medical services.

The transmission of the Catholic faith is another important function of the educational institution. Catholic values and beliefs are in fact well rooted into the life of the community and are constantly reasserted through ritual kinship practices (compadrinazgo) and other religious rituals and celebrations. The symbolism of progress as expressed within the Catholic creed does not prescribe the accumulation of objective truths, for religious knowledge must result from an unquestioning belief in God and in the teachings of Christ. But the myth of progress does permeate through the cosmological and metaphysical axioms of Catholicism in so far as they postulate the possibility of a better after-life for Man's soul.

Syncretistic explanations underline the observed contrasts that

exist between coexisting systems of beliefs and values. Puerto Inca's simultaneous adhesion to Catholicism and to brujería practices is a good case in point. On the one hand, Christian ethics prescribe a mode of transaction which is putatively altruistic. This form of "generalized exchange" may of course generate counterobligations, "but the counter is not stipulated by time, quantity or quality" (Sahlins, 1972: 194): balanced reciprocity may constitute a desirable consequence of an individual's or a collectivity's compliance with Catholic moral standards (e.g., men who have given their love to God and to their fellowmen will be rewarded in their after-life), yet this cannot be defined as the main objective of a true Catholic for Charity must still be his main source of motivation. On the other hand, the ethical assumptions underlying vegetalismo and brujería practices favour the "balanced reciprocity" mode of transaction which stipulates "returns of commensurate worth or utility" and which displays an "inability to tolerate one-way flows" (Sahlins, 1972: 195).

The epistemological premises of vegetalismo and brujería beliefs also differ quite markedly from those of modern education and science. The former premises define knowledge as a set of fixed assets possessed by plant-spirits and obtainable in exchange for faith and loyalty. The scientific perception of truth is quite the opposite: knowledge is cumulative rather than fixed, and it is obtained by complying with the canons of objectivity, not with those of subjective faith. Science views Nature as being devoid of human subjectivity and, therefore, as being amenable to the requirements of objective observation; conversely, healing and sorcery symbolisms postulate the existence of human-like intentionality within Nature.

Other significant contrasts may be drawn between the corresponding conceptions of drunkenness, sickness and death, intellect and matter, and so on, to the apparent advantage of the validation of the syncretistic claims. Nonetheless the ensuing dual-system theory thrives on a systematic omission of other equally important facts. A few centuries of "interaction" between different societies has not produced a simple amalgamation of heteroclitic beliefs and rituals: these traditional symbolic elaborations, which seem to have survived the destruction of primitive social structures, have been radically altered as a result of a thorough process of conceptual translation involving the allocation of new symbolic connotations and meanings, in accordance with the structural and functional exigencies of an entirely different structure of contradistinctions.

Puerto Inca dwellers do not have two contrasting versions of the logical and historical relationships that exist between their primitive-like beliefs and their modern values. Instead of reasserting the premises of both primitive and modern beliefs, their own understanding of this duality of symbolism rests entirely upon the modern symbolism of dualities, i.e., the myth of Progress. The observed ideological differences are thus commonly explained through a diachronic code which postulates the evolutionary superiority of Western Civilization and of its modernistic achievements, and the inferiority of past traditionalistic societies and of those present primitive customs which have not yet succumbed to the forces of Progress. Herbal healing is often regarded as mere superstition, or, at best, as an "empirical science" (ciencia empírica) which has achieved a certain degree of medical efficacy through a trial and error method, but which has failed to reach the

powerful theoretical insights of modern medicine. The triumph of Civilization and of Catholicism is considered to be incompatible with the primitive "war of every man against every man" which persists through the pagan, superstitious and evil practices of brujería. Progress has not brought about the emergence of a different culture, but rather the development of "Culture" itself through the search for civilized morals, scientific advancement, artistic and philosophical sophistication. The production and addictive use of coca, mazato (manioc beer) and of hallucinogenic plants, the practice of herbal healing, sorcery and perverse habits (e.g., promiscuity, homosexuality, incest, homicide, theft, laziness, etc.), the inability to read, to write, and to speak Spanish "correctly", the lack of education and culture, the non-observance of Catholic sacraments (especially Baptism and marriage), all these traits are commonly perceived as belonging to the indigenous primitive lifestyle that progress rejects.

The widespread adherence to the latter understanding of history does give rise, within the "traditional", lower-class sector of the community, to a sense of "backwardness" and to the resulting Culture of relative deprivation and cultural poverty. Their lack of control over economic and educational resources impedes them from gaining access to "civilized" lifestyles, and contributes to the maintenance of primitive-like beliefs (herbal healing and sorcery) and practices (swidden agriculture). Far from hindering the "advance of Civilization", this backwardness enables Progress to pursue its endless struggle against the forces of the Past. Tradition therefore loses the "primitive" meaning that it has for Puerto Inca's tribal neighbours: it has ceased to be Culture itself, it has become the eternal foe and victim of Progress.

However, this myth of historical duality cannot rest solely upon the degradation of the Past, it must also thrive upon its idealization. It is commonly believed, especially among lower-strata members, that Science has yet to discover those secret properties that belong to plants or to the human mind, and that are known to the ciencia empírica and to brujería. Dwellers of Dos de Mayo barrio proudly display their customs of communal solidarity and mutual assistance, their expertise in indigenous arts (songs, dances, music, tale and myth narration, fiesta costumes, culinary specialties), or the extensive knowledge and skills that they use in adapting to their tropical rain forest environment. Yet the myth of Progress discreetly reasserts its supremacy: the aim of such practices is not to reject Civilization, but rather to consolidate it by preserving the positive contributions of the Past. The ensuing paradox is that the abandonment of Tradition is itself a Tradition which may be rejected, partially or totally, for the sake of Progress.

3. THE "SOCIOLOGIQUE" OF PROGRESS

A. Science and Commodities

The homologous presence of a cumulative rationality within the production of market commodities and the production of scientific knowledge is anything but a formal coincidence or the tautologous indication of an overall commitment to the march of Progress. It stems rather from the important fact that science has an economic function in that it begets, and is begotten by, other commodities. However, scientific knowledge differs from all commodities in three significant ways: it does not have any economic use-value as such, it is not perishable, and it is not subject to the economic law of scarcity (the knowledge possessed by an individual may increase in absolute terms

without producing an absolute increase in scientific knowledge, or an absolute or relative decrease in the knowledge possessed by others). The relevance of the latter contradistinctions reaches the functioning of Puerto Inca's mode of economic exchanges. The maximization of economic utility is not only a collective goal, but also an individual one; yet the hierarchical distribution of privately owned commodities, combined with the preferential practice of class endogamy, imposes severe restrictions on the chances of upward economic mobility for those of lesser means. This structural propensity towards class rigidity is partially counteracted by the institutionalization of a programme of equal educational opportunity, and by the ensuing chances to improve one's standards of living through educational achievements. The nature of knowledge is well suited to the introduction of a merit system within the observed mode of economic transaction: indeed it is the only value that an individual may accumulate without impinging, in both relative and absolute terms, upon the knowledge acquired by others.

Education produces wealth, but wealth is needed for the acquisition and dispensation of knowledge. Economic mobility through educational means is consequently limited by the restricted allocation of resources to educational services, by the scarcity of wealth and of occupational opportunities, and by the resulting degree of competition that prevails within the employment market. Equally significant is the fact that access to educational facilities is itself determined by the economic position of ego's parents (see Chapter 2). There is thus a tendency for the hierarchical distribution of knowledge to correlate with - but not to replicate - the existing economic stratification. The adherence to those primitive beliefs that science rejects varies itself in

accordance with the economic formation of classes: vegetalismo and brujería practices prevail mostly within lower occupational classes and lower-strata barrios, such as the Alrededores, Dos de Mayo and Loreto (the local brujo is himself a swidden farmer and a dweller of the Alrededores).

B. Education and the Family

We have seen at the end of Chapter 6 that Puerto Inca's centrifugal kinship system must cope with threats arising from the economic exchange-value rationality by inverting the maximizing rule of economic transactions: the flow of material values between nuclear kins is thus to comply with a use-value rationality (mutual assistance and balanced reciprocity). Although knowledge may be economically valuable, its allocation within the family cannot subscribe to the latter redistributive process: privately owned commodities may be transmitted from parents to children or from sibling to sibling, but educational qualifications may not. Education thus frequently leads to a stratified distribution of acquired knowledge within the family, hence to a vertical "generation gap" which favours the separation of adult children from their less educated parents.

On the other hand, the economic system copes with the redistributive threats arising from the possibility of indiscriminate affinal alliances, by the preferential practice of class endogamy and by minimizing the control that women have over economic resources (see again Chapter 6). The allocation of educational qualifications within Puerto Inca's kinship structure follows similar patterns. Firstly, the higher a man's schooling is, the higher the schooling of his wife (in statistical terms).

And secondly, men in general have had more schooling than women. There is no tendency at the present moment to favour the schooling of male children at the pre-college levels (48.1% of the 374 pre-college students are male); however, the proportion of male students at the college level (47/77) is 1.57 times greater than that of female students. The latter differential access to educational opportunities is probably consolidated by the tendency for women to marry earlier than men, to assume the household and child rearing tasks, and therefore to have a lesser need of educational qualifications.

C. The Church, the Market, the Family and the School

The cumulative rationality underlying "modern" man's search for greater material welfare is well complemented by the Catholic preoccupation with the spiritual betterment of Man's soul: progress can be thus achieved by both body and soul, to the advantage of a better life and a better after-life, respectively. However, the road to eternal happiness does not coincide with the one which leads to material wealth: the latter is geared towards the maximization of ego's utility, while the former prescribes the practice of Charity. Correspondingly, the body is afflicted with insatiable needs, while the soul is gifted with an inexhaustible capacity to give. Ego's spiritual welfare and alter's economic welfare are of course highly valued, but only as desirable outcomes of each individual's simultaneous compliance with the principles of economic maximization and Catholic Charity.

The contradistinctive implementation of a Christian mode of "generalized reciprocity" and of an economic mode of "negative reciprocity" generates two opposite orderings of strata. The economic hierarchy is

dominated by those who control commodities in general, while the religious hierarchy is headed by those who have given the most: God who has given life to Man and who has sacrificed his Son for the salvation of men, saints who have sacrificed or devoted their lives to God and their fellowmen, priests who dedicate their lives to the preaching of God's Message, charitable laymen who give their love and assistance to those in needs, Catholic parents and godparents who relinquish their self-interest for the material and spiritual welfare of their children and godchildren, etc.

However, the religious and economic modes of transaction cannot coexist without overlapping, for wealth may be solicited or offered either in the name of Charity, or for the love of God: alms may thus be given to those of lesser means, e.g., through the Church, humanitarian agencies, compadrinazgo relationships, or through direct person-to-person donations; or they may be given to the Church for the construction and maintenance of a temple and for the material needs of God's servants. The threat which is consequently directed against the hierarchical distribution of commodities and factors of production is only a superficial one: the individual's effort to maximize his own material welfare is still seen as indispensable not only for the betterment of collective wealth, but also for the practice of Charity itself. To attend to the material needs of their "children" and of the Church itself, priests are thus allowed, firstly, to gather all those contributions that Catholic laymen may wish to donate for such purposes, and secondly, to allocate one part of these resources to profitable investments the returns of which will secure the maintenance of Charity and Church activities. Not only does the prevailing mode of economic transaction

generate those inequalities that render possible the practice of Charity, but it also offers the means of maintaining both Charity and Church services. Hence the significant correlation that exists between one's religious status and one's economic position. Members of the upper economic strata of Puerto Inca include not only the residing missionaries, but also the majority of godparents and Christian leaders actively engaged in Church and Charity activities. Members of lower strata are rather treated as recipients of charitable donations, and are reputed to engage in non-catholic pagan practices (idolatry, sorcerous "war of all against all", debauchery, concubinage, etc.).

The flow of economic values that prevails within Puerto Inca's nuclear family inverts the economic role of maximization, to the advantage of a use-value rationality. Yet it does so without being able to resort to kinship rules as such, which involve little else than the prohibition of affinal alliances between consanguines. The Catholic rules of "generalized reciprocity" do offer an alternative to the economic mode of "negative reciprocity" and do, therefore, lend themselves to the implementation of a non-maximizing flow of material values within the nuclear family. Hence Catholicism's theological, ethical and ritual ratification of the incest prohibition, the practice of monogamy, and the exercise of Charity within the family.

Catholic ideals aspire to the expansion of men's love for God and their fellowmen, and therefore to the growth of the Catholic community itself. The differentiation between those who are members of the Catholic community and those who are not is conveniently expressed by the ritual and symbolic simulation of kinship alliances. Catholics do not belong to a common biological unit, but they are members of a

spiritual family in that they all share the same religious faith. The baptismal rite de passage enables the individual to join not only the Catholic Church (the parenthood of which is assumed by priests and nuns, i.e., "Fathers" and "Mothers"), but also a spiritual elementary family (godparents + godchild) the solidarity of which is consolidated by the incest prohibition (see Chapter 7). However, ordinary kinship rules are inverted to the extent that Catholics cannot marry with pagans or non-Catholics, they must marry endogamously.

The Church's close association with the local educational institution serves two major purposes: firstly, it provides an important channel for the dispensation of its religious teachings, and, secondly, it enables the Church to contribute to society's equal-educational-opportunity scheme, and thus to increase the chances of economic betterment for lower class members. However, this close co-operation between Church and School does not exclude the presence of significant ideological and institutional clashes. The educational attempts at transmitting the teachings of both Science and the Church are geared towards the betterment of Man's mind and Man's soul, respectively, yet they also lead to a dichotomization of man's knowledge: truth, in the former case, is putatively objective and cumulative, while, in the latter case, it requires an act of faith and is fixed by the Catholic tradition. The school thus becomes the privileged channel for the transmission of the conflicting ideological claims which consolidate the institutional differentiation between the Church and the School.

4. THE TRADITION OF PROGRESS

The purpose of this thesis has been to examine the overall social

structure which underlies various sub-systems of exchange within a given community of the Peruvian rain forest. I have failed to reach this objective in so far as I have ignored some essential components of social reality, such as language and politics, and in so far as I have imposed a rigid interpretative grid upon complex empirical patterns and intricate theoretical controversies. Such a failure is perhaps intrinsic to the holistic approach that I have adopted and to its inability to delineate the boundaries or limit the scope of scientific investigation. Yet it is in pursuance of a holistic perception of social phenomena that we have gained access to the comprehension of the internal structure of each network of exchange, i.e., the economic, the kinship, and the cosmological.

Thus it has been suggested in this Chapter that a "cumulative" rationality determines the circulation of two contrasting and inter-dependent sets of values, i.e., scientific knowledge and spiritual wealth; and that these "forces of progress" are themselves structured in complementarity with other contradistinctive values of exchange, namely women and commodities.

Similarly, it has been argued, in Part 2 of this research, that women and kindred units are defined in opposition to commodities and occupational units; and that the interpenetration of both systems of transaction generates, on the one hand, a use-value mode of economic exchange within kinship units (ratified by the Catholic principles of "generalized reciprocity"), and, on the other hand, a commodity-maximizing determination of affinal alliances (i.e., preferential practice of class endogamy and upward exogamy).

The ensuing interpretation of the observed "sociologique concrète"

has confirmed the presence of significant dualities of structures involving the coexistence of contrasting sectors of forces and relations of production (market vs subsistence economies), contrasting patterns of kinship solidarities (e.g., varying sizes of household and village kindred units; see Chapter 6), and contrasting sets of cosmological beliefs and rituals ("modern" beliefs vs vegetalismo and brujería). Yet the aim has not been simply to illustrate such contrasts, but rather to reach the underlying structure of dualities which gives rise to this surface amalgamation of heteroclitic elements of social life. Thus I argued, firstly, that it is the production of exchange-values, combined with the formation of cognatic kindreds, which determines the emergence of economic "sectors" and of varying strategies of kinship alliances; and secondly, that it is the cosmological tradition of Progress which determines both the preservation and redefinition of primitive-like beliefs and practices.

Finally, the macrosociological expansion of structural anthropology has enabled us to understand the diacritic function of structuralism itself, and the fundamental illogicalities that are so indispensable to the myth of Science.

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