Wampurái Peas plants manioc cuttings in a recently burned swidden.

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Tsewa's Gift

Magic and Meaning in an Amazonian Society

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CHAPTER 4

The Garden's Children

> It seemed to me that the dew-damp garden surrounding the house was infinitely saturated with invisible people . . . secretive, busy, and multiform in other dimensions of time.
>
> J. L. Borges,
> *The Garden of Forking Paths*

Amazonian peoples commonly contrast the danger and disorder of the forest with the security of the garden, a segment of space that has, for a time at least, come under the control of human beings. But the Aguaruna see things differently. For them the garden, like the forest, is a spiritually charged realm that poses dangers to the unwary or imprudent. They are deeply concerned with garden productivity, something that seems to be taken for granted in most other Amazonian societies. To a scientific observer, the Aguaruna horticultural system is remarkably productive and resistant to the climatic fluctuations, plant diseases, and pests that make plant cultivation so risky in the temperate zones. Not so for the Aguaruna gardener, who feels that without magical intervention the success of her crops is always in doubt.

The contradiction between garden productivity and the apparent anxiety of the producers is mystifying as long as we envision economic or botanical facts as being separate from culturally constituted emotions, understandings, and strategies of production. In this chapter, I present an outline of Aguaruna horticulture that calls attention to the links between practical activity, magic, cosmology, and the continuous realization of feminine identity. As we shall see, the production of crops and the production of meaning are interrelated processes.

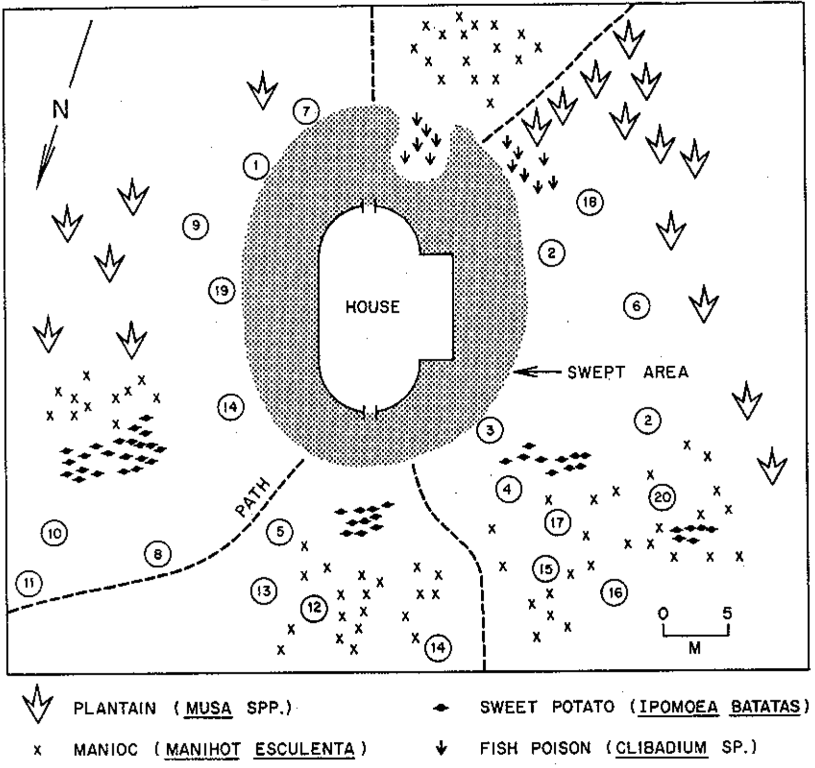
Aguaruna Horticulture

The Aguaruna practice a complex form of shifting horticulture based on the cultivation of more than eighty species of plants (Berlin and Berlin 1976:10). Most of these are true cultigens—species not found outside of cultivation—while a few are useful wild species planted in gardens to be more readily available when needed.

Aguaruna horticulture is principally oriented to the production of the root crops manioc (by far the single most important cultivated plant), yams, cocoyams, sweet potatoes, taro, and arrowroot. The prominence of root crops is explained, among other things, by their lack of seasonality. They can be harvested throughout the year, eliminating the problems of harvesting and storage associated with seasonal crops. Some nontuberous crops, including plantains, bananas, maize, peanuts, and various fruits, do make a significant contribution to the diet, however. Rice, which is cultivated for sale rather than consumption, has also become an important horticultural product in some of the communities of the Alto Mayo. An inventory of the food crops of the Alto Mayo will be found in Table 5.

Plants are cultivated in slash-and-burn gardens, or swiddens (*aja*), located as near as possible to each house site. When a new house is constructed, people customarily plant manioc, plantains, and other crops immediately around the house. As production in the gardens adjacent to the house begins to decline, new gardens are established at suitable sites farther away, though part of the original garden near the house is usually maintained as a sort of kitchen garden for the cultivation of plants important in technology, ritual, and health maintenance. (See Figure 4.) Houses that have been occupied for a few years thus have a kitchen garden, one new root crop garden that is beginning to produce, and one or more old gardens (*asáuk*) whose production is in decline. Combined data from the communities of Huascayacu and Alto Naranjillo indicate that each household has an average of 1.1 hectares of land under cultivation in traditional crops, plus additional land planted in cash crops. After five to eight years of continuous occupation, most of the cultivable land within convenient walking distance of a house has been used up. People then begin to think of establishing a new house in areas of mature forest where potential garden sites are more readily available.[1]

FIGURE 4. **Composition of a House Garden, Huascayacu**


N
HOUSE
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PLANTAIN (MUSA SPP.)
SWEET POTATO (IPOMOEA BATATAS)
MANIOC (MANIHOT ESCULENTA)
FISH POISON (CLIBADIUM SP.)

Other plants:

1. achiote (*Bixa orellana*)
2. papaya (*Carica papaya*)
3. *chi* (unidentified cucurbit)
4. ginger (*Zingiber officinale*)
5. *pijipíg* (*Carex* sp./*Cyperus* sp.)
6. *tsuak* (*Brugmansia* sp.)
7. sapote (*Pouteria* sp.)
8. *shiwágkush* (*Solanum stramonifolium*)
9. cotton (*Gossipium* sp.)
10. squash (*Cucurbita maxima*)
11. tobacco (*Nicotiana tabacum*)
12. air potato (*Dioscorea bulbifera*)
13. *kumpia* (*Renealmia alpinia*)
14. achira (*Canna* sp.)
15. *kampának* (*Eleuthrine bulbosa*)
16. taro (*Colocasia esculenta*)
17. *manchúp* (*Colocasia* sp.?)
18. sugar cane (*Saccharum officinarum*)
19. *yujágmis* (*Physalis* sp.)
20. cocoyam (*Xanthosoma* sp.)

Although the composition of swiddens varies somewhat among households, they are always prepared using the same procedures. First, the male household head, in consultation with his wife, selects an appropriate garden site. People prefer to cultivate high, well-drained land away from marshes and frequently flooded riverbanks. After choosing a site, a man invites his kinsmen to participate in a communal work party (*ipáamamu*) to clear the low-growing vegetation and small trees with machetes. Later, he fells the large trees with an axe. (Some economically useful trees, such

TABLE 5
Principal Food Crops of the Alto Mayo Aguaruna

Common name	Aguaruna name(s)	Scientific name
Manioc	*mama*	*Manihot esculenta*
Plantain	*paampa*	*Musa balbisiana* x *M. acuminata*
Yam	*kegke*	*Dioscorea trifida*
Sweet potato	*kamút, idáuk, inchi*	*Ipomoea batatas*
Cocoyam	*sagku*	*Xanthosoma* spp.
Taro	*pituk*	*Colocasia esculenta*
Peanut	*duse*	*Arachis hypogaea*
Maize	*shaa*	*Zea mays*
Rice	*ajus*	*Oryza sativa*
Jícama	*nabáu*	*Pachyrrhizus tuberosus*
Arrowroot	*chiki*	*Maranta ruiziana*
Squash	*yuwí*	*Cucurbita maxima*
Secana	*namúk*	*Sicana odorifera*
Achira	*tuju*	*Canna* sp.
Achira del monte	*kumpia*	*Renealmia alpinia*
Pigeon pea	*biik*	*Cajanus bicolor*
Bean	*kistián biik*	*Phaseolus vulgaris*
Air potato	*papa*	*Dioscorea bulbifera*
Cocona	*kukúch*	*Solanum* spp.
—	*shiwágkush*	*Solanum stramonifolium*
Chili	*jima*	*Capsicum* spp.
Sugar cane	*pagáat*	*Saccharum officinarum*
Papaya	*papí*	*Carica papaya*
Peach palm	*uyái*	*Guilielma gasipaes*
—	*pina*	*Calathea* sp.
Sorghum?	*shapna*	?*Sorghum vulgare*?
Yarina	*chapi*	*Phytelephas* sp.
Pineapple	*pina*	*Annanas comosas*
Sapote	*pau*	*Pouteria* sp.
Cacao	*bakáu*	*Theobroma cacao*
Macambillo	*akágnum*	*Theobroma bicolor*
Passion fruit	*kistián munchi*	*Passiflora* sp.
Breadfruit	*pitu*	*Artocarpus atilis*
Inga	*wampa*	*Inga edulis*
Turmeric	*kisatúra*	*Curcuma zeodara*
Star apple	*yaas*	*Chrysophyllum cainito*
Guava	*shawi*	*Psidium guayava*

Principal Source of Species Determinations: Berlin and Berlin 1977:22–25.

Note: In preparing this table, numerous cultivars of minor dietary importance have been deleted. See Berlin and Berlin 1977:22–25 for a more comprehensive list of Aguaruna cultivars. Specialists will note that some of the plants listed above (e.g., plantains, bananas, rice) are not native to the New World.

as palms, are left standing.) The garden dries for several weeks until it is ready to be burned. After the garden is burned and some of the slash removed, it can be planted. Garden preparation may occur at any time of year in the Alto Mayo, although there is a tendency to avoid initiating this task in the period from January to April, the months of greatest rainfall.

The Alto Mayo Aguaruna follow several alternative planting strategies in their gardens. Most commonly, they plant manioc, sweet potatoes, yams, and other tuberous crops in the center of the garden and plantains on the perimeter. Sometimes a section of the garden is set aside for maize or peanuts; manioc and other tubers are planted after these are harvested. Old manioc gardens near houses are frequently cleared and replanted in large stands of plantains. Increasingly, the Aguaruna also plant pure stands of rice and other cash crops for sale to non-Indians.

A garden begins to produce mature manioc tubers about six to eight months after planting and continues to provide tubers for two to three years. Declining tuber production and the ever-increasing number of weeds seem to be the main factors that lead to garden abandonment. Even after a garden has ceased to be used on a daily basis, however, it continues to provide some food products (e.g., plantains, papayas, sweet potatoes) that people harvest sporadically.

The degree of sophistication of traditional Aguaruna horticulture is most obvious in connection with the cultivation of sweet manioc. Manioc is the most important garden crop, both nutritionally and symbolically; one of the words (*yujúmak*) denoting manioc tubers also means "food" in the most general sense. Most Aguaruna gardeners have from ten to twenty-five distinct, named varieties of manioc in their gardens, and the total number of varieties known to the Aguaruna may exceed one hundred (Boster 1983:61).[2] Varieties are distinguished according to several characteristics, particularly the shape and color of the leaves. People prefer to eat some varieties boiled or roasted, while others are more suitable for the preparation of beer. Women acquire new varieties of manioc from other women in the same community or from kinswomen in distant communities.

If the botanical knowledge underlying manioc cultivation is complex, its technology is extremely simple. Pieces of manioc stems are placed in the ground after a new garden has been prepared. When the stems have taken root and the plants have grown to a height of approximately 1.5 meters, a woman begins to travel daily to the garden to harvest as many tubers as she needs. After harvesting a mature plant, she cuts off a section of stem and replants it in the spot vacated by the harvested plant. Thus, like the harvest, replanting is continuous. The only implements used in the cultivation of manioc are the machete and a pointed digging stick (*wai*) made of palm wood.

One of the reasons why manioc is so important is that it can be converted into manioc beer (*nijamánch*), a dietary mainstay and the major lubricant of Aguaruna social life. To make beer, women boil the tubers, mash them to a pulplike consistency with a wooden pestle, chew the pulp to soften it further, and then place the mash in a large pot to ferment. When mixed with water, the fermented mash becomes a nutritious and intoxicating beverage. Beer is consumed daily, and most Aguaruna consider it to be an essential—even *the* most essential—part of their diet.[3]

Brent and Elois Ann Berlin (1977:13) calculate that during its productive life an average quarter-hectare garden supplies enough manioc to maintain a family of ten persons. Because the average household size is considerably less than this (five persons per household in the area studied by Berlin and Berlin, 7.4 persons per household in the Alto Mayo), they are forced to conclude that "the Aguaruna produce—or have the potential to produce—much more than they actually need" (1977:13). During my own fieldwork, I never heard of a catastrophic garden failure, nor did any household suffer from a substantial shortage of manioc unless serious illness or relocation to a new village prevented a woman from pursuing her horticultural tasks.

Horticultural tasks are sharply divided along gender lines. Men take charge of choosing a garden site, cutting the brush, felling trees, and burning the slash. They may also plant and harvest those few crops that are considered "male": maize, plantains, and rice. All activities involving tuberous crops, however, are performed by women. These tasks include planting, weeding, harvesting, washing the tubers, and cooking. Because Aguaruna horticulture is primarily oriented to the production of tuberous crops, gardening is thought of as a feminine activity. Women consider themselves to be the owners of most gardens, except those devoted to male cash crops.

A woman's success in horticulture has a direct relation to her social standing in the household and the community. The hospitality that a man can extend to visitors is in no small measure determined by his wife's skill in cultivating manioc and turning it into manioc beer; frequent shortages of beer in the household may kindle a husband's wrath. A man who is a mediocre hunter may have other socially valued skills that compensate for his inadequacy. Women, however, have few other avenues in which to excel if they lack horticultural prowess. A woman's social identity is thus closely tied to the productivity of her swidden garden.

The Swidden as Symbolic Space

The garden is an area of space rich in symbolic associations. Women and their children spend several hours there nearly every day. A woman puts her baby in a tiny hammock hung in some shady spot, and her other children play quietly nearby while she goes about her tasks. Sometimes women help each other in the garden—mother and daughter, for example, or a woman and her unmarried sister—and when one walks near the swidden their laughter can be heard through the tangle of manioc stems. Here, in the relative privacy of this space, women discuss intimate matters related to their daily lives. They may also use this time together to exchange magical songs that encourage the growth of their plants or renew the affection of their wayward husbands.

In mythical times, the garden was the scene of romantic liaisons between women and animals in human form. When the ancestors did not know how to give birth without cutting open a woman's womb, they were taught proper childbirth by *katíp*, the mouse, in a garden (Jordana Laguna 1974:107–10).

The garden is also the principal point of contact between women and a variety of powerful beings. The most important of

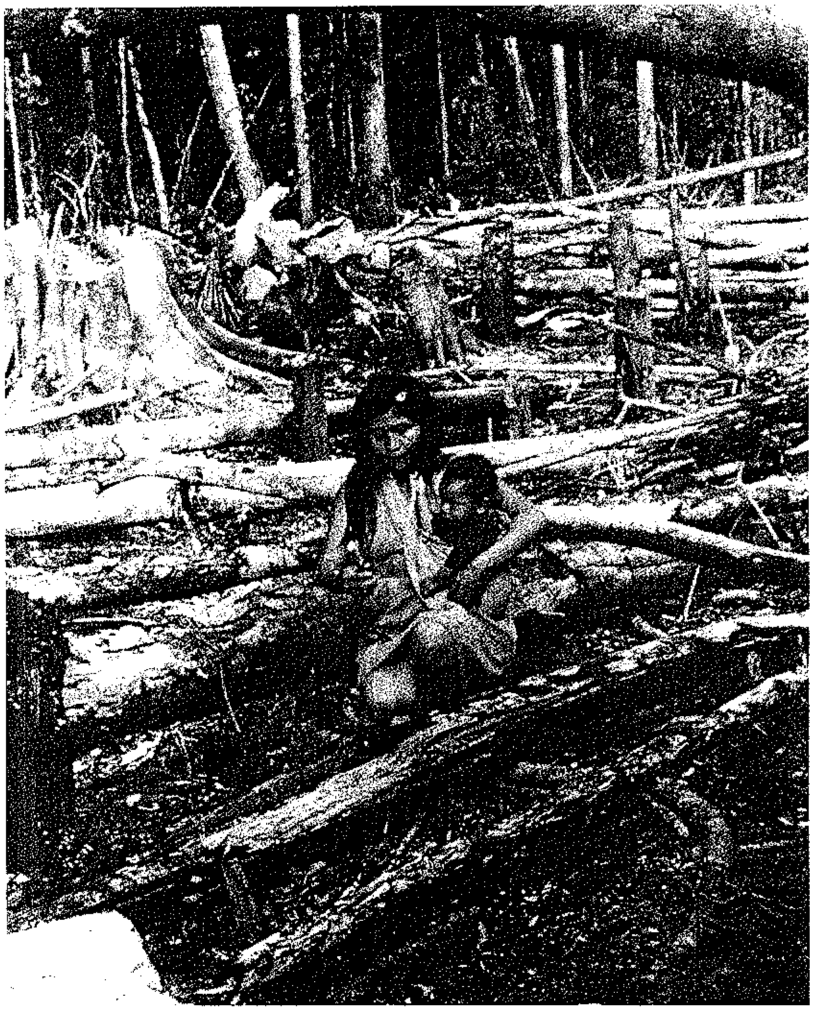

PLATE 5. *Wampurái Peas plants manioc cuttings in a recently burned swidden.*

these is Nugkui, who lives in the soil and gives life to cultivated plants. Nightly, Nugkui comes to dance in the garden, and she is particularly fond of attractive, well-weeded swiddens (Harner 1972:71). Women usually cannot see Nugkui, but they may see her messenger, the nighthawk *sukuyá* (*Nyctidromus albicollis*), who comforts manioc plants when they complain of mistreatment.

Nugkui is by no means the only being of consequence in the garden; several species of cultivated plants have souls that must be reckoned with. As one would expect, the souls of manioc plants are the ones with which Aguaruna women are most immediately concerned. How people came to know that manioc plants have souls was explained to me as follows:

> Long ago people did not make gardens as we do today. Instead of waiting until the entire garden was cleared of brush and large trees, women began to plant manioc as soon as a small part of the garden was cleared. [Presumably, this was because forest clearance was much slower before the introduction of steel tools.] Thus the manioc was sometimes mature in some parts of the garden before the entire garden had been cleared.
>
> One day a man who was clearing a garden said to his wife, "If I cut down this big tree, it might fall on the manioc that is already growing. Shall I leave it standing or cut it down?" He decided to cut it down and instructed his wife to make manioc beer so that he could invite his kinsmen to help him.
>
> A few days later the men came, and after drinking manioc beer they began to chop down the large tree. Suddenly the souls of the manioc plants arose; they were people, lots of people. The manioc people said, "We will help cut the tree so that it won't fall in our direction." When the manioc people arose, all of the men fell asleep.
>
> Some of the manioc people began to pull a vine growing on the tree, while others cut the tree with axes. They pulled the tree so that it would fall away from them. As they pulled, the old manioc people sang, "Sons, pull hard so that the tree won't crush our children. When we're done we'll eat the head of a spider monkey."
>
> When the tree had been felled, the manioc people disappeared. Among the sleeping men, the man who had called the work party could hear the songs of the manioc people in his sleep. Because of this, we know that manioc has a soul, that it has people.

Although Karsten (1935:123) reports that the Shuar regard the soul of manioc as being female, Alto Mayo women reason that since manioc plants are "people," there must be both male and female plants, as well as adults and children. The belief that manioc plants are sentient gives rise to a number of practices intended to maintain good relations between a gardener and her crop, and thereby to progood harvest. First, when women harvest manioc they al- ave a few of the very largest plants unharvested so that these call" new plants to replace the ones just uprooted. One woman explained this in a slightly different way. "The large plants," she said, "sing to the replanted stems to make them grow well." Of the plants that are harvested, not even the tiniest tuber should be left behind lest this "baby" begin to cry because it has been abandoned:

> The other manioc plants come to console the baby tuber saying, "Why did our mother leave you behind? If she does this, how will the manioc grow so that she can make beer for our father?" To avoid this, you must always collect every tuber when digging up a manioc plant.

The souls of manioc plants are extremely dangerous during the first few months after planting. The young plants become thirsty, and if this thirst is not quenched by the appropriate means they may "drink the blood" of people passing through the garden. The drinking of blood is also called "soul eating," and as far as I could determine the two expressions are used interchangeably. Both soul eating and blood drinking denote a tapping of a person's life force such that he or she becomes weak, pale, and unable to resist death in the form of illness or snakebite. To avoid this danger, children are discouraged from playing by themselves in recently planted manioc gardens (cf. Harner 1972:75).

While manioc is the cultigen most consistently attributed a soul, other plants of lesser importance—e.g., arrowroot, cocoyam, and achira—also have "people" with whom gardeners interact. One of the goals of a gardener is to encourage the plant "people" to assist manioc in its growth and development. So far as I know, nontuberous crops such as plantains, maize, and rice are never attributed souls, nor do they receive any ritual attention.

A few women spoke of a being whom they called the "manioc mother" (*mama dukují*) or "manioc master" (*mama muunji*). While I could obtain little information on this being—there was no consensus of opinion even on whether it exists—those women who mentioned it clearly distinguished it from Nugkui. They also suggested that it resides in the largest manioc plant in the garden. The manioc mother sometimes moves around in the garden while a woman is at work:

> When you hear a twig snap on the edge of the garden, you shouldn't look in that direction because it's the manioc mother. If you look at her, she gets angry and shits weeds. The whole garden fills with weeds. If you don't look at her, she is happy. She shits manioc and the plants grow quickly.

Clearly, the garden is a complex arena of human activity, one that requires a broader range of instrumental procedures than is usually implied by the term "technology." Apart from strictly botanical knowledge of the growth properties of manioc and other cultigens, gardening lore includes magical songs, beliefs and practices related to magical gardening stones (*nantag*), techniques for cultivating manioc with other plants believed to render it more productive, and miscellaneous avoidances that prevent horticultural failure.

Gardening Songs

Gardening songs, like the songs used by men during the hunt, are attributed an ancient origin. Some women claim that gardening songs come directly from Nugkui, but a more common belief in the Alto Mayo is that they were first sung by Yampan, the senior wife of Etsa, the sun. Yampan, a myth explains, had wonderful horticultural powers that she used to produce food for her family. When she tried to teach her food-producing magic to Etsa's other wives, however, they invariably made disastrous blunders. Tired of their incompetence, Yampan went to live in the sky after first teaching her daughters the secrets of gardening songs. In memory of the skill of Yampan, women sing "I am a Yampan woman" as they mash manioc tubers to make beer. This makes the beer sweet and strong, as Yampan's beer was reputed to be.

Every phase of the horticultural cycle, from clearing a garden to harvesting tubers, has its appropriate magical songs. The intent of the songs varies slightly according to the context, but their general purpose is to make the crops grow faster and more abundantly. One informant said simply, "If you plant a stem of manioc next to the stem of a forest plant, the manioc will always grow faster because songs help it grow." Specific gardening songs may also control weeds and pests, ward off influences that impede plant growth, and restrain the propensity of the manioc plants to drink human blood. Each type of song is performed during the activity with which it is associated. As is the case with all magical songs, singing may be done aloud or in the thoughts alone.

Aguaruna theories of how the songs affect plant growth vary substantially. Some people stress the mediating role of Nugkui, who is pleased by the songs and translates her pleasure into a lush garden. Others argue that the songs are heard directly by the plants, by the bird *sukuyá* (a Nugkui messenger), by the manioc mother, or by all of these. In the examples that follow, however, it is evident that while some of the songs are formally addressed to Nugkui and other powerful beings, many are simply descriptive or imperative statements: "Sweet potatoes are falling / yams are falling," "Let the manioc grow like the *wampu* tree," and so on. In this respect, gardening songs share much in common with the hunting songs discussed in the previous chapter.

Women think of gardening songs as valuable personal possessions that should be accumulated and hoarded rather than shared freely with their peers. Indeed, comments made during interviews and the contents of gardening songs themselves suggest that women see their relationship to other gardeners as potentially competitive, even hostile. They are secretive about their songs and magical gardening stones. They fear envious comments made by other women about their gardens, since these can have a negative effect on plant growth, and they occasionally use songs to curse women who surreptitiously enter their swiddens. Because a woman's personal prestige and her desirability as a wife are at least partly determined by her horticultural productivity, the magical knowledge that ensures this productivity is a jealously guarded commodity.

The following are some examples of gardening songs known to women of the Alto Río Mayo. In choosing examples for analysis, I have used songs whose translation I am satisfied with and which are fairly representative of their class as a whole.

Songs for Selecting and Clearing a Garden Site

As was noted earlier, the responsibility for choosing a garden site usually falls on a woman's husband. However, women believe that certain songs create favorable conditions for garden site selection. The following song, A.7, is sung by a woman as she accompanies her husband on his search:

A.7 The soil of the ancients he will find
Manioc that does not spoil he will find
Yams that grow fat he will find
Peanuts that grow fat he will find
The soil of the ancients he will find
Being a Nugkui woman,
I come without bringing misfortune
Shakáim man, lead the way

Others say that I make a garden
They themselves work poor soil
[In] mine, [in] mine
The soil of the ancients he will find
Yams that grow fat he will find
Manioc that does not spoil he will find

The Aguaruna word that I have glossed as "the ancients" in the first line of A.7 is *ajútap*, which also denotes the spirit that comes to vision-seekers. All of the people whom I consulted insisted that in this context *ajútap* refers not to the spirit but to "ancestors" or "old ones" in general. Nevertheless, the word inevitably has resonances of spiritual power. The gardener seeks soil that is as fertile as that of ancient women such as Yampan and as untouched by human activity as a remote, ancestral forest. Thus establishing the fertility of the soil, the song proceeds to describe the flourishing crops that will grow there, and in doing so the actors are metaphorically telescoped into a highly favorable future. Allusions to Nugkui and Shakáim, which have already been noted in hunting songs, appear again: "Being a Nugkui woman / I come without bringing misfortune / Shakáim man, lead the way." The singer and her husband fulfill traditional and complementary roles, and like the mythical beings who established these roles they can expect only good fortune to come as a result.

The work of felling trees and clearing underbrush at garden sites is both arduous and risky. Falling trees sometimes cause injury or death, and men cutting brush are frequently exposed to the dangers of snakebite. A knowledgeable wife sings songs that protect her husband from these threats to his well-being. These songs may, for example, equate her husband with the coati (*Nasua rufa*), an animal that reportedly is unafraid of snakes and skillful at dodging their attacks. The woman also goes frequently to the garden to serve beer to her husband and the other men working there. During these visits, she is exposed to sights and sounds believed to exert a baneful influence on her gardening ability—the whistling and joking of the men as they work, the crack of falling trees, the sight of leaves fluttering to the forest floor. It is the fate of men to destroy plants so that their wives can give plants life, and a woman's contact with this male activity diminishes her growth-promoting powers. To protect herself from these harmful influences, a woman sings songs such as the following:

A.8 Large, ugly demon's eye [the look
of her husband as he turns to drink beer]
Bringing misfortune with your look
Bringing misfortune with your whistle
I never fail, I never fail
A Nugkui woman cannot fail

A.9 Doves, doves [i.e., the falling leaves of felled trees]
Manioc is falling

It is not leaves that fall
Sweet potatoes are falling
Yams are falling
I am a little woman of Nugkui
I cannot fail

A.8 acknowledges the damaging influence of the sights and sounds of men's work (the "demon's eye" of the husband, the shrill whistles of the men as they encourage each other while chopping large trees), but states that, being a Nugkui woman, the gardener will not suffer misfortune. I find A.9 to be a particularly elegant song because it metaphorically converts the falling leaves—the sight of which can be harmful to a woman's ability to cultivate—into falling tubers, an auspicious and beneficial image.

In songs A.7, 8, and 9, the name of Nugkui is invoked not in a supplicative way but rather as a symbol of gardening skills with which the singer strongly identifies. A.10, in contrast, consists of a direct plea for Nugkui's help:

A.10 In worn-out soil I make a garden
In the thicket of the bird *chuchumpiú*
I make a garden
Mother Nugkui, mother Nugkui
Let me know your manioc
I am an orphan among enemies
Almost dying I live
In worn-out soil I make a garden
In the thicket of the bird *chuchumpiú*
I make a garden
Mother Nugkui, mother Nugkui
The children of others cry like birds' offspring
"Chianana" they cry, suffering
My child does not do this
Mother Nugkui, mother Nugkui
Let me know your manioc

A.10 hyperbolically describes the misery of the gardener and the sterility of her garden to almost the same extent that earlier songs extolled her infallibility and good fortune. Emphasis on the suffering of the singer seems to be a characteristic shared by many supplicatory songs known to the Aguaruna, including those sung by men when they anxiously await a vision of an *ajútap* spirit. One vision-seeker's song, for example, laments: "I am so sad / weeping I leave my shelter / with my little tobacco bowl / how can I have a vision?" Both the songs used to attract an *ajútap* and to recruit Nugkui's assistance in the garden attempt to manipulate powerful beings by stressing the wretchedness of the supplicant.

Planting and Cultivation Songs

Planting is the most critical phase of the horticultural cycle from the Aguaruna point of view, and there is a substantial inventory of songs used to ensure that all will go well. To plant manioc, a woman first goes to her old garden and cuts short sections of manioc stems. While leaving the old garden with the stem cuttings, she sings:

A.11 I go, I go
I leave the old soil
The soil of the deer [deer are associated with abandoned gardens]
You are old
I go, I go
On the edge of the garden
The stems are rotten
You shout "chiya"
Calling my children

The woman who sang A.11 explained that it is directed to the below-ground part of the stem (*nantuji*), which is thrown to the edge of the garden when manioc is harvested. The song depicts these old, castoff parts of manioc plants calling tubers ("my children") to the new garden site.

A.12 is a passage from a longer song performed while preparing the soil with a digging stick:

A.12 Digging stick of palm wood
Sounding "tuh tuh tuh" on Nugkui's back
Because it sounds thus
Because it kills [when in the form of a palm wood lance]
A Nugkui woman never fails

Though brief, A.12 elaborates a complex and expressive metaphor. The song equates the percussion of the digging stick with drumming, which (as will be discussed shortly) has life-giving connotations in Aguaruna mythology. Unlike the sounds made by men when clearing a garden, the sound of a digging stick is an auditory expression of a woman's proper activity and therefore exerts a favorable influence on her labor. The song also plays on the similarity between the traditional palm wood lance and the digging stick; the lancelike stick kills weeds as the woman turns the soil. On a more abstract level, the allusion to lances is appropriate because a real lance draws blood, and one of the obligations of a gardener is to see that her manioc is given symbolic blood to satisfy its dangerous thirst.

When the young plants begin to develop, various songs are employed to ensure that their tubers become large and flavorful. A.13, an example of this kind of song, equates the tubers with objects of great thickness—the cayman's tail, the plant *seekemu* (which has a large root similar in appearance to a manioc tuber), a pig, and so on:

A.13 The tail of the cayman is lying there
The root of *seekemu* is lying there
The pig is lying there
On the other side of the garden
Let there be *wampu* [a large tree, *Ficus* sp.] on the other side
The root of *seekemu* is lying there
The pig is lying there
On the other side of the garden

Ideally, a woman should sing gardening songs day and night during the first three to six months of a garden's life, when the manioc plants are considered most vulnerable to drought and other harmful influences. A.14, directed to the manioc plants, expresses a woman's concern for their welfare and her unremitting efforts to help them grow through the use of song:

A.14 I don't sleep, I don't sleep [i.e., neglect singing]
As you [the manioc] sleep
You become as large as *mente*
[a large tree in the family Bombacaceae]
I don't sleep
You grow like the branches of *wampúsh*
[a large tree, possibly *Ceiba* sp.]
"My mother sleeps" you say
Why do you say it?
I don't sleep

A garden that grows conspicuously well invites the envious comments of other women. Even favorable comments can have a negative influence on a garden's growth, in much the same way that public comments on hunting can bring bad luck to a hunter. To prevent this sort of discussion from occurring, a woman sings:

A.15 "What person is this
What person is this
That she has so much manioc?"
Thus they say to me
"Your manioc plants abound"

A Nugkui woman cannot fail
A Nugkui woman cannot fail
They say I have much manioc
"Your manioc plants abound"
Who is saying this?
"That, that is *tsanímtsanim* [a weed resembling manioc]
The branches of *mamántug* look immature"
This they should say

Central to the meaning of A.15 is an ethnobotanical pun based on the morphological and linguistic similarity between the weed *tsanímtsanim* (*Manihot* sp.) and *tsaním*, cultivated manioc (*Manihot esculenta*). The identification of the second plant, *mamántug*, is in doubt, but at least one informant described it as a weedy aroid bearing some similarity to such cultivated aroids as cocoyam and taro. Both plants mentioned in the song, then, are weeds that strongly resemble cultivated species. The obvious intent of A.15 is to cause people to mistake the garden plants for weeds, thus diminishing the garden in their eyes and heading off envious comments.[4]

Harvesting Songs

The following is the only reasonably complete harvesting song that I was able to record in the Alto Mayo. The woman who sang it remarked that it is appropriately performed while digging up and washing manioc tubers:

A.16 Basket, basket, basket
Taking it on my back
I will walk
With the demon's fire [probably refers to coals
brought to the garden to burn weeds]
I will walk
Carrying
In the trail
Step by step
I will walk
In the trail
With the water of Atsut
I will wash [the manioc]
With the urine of the stars
I will wash
With the hands of Atsut
I will move [the manioc in the water]
With the urine of the stars
I will move
Petsa, petsa [duckweed, *Lemna sp.*]

I will put in the basket
Petsa, petsa
I will move

This song uses several metaphors and mythological allusions to construct its imagery of horticultural abundance. The first stanza evidently describes a woman's morning journey from house to swidden. She carries a basket and some coals from the fireplace, the latter to be used for kindling a small fire to burn weeds. Returning with a full basket, she stops to wash the tubers in a stream or river. "With the water of Atsut," begins the second stanza, "I will wash / with the urine of the stars / I will wash." The allusion to Atsut is based on a myth (a variant of which is found in Jordana Laguna 1974:39–44) that identifies Atsut as a person or group of people who receives the souls of the dead as they ascend into the sky. In an Alto Mayo version of this myth, Atsut places the dead in a drum-like container and restores them to life by beating on it. Later on in the same tale, Atsut and the souls of the dead change themselves into fruits and tubers when they are frightened by an attack of ants whom they mistake for warriors. Atsut thus has at least two qualities that lend themselves to the representation of fertility: (1) the power to change into edible plants, and (2) the ability to impart life through rhythmic pounding, just as the gardener brings life to her swidden by beating on the ground with her digging stick.

The succeeding phrase, "With the urine of the stars / I wash," is more difficult to interpret. Some people contend that the urine of the stars is simply dew, and that the phrase means that the woman washes the tubers with hands as cool as dew rather than with hot hands that can harm the manioc. Star urine, however, is given a different identity in a myth about a man who marries a star that comes to earth in the form of a woman (Jordana Laguna 1974:132–36). The star-woman urinates small, colored beads (*shauk*) instead of ordinary urine. The sensible properties of beads include their abundance—it takes many beads to fill a small volume—and attractiveness; they are the most highly valued ornaments owned by Aguaruna women. The phrase "With the urine of the stars / I wash" can thus also be construed to suggest that the woman brings the tubers into contact with numerous beads. This image leads naturally to the next metaphor, which turns on the properties of the plant *petsa*. *Petsa* is a diminutive but extremely prolific aquatic plant, *Lemna* sp. or duckweed. The name *petsa* is related etymologically to the verb *petsat*, "to lay eggs"; apparently the plant is fed to chickens to increase their egg production. The song substitutes *petsa*, a fertility-inducing, prolific, abundant plant, for the manioc tubers that the woman washes. The principal idea behind this and the preceding star-urine metaphors is that the tubers should be as numerous, fecund, and attractive as beads or *petsa* plants.[5]

As A.16 demonstrates, many of the symbols and images of gardening songs originate in mythology. The examples already adduced allude to Nugkui, Yampan, Shakáim, and Atsut. Another myth figure frequently mentioned in gardening songs is Uwanchau, a being who is identified in this grisly tale:

> Long ago, a woman whose newborn child had recently died came upon an infant in the forest. It had been brought by the wind. The baby cried "uwá, uwá." Because of this it was called Uwanchau. It had very fat lips. The woman took Uwanchau home and began to nurse it. It sucked and sucked until the woman had no more milk. Then it kept on sucking until it drank all of her blood and the woman died. Her husband killed the baby Uwanchau with his machete. The baby was full of blood.

Gardening songs often end with the couplet, "I am a Nugkui woman / I am an Uwanchau woman." The persuasive intent of the identification of the gardener with Nugkui is obvious, but why the comparison to the ghoulish infant Uwanchau? I feel that this usage has a twofold significance. First, by saying that she is like Uwanchau a woman establishes an affinity with her "children," the manioc plants, which are also beings capable of sucking blood. Second, a woman who is full of blood like Uwanchau has demonstrated that she is able to control the dangerous thirst of her manioc plants by using the appropriate songs and rituals. That is, she has retained her blood because her manioc plants have been unable or unwilling to take it from her owing to her ritual knowledge. By invoking the image of Uwanchau in this context, the gardener implies that she is close to her plants and that, like a mother controlling her children, she prevents them from misbehaving.

Gardening Stones

> Long ago gardens did not grow well. A young man married a girl and came to live at her father's house. The girl said to her mother, "Are there no plantains to serve?" Her mother went to the garden to get plantains, while the girl stayed behind. As the woman walked she cried with shame because her garden did not produce fine harvests of manioc and other crops. Then in the trail she saw an *ajútap* spirit in the form of a jaguar. It was small, like a cat, but it had a terrifying voice. The woman was so sad that she passed the *ajútap* saying, "Let it eat me."

> When she came to her garden, the jaguar was lying across a log with a stone in its mouth. The woman took the stone and put it in her own mouth. The jaguar, now grown large, arose and knocked her over. It urinated all over her and said, "You will have good fortune with the plants in your garden." Then it disappeared.
>
> The woman cut some plantains and returned to her house, where the others had begun to worry about her delay. She told her daughter to cook the plantains. She changed her clothes, bathed, and went to a small shelter in the forest. She drank tobacco water. That night the jaguar *ajútap* appeared in a vision and spoke to her. It said, "I am going to leave gardening stones (*nantag*) in a special place. You will use them to plant manioc." It disappeared.
>
> She got the stones and returned to her house. Her daughter's husband gave her meat to cook and eat. She told her husband and son-in-law to make her a new garden. She planted manioc using the stones. Soon the garden was full of manioc with huge tubers. She made a new beer urn and a great quantity of manioc beer. They got drunk, and when the woman danced with her husband she sang *"Juj, juj."* This is the call of the jaguar. Thus it was. Because of this, all women want gardening stones.

This myth about a woman's visionary experience and the jaguar's gift is typical of narratives related to a category of magical stones called *nantag*. Women use *nantag* stones to increase the productivity of manioc and other tuberous crops. Because the acquisition and use of *nantag* are considered essential to horticultural production, these stones are a woman's most closely guarded personal possessions.

Aguaruna women conventionally describe *nantag* as shiny, red pebbles, a claim that is consonant with Harner's statement that similar stones used by the Shuar are "chips of unworked red jasper" (Harner 1972:72). However, from my own observations and those of Margaret Van Bolt, the *nantag* used by Alto Mayo women actually resemble riverbottom pebbles of two to ten centimeters in diameter and of various colors (Brown and Van Bolt 1980). A few women state that the color of the *nantag* indicates the cultigen with which it is primarily associated—e.g., red stones are for manioc, black stones are for yams, and so on—but this opinion is not widely held. Most women feel that the actual color of the stone does not affect its powers, though as we shall see it is significant that the archetypal color of *nantag* is red.

Although it was difficult to penetrate the secrecy surrounding *nantag* use, I was able to determine that most, if not all, adult women own several of them that they have obtained in various ways. The most powerful *nantag* are those that a woman inherits

from her mother or some other older kinswoman because these stones have been used for a generation or more and in some cases may go back to the time of ancestors. During the course of her life, a woman also accumulates new *nantag* to which she is guided in dreams or finds accidentally in the course of daily activities. A woman describes how a dream led to the discovery of one of her many *nantag*:

> This stone is the tapir's *nantag*. Long ago my husband found a tapir's trail. He followed the trail and came upon a curassow sitting in a tree. He shot the curassow and returned home. That night he had a dream in which a person came to him saying: "Where you were yesterday, in the tapir's path, there is a log that crosses the trail. There I am going to leave a stone. Tomorrow you should go there and get it. This is a stone for manioc and yams. I never suffer from hunger [i.e., because the stone is powerful]. Don't neglect the stone. Give it achiote to drink, because it killed my sister. Take care of it." The next morning, he went to the spot and found the *nantag* stone on the log across the tapir's trail.

While this account is somewhat unusual in that the woman's husband is the one who dreams of the stone, in other respects it is typical of many such experiences described by Alto Mayo women. The person who appears in the dream is sometimes said to be Nugkui. In other cases, the speaker is the nighthawk *sukuyá*, an *ajútap*, or an animal spirit.

Women occasionally stumble across *nantag* in a totally unexpected manner. A shiny stone found in the nest of a bird or rodent, or in the entrails of certain fish, is often suspected of being a *nantag*. Women say that a stone may catch their eye by "moving by itself" on the riverbottom; this, too, is a sign that the stone is a *nantag*. My co-worker, Margaret Van Bolt, once witnessed the discovery of a possible *nantag* while helping a woman harvest manioc. The woman, Wampurái Peas, found a pebble next to the tuber she was digging, an unmistakable sign that the pebble was associated with manioc growth. After cleaning the stone and examining it carefully, Wampurái wrapped it in a rag and commented that she would later test it to see whether it had the power of a *nantag*. One tests a suspected *nantag* by bringing it into contact with stem cuttings during planting and then looking for evidence of unusual growth. Stones that have no visible effect on plant growth are simply discarded.

Opinions vary as to the ultimate origin of *nantag* stones. A common belief is that Nugkui created the stones to help women with the arduous work of gardening. A different though not necessarily contradictory account was given to me as follows:

> Our ancestors in the Alto Marañón had *nantag* just after the earth was made, but they threw them away. The nighthawk [*sukuyá*] collected the best ones and has them now. The great tinamou [*waga, Tinamus major*] also has them. So do the crab and the honeybee.

Still another explanation is that the stones originally belonged to the night bird *tugkuíjau* (unidentified). This bird cared for the stones as if they were its eggs, until they were stolen by human beings.

Women use *nantag* to encourage the growth of cultivated plants by bringing the stones into contact with cuttings of manioc and other cultigens just before they are planted.[6] This is accomplished in a brief ritual performed privately in the garden.

Before planting a new garden, a woman collects stem cuttings of manioc as well as tubers or cuttings of other root crops—taro, yams, cocoyams, achira, and sweet potato. Peanuts are sometimes also included. When she is ready to plant a section of the garden, she rises early in the morning, carefully washes her hands, and goes to the garden without eating. She takes with her the tubers and manioc stem cuttings in a basket, her *nantag* stones wrapped in a piece of cloth, an old ceramic or metal pot, enough water to fill the pot, and a number of pods of red-staining achiote (*Bixa orellana*). She may also bring one or more of the following plant substances: the roots of *wampúsh* and *mente* (both of which are trees), the root of the herb *seekemu* (source of a native soap), and the roots or bulbs of the medicinal herbs *pijipíg* and *kampának*. (See Table 6.) In some cases, the bowl, water, *nantag* stones, or plant substances are stored in a small shelter in the garden in preparation for the planting ritual.

Upon arriving in the garden, the woman crushes a pod of achiote and uses the red pulp to paint lines on her cheekbones and on those of other people who may be accompanying her, e.g., her children. This is done because the *nantag* stones (and the manioc plants, if some have already been planted) are potentially dangerous, and it is important that the woman and her companions identify themselves as friends by being painted.

The woman unwraps the *nantag* from their cloth and puts them in a bowl. Then she mashes the rest of the achiote pods and puts the red seed pulp in the bowl, mixing it with water to form a red liquid. If the other plant materials mentioned earlier have been collected, they are now mashed and mixed with the liquid in the bowl.

TABLE 6
Plants Used in Manioc Planting Ritual

Aguaruna name(s)	Scientific name	Part used in ritual	Key attributes
ipák, shampu, pisu	*Bixa orellana*	fruit, seeds	Source of red dye.
wampúsh	*Ceiba* sp.?	root	Large, fast-growing tree of great girth.
mente	Unidentified member of Bombacaceae	root	Large tree; repository of shamanistic powers.
seekemu	Unidentified	root	Has a thick root, similar to manioc tuber; also used as a soap which produces foam similar to that of manioc beer.
pijipíg	*Cyperus/Carex* sp.	root	Has diverse magical/ medicinal powers
kampának	*Eleuthrine bulbosa*	bulb	Medicinal powers?

Principal Source of Species Determinations:
Berlin and Berlin 1977:22–25.

The root of the soap plant *seekemu* is cut up with a machete and the pieces rubbed together in the red liquid to form a sudsy mixture. All the ingredients are then stirred with a manioc stem. Although Aguaruna women handle *nantag* freely in other contexts, they say that when stirring them with other ingredients one must not touch them or the stones might lose their power.

In one of the planting rite performances that was recorded, the gardener sang the following song while stirring the red mixture of stones, water, and plant substances:

A.17 My child has hair cut in bangs
My child has blood
The enemy's child has an oval face
Drink his blood

My child has blood
Drink, drink the blood of the paca
  [a large rodent, *Cuniculus paca*]
Drink, drink the blood of the agouti
  [a large rodent, *Dasyprocta aguti*]
Don't drink the blood of my child
Let the manioc of my enemies come to me
Come, come

The red liquid is then poured over the manioc stem cuttings and other tubers that are to be planted. While pouring, the woman is careful not to pour out the stones and mashed plant substances. To give themselves luck in planting, the woman and her daughters may wash their hands in the red liquid as it pours out of the pot onto the pile of cuttings and tubers. Then the manioc stem sections are planted by lifting the soil with a palm wood spade and inserting the stem in the ground. If manioc planted on previous days is already growing in the garden, the woman reserves some of the red liquid and later sprinkles it over the young plants, saying "Drink, drink." After the entire garden has been planted, a process that may take several days, the *nantag* are placed in a covered pot and hidden somewhere in the garden, usually at the base of a large tree. This is done so that the stones will be close to the developing plants but invisible to potential thieves.[7]

The principal purpose of this ritual, from the Aguaruna point of view, is to convey the growth-promoting powers of the *nantag* stones to the manioc stem cuttings and other cultigens. The medium for this transfer is the red liquid made of achiote and water in which the stones are immersed. Aguaruna women state that the red liquid satisfies the dangerous thirst of the manioc plants; some women explicitly refer to the liquid as "blood." The plant substances added to the "blood" further increase its power by transferring their desirable qualities to the liquid and, through the liquid, to the manioc. The root of *wampúsh*, for example, is mixed with the liquid "so that the manioc will be thick like the trunk of the *wampúsh* tree," and so on. These plants and the attributes that relate them to the planting ritual are listed in Table 6.

While the primary purpose of the planting procedure is to encourage the growth of crops, it has a secondary function of a defensive nature. The Aguaruna state emphatically that *nantag* stones, like manioc plants, have a propensity to "drink the blood" or "eat the soul" of people who pass through the garden. If anything, the stones are more dangerous than young manioc—so dangerous, in fact, that they are classified as *yukágtin*, "things that eat us," a

distinction that they share with the jaguar and the anaconda. Women occasionally find human hair wrapped around their *nantag*, almost like a nest. This is a sign that the stones have eaten the soul of the hair's owner. A woman told me this tale of soul-killing by *nantag*:

> One day a woman left her *nantag* in the garden. Her son came there alone to take cocona fruits. That night she had a dream in which the *nantag*, in the form of a person, sang to her, "Mother, mother, I have eaten." The woman awoke and thought, "Why did she speak to me like that?" She went to her garden to look at her stones. On top of the stones was a bunch of human hair. She asked her children, "Who went to the garden?" Her son said, "I went hunting, and on the way home I was hungry and ate cocona fruits." He soon died of snakebite. The *nantag* had eaten his soul.

The planting ritual and its songs protect the gardener and her family from the *nantag* by slaking their dangerous thirst. The ritual is not the only context in which the stones are fed; a prudent woman immerses her *nantag* in achiote and water "blood" about once a month to keep them satisfied. Said one woman: "Each month the *nantag* must drink achiote. If they are not fed, they can eat us." When the stones become thirsty, the owner may have a dream in which a young girl tells her, "Mother, I am suffering from thirst. Please give me something to drink." To feed the stones, a woman takes them from the cloth in which they are wrapped and leaves them in a bowl of achiote and water for several hours or overnight. The stones are then removed from the liquid, dried off, rewrapped in cloth, and returned to their hiding place.

Besides having the propensity to drink blood or eat souls and the ability to assume human form in dreams, *nantag* stones also move by themselves as if alive. A woman who fails to keep her stones well fed and securely wrapped in cloth will someday find that the stones have "run away." I was told by one woman that as a young girl she went to a woman's garden and came upon a bowl full of *nantag* immersed in water and achiote, which had evidently been left there by the garden's owner. She stole two of the stones—they were, she said, "so pretty that it was impossible to resist taking them"—and later gave them to her mother, who was very pleased. That same night the girl dreamed that a child was saying to her, "I don't like it here. I miss my mother." The next day, the two stolen *nantag* had disappeared from their hiding place. They had undone the cloth and "escaped" by themselves.

Many Alto Mayo women distinguish between two categories of *nantag* stones, "true" (*dekás*) *nantag* and "false" (*wainak*) *nantag*.

True *nantag* are those that have the greatest power to assist plant growth; they are also the ones most likely to harm human beings. Stones known to have been used for many generations are likely to be classified as true *nantag*. False *nantag* are the stones that a woman acquires in her own lifetime. They have less power to promote plant development but offer the advantage of being less threatening to people. As far as I was able to determine, most Alto Mayo women have a mixture of the two kinds of *nantag*. Women who feel insecure about their ability to control true *nantag*—perhaps because their knowledge of magical songs is deficient—have been known to trade or sell them to other women, keeping only the false *nantag* that pose no immediate danger to anyone.

Aguaruna women seem almost obsessed by the fear that other women will steal their *nantag*, although I heard of few cases in which this actually occurred. Gardeners keep their stones hidden at all times when not in use; they are either buried in a covered bowl at the base of a tree stump in the garden or stored with a woman's valuables in the house. I recorded one song that reportedly is used to curse a woman who comes to one's garden with the intention of stealing *nantag*. The song is supposed to make the thief fall down in the garden—an action that in other contexts is interpreted as a sign that one's soul is being eaten—and then lose her ability to cultivate:

A. 18 Tai tai, tai tai [a shout, cry]
The one who annihilated us [i.e., an ancient enemy]
You knock down
Her face is pallid
Let her be ruined
Tai tai, tai tai
Let her be ruined
The one who annihilated us

The singer added, "When the woman falls, she is crushed by the worm *baga* (a garden-dwelling worm or caterpillar often described as an evil being in myths). Her entire body is crushed. She will always suffer for lack of manioc." If a woman must go through someone else's garden, she protects herself by tearing off some manioc leaves and putting them in her armpit, while saying softly, "Manioc, don't eat me. I am your owner, the one who planted you."[8]

Growth-Promoting Plants

Aguaruna women cultivate several kinds of plants that are believed to help their gardens develop rapidly. The most important of these growth-promoting species are the cultigens arrowroot, cocoyam, and achira. Besides being plants that produce edible tubers considered desirable in their own right, arrowroot, cocoyam, and achira have souls or "people" who bring water to the thirsty manioc plants in the garden:

> Arrowroot [*chiki*] is a woman adorned with a snail-shell dance belt. She carries water to the manioc. Cocoyam [*sagku*] brings even more water because she has big leaves to carry the water in. Achira [*tuju*] has a twisted arm [an allusion to the bent leaves of this plant?] and when she brings the water it sloshes out as her arm hits branches, but she always arrives with a little water. If a woman doesn't have these plants in her garden, manioc won't grow there.[9]

The belief that manioc will thrive only when planted with other cultigens provides a culturally compelling reason to maintain a mixed planting strategy in the garden. It also expresses the degree to which women see the relations of the plants in the garden as approximating human social relations. Many of the plants are "people," with husbands, wives, and children. The gardener is their "mother," who cares for them while maintaining order in their relations. By creating and maintaining a harmonious environment for plant growth, a gardener becomes the "Nugkui woman" so frequently mentioned in magical songs.

I was able to gather fragmentary information on two other plants used to promote manioc growth: an unnamed variety of *pijipíg* and a papayalike plant called *tsampáunum* (possibly *Carica microcarpa*).

Earlier I mentioned the importance of *pijipíg* in such diverse fields as shamanism, fertility control, and hunting magic. The reported ability of *pijipíg* to encourage manioc growth appears to be an extension of the diffuse and wide-ranging magical powers attributed to it by the Aguaruna. In other contexts, people say that *pijipíg* attracts rain—indeed, Stirling (1938:116) goes so far as to identify "Piribri" as a Jívaro rain god—so it may be that through its association with rainfall the plant protects the manioc from thirst.[10] However, no one interviewed during my fieldwork offered an explicit account of how *pijipíg* promotes the growth of manioc and other cultivated plants.

Tsampáunum is planted so that it grows intertwined with one or two manioc plants in each garden. It produces bright red fruits that the Aguaruna consider poisonous, although non-Indians of the region reportedly eat them. Here again, people offered no clear statement of how the plant helps manioc. Some informants remarked that the fruits are "just like *nantag* stones," leading me to suspect that it is the fruits' color, through its chromatic associations with blood and *nantag* stones, that links this plant to garden productivity in Aguaruna thought.

Finally, a few Alto Mayo women mentioned the existence of a special variety of manioc, called *yapáu mama* (literally, "bitter manioc"), that women plant at the edge of the garden to promote growth and to poison garden pests such as the paca and agouti. They said that few Aguaruna women have this variety, and that it is most commonly found among the Chayahuita Indians, with whom Alto Mayo people have occasional contact. Presumably, the plant they are referring to is true bitter manioc, that is, one of the manioc varieties that must be processed before consumption because of its high prussic acid content. As far as I know, no Alto Mayo women cultivate bitter manioc (nor do ethnographic sources mention bitter manioc cultivation among other Jivaroan groups), but it is interesting that gardeners have heard of it and attribute it unusual powers.

Gardening Avoidances

Certain juxtapositions of objects or acts are detrimental to plant growth and therefore to be avoided, especially during planting and the first few months of a garden's life. Gardeners avoid sexual relations immediately before, during, and after planting days because the pollution of intercourse can have a negative effect on highly vulnerable manioc cuttings. (Contact with sexual pollution also destroys the power of *nantag* stones; this in turn prevents the full development of the garden.) Women apparently avoid newly planted gardens during their menstrual periods, since the smell of menstrual blood "burns" the plants, causing them to turn yellow and sickly. The smell of newborn infants is similarly dangerous, presumably because of neonates' association with placental blood.

I collected from various women a heterogeneous list of less important avoidances:

- During manioc planting, women should not eat the feet of any game bird or domestic fowl, "so that the manioc will not be thin." One informant added a prescriptive dimension to this belief by commenting that it is good for a woman to eat the foot of the tapir because this makes the manioc grow well.

- On planting days, a woman should not wash her lower legs when bathing lest her manioc "stay as thin as our calves."
- Women do not comb their hair in the garden because this prevents the manioc stems from growing well.
- Manioc is not roasted in the coals on planting days "because the heat of our hands [acquired when a woman removes the roasted manioc from the coals] would burn the plants."
- Sometimes when planting a swidden, a woman digs more planting holes than she has manioc cuttings to insert. Instead of leaving the holes empty until more cuttings can be collected, the gardener "plants" twigs of any available tree until they can be replaced with manioc stems. "If a hole were left empty," said one woman, "a deer might put its hoof in it and spoil the garden." The deer is one of the forms taken by demonic souls, and its contact with the new garden would be harmful to the growing plants.
- When planting, women never drink plain water when they are thirsty; manioc beer is always drunk instead. Opinion varies as to why this is important. Some women say that drinking plain water simply stunts the crop, while others take the view that avoiding water prevents the tubers from becoming hard and unpalatable.

The diverse avoidances are clearly intended to prevent bringing together things or activities whose salient qualities might be transferred to the garden with disastrous results. A woman who eats birds' feet on planting days, for example, juxtaposes the feet, which are outstandingly scrawny, with her manioc, which she wants to be outstandingly thick. The manioc might then assume the character of the feet, to the detriment of the garden. The taboo against drinking plain water has a similar logic. Water is a liquid drunk by the Aguaruna only when manioc beer is unavailable, that is, when they are in a state of temporary poverty. The gardener, therefore, avoids plain water lest the poverty it represents be transferred to her plants.

The Structure of Garden Magic

Here it would do us well to step out of this thicket of ethnographic details and try to look for a general pattern by which we can better understand horticultural practices and beliefs. What, if anything, do *anen*, *nantag* stones, and avoidances have in common? How is garden magic connected with notions of feminine identity?

The avoidances just described are testimony to the concern with juxtaposition that runs through all of the procedures intended to increase garden productivity. I have noted that while gardening songs differ in their intended aims, all of them are alike in that they pile up images of fertility, thickness, or unusual growth in a metaphorically dense verbal format. This juxtaposition of images in the context of practical activity is reinforced by the juxtaposition of objects (for example, the plant substances used in the planting ritual) similarly noted for their rapid growth or some other desirable characteristic. *Nantag* stones, palpable sources of spiritual power, are also brought into direct contact with the plants of the garden. Finally, gardening taboos guarantee that unfavorable juxtapositions—by which I mean the bringing together of objects or actions whose symbolic qualities are antagonistic to productivity—do not occur. By manipulating imagery, acts, and objects, a gardener consciously creates a new order in the swidden; she informs nature, restructuring it to serve her own ends. In this restructuring process, two symbolic themes or patterns of imagery are especially prominent: (1) the complementarity of men and women, and (2) blood and blood taking.

Subsistence tasks and other pursuits are, as I have noted, distinguished according to gender. Men perform the activities of highest prestige, hunting and warfare, as well as such additional tasks as woodworking, weaving, and basketmaking. Women labor in the swidden, tend domestic animals, and manufacture pottery. The attribution of highest prestige to male activities corresponds to a pervasive masculine bias that is also reflected in marital relations, politics, and religion.[11]

As is so often the case, the sexual division of labor lays the groundwork for a dialectical symbolism in which male activities, qualities, objects, and spirits are paired with and opposed to female activities, objects, and so forth. Some of the more obvious oppositions are listed in Table 7, but this twinned litany could be expanded to include additional cultural elements ad infinitum.

In their lucid analysis of sexual symbolism in a remarkably similar culture, that of the Ilongot of Northern Luzon, Michelle Rosaldo and J. M. Atkinson (1975:43) argue that "the opposition between life-giving and life-taking illuminates symbolic definitions of the sexes." The Ilongot, like the Aguaruna, are former headhunters who associate warfare and hunting with men and horticulture with women. Rosaldo and Atkinson suggest that the pervasive life-giving versus life-taking opposition ultimately boils down to one of nature (female) versus culture (male), since homicide is a willful cultural act while childbearing is the involuntary result of natural processes. Here, I think, the similarity to the Aguaruna case ends, for the Aguaruna do not elaborate the culture/nature theme as consistently as one might think at first glance. Women have certain traits that put them on the "culture" side of the equation: they sing better than men and are therefore more adept at using magical songs; they work in the garden, which is more culturalized than the forest domain in which men seek game. Even the elemental contrast between warfare and childbearing is not quite what it seems. Headhunting certainly requires the taking of life, but the rituals celebrating the acquisition of trophy heads confer life-giving powers on warriors and the women of their households (Karsten 1935). And as we have seen, the procedures used by women to promote plant growth may be life-threatening if not often life-taking.

TABLE 7
Aguaruna Symbolic Oppositions Based on Gender

Male	***Female***
warfare	childbearing
hunting	gardening
forest	swidden
above-ground crops (maize, plantain, tobacco)	below-ground crops (manioc, sweet potato, etc.)
woodworking	pottery manufacture
Etsa (Shakáim)	Nugkui

Rather than being concerned with sexual opposition per se, Aguaruna myth, ritual, and song consistently emphasize the interdependence of men and women, and the mutual benefit that accrues as a consequence of male-female collaboration in all fields of endeavor. This concern is consciously expressed in a variety of situations, including the formal speeches that men give to their families in the early hours of the morning (cf. Harner 1972:104–5). Men gain prestige by extending hospitality in the form of manioc beer, the abundance of which depends on the horticultural skill of their wives. Women, of course, are equally dependent on men, since it is men who obtain meat, prepare a garden for planting, and defend the household against attack. Men and women bring separate understandings and, by extension, separate powers to subsistence activities. Women convey their knowledge of Nugkui and the swidden domain obtained through the instruction of childhood, the visionary experiences of adolescence, and adult years at work in the garden. Men bring their own knowledge, based on visionary insights obtained through their more extensive experience with hallucinogens and their long apprenticeship to the craft of reading the subtle signs of the forest.

The magical practices associated with hunting and horticulture share this concern with sexual complementarity. Many of the metaphors of hunting songs derive their meaning from the fact that attraction between men and women creates conditions favorable to the attraction of game. Equally fruitful results may come when a woman, singing *anen*, accompanies her husband during his search for a new garden site. Some songs call attention to the special dangers that come with the bringing together of opposing qualities. When a woman intrudes on the male task of felling trees, her future productivity may be put in jeopardy unless she protects herself by singing songs such as A.5. Once the garden is planted, it is the man's well-being that is threatened—in this case by the bloodthirsty manioc plants and *nantag* stones—so a woman takes precautions to defend him. A man who takes his wife hunting must magically reassure the game animals that she poses them no danger. Her presence then becomes an attracting force rather than a repelling one.

Because the ideal, balanced union of man and woman in subsistence tasks cannot always be realized, magical songs construct it through the appropriate imagery. Songs create and safeguard the beneficial complementarity of the sexes at the same time they celebrate it in an expressive medium.

The second pattern of imagery prominent in garden magic is related to blood and blood taking. Why should blood imagery be important in so bloodless an activity as gardening, when it scarcely figures at all in hunting, a pursuit that entails contact with real blood?

The question is not an easy one to answer, nor did the Aguaruna themselves shed much light on it in their comments. In common with people in many other societies, the Aguaruna think of blood as a life-giving substance intimately related to human vitality. Harner (1972:149) says that the Shuar see blood as a manifestation of the "true" soul, that is, the soul that people have from birth to death. Although this does not accord precisely with soul beliefs in the Alto Mayo, it does underline the connection between blood and life in Jivaroan thought and helps to explain why "blood drinking" and "soul eating" are often used as equivalent metaphors. We have already seen that hunting and horticulture, the quintessential subsistence activities of men and women, stand as paired opposites.

Within the logic of this opposition, men take blood in the course of killing animals while women give blood (either voluntarily, in the form of achiote and water, or involuntarily, as soul substance) to impart life to plants.

More than an abstract symbol of vitality, blood is a sign of women's fertility. Many Aguaruna women say that menstrual blood appears "because a woman is going to get pregnant," in other words, because postpartum amenorrhea has ceased and a woman is again ready to conceive (Margaret Van Bolt, personal communication). Menstrual blood is a manifestation of the mythical being Etse (not to be confused with Etsa, the sun), whom myths describe as an extremely seductive woman with a scent so magnetic that men cannot resist having intercourse with her (Akuts Nugkai et al. 1977, I:281–83). Alto Mayo women say that they menstruate because "Etse cuts their wombs," causing them to bleed and thus restoring their capacity to conceive. Some accounts describe Etse as an essence or quality present in all women. Men who wish to avoid polluting contacts while on the vision quest must not look at any women they meet lest they "see Etse" and thus lose the chance of having a powerful vision. Etse, then, is more than a mythical being—she is a female essence, at once attractive, fecund, and dangerous to men. All of these qualities are reified in menstrual blood. Women attempt to control their menstruation through an elaborate technology of fertility regulation (E. A. Berlin 1977). The sanguinary themes so prominent in Aguaruna garden magic are part of the feminine concern with regulating reproductive power through the control of blood.

Another property of blood is that it is the medium by which thought is conveyed within the body. As it is used in the planting procedure, the achiote and water "blood" gives palpable evidence of the transfer of thought (in the form of gardening songs) that is taking place between the gardener and her plants.

The chromatic correlate of recurrent blood imagery is found in the prevalence of the color red in garden magic. Women apply red face paint before entering the garden on planting days; the red dye achiote is used to make the "blood" poured on the manioc cuttings; *nantag* stones are described as red, even though they often aren't; gardeners cultivate the plant *tsampáunum*, which has prominent red fruits, to promote the growth of their manioc. There is an obvious connection between blood and the color red, but beyond this it is hard to see how the prominence of red in garden magic fits into a broader pattern of color symbolism such as that which Victor Turner (1967) found among the Ndembu. The importance of colors for the Ndembu is relational: red, white, and black each have fairly fixed meanings, but it is their incorporation in dyadic and triadic relationships (red vs. white; red and white vs. black) that generates movement in the symbolic representations of ritual. In the Aguaruna case, though, I never observed a circumstance in which red was opposed to any other color. Moreover, most Aguaruna recognize five basic color categories (Berlin and Berlin 1975), which necessarily makes the relations between colors more complex than those observed among the Ndembu, who have a three-term system. Other ethnographic sources on the Jívaro have little to say about color symbolism, and Norman Whitten's interesting observations on the meaning of specific colors among the closely related Quichua (Whitten 1976, 1978b) are the only evidence that there might be more to this subject than met my eye in the Alto Mayo.

Manioc Horticulture as Practical Signification

Facing the sheer density of Aguaruna manioc symbolism, it is easy to think of gardening lore as being somehow independent of the more strictly technical aspects of horticulture. When talking to a woman in her swidden, however, one is reminded at every turn that these beliefs are not just quaint and expressive ideological tidbits but important calls to action.

Earlier I noted that women customarily plant cocoyam, arrowroot, and achira in their gardens so that these plants will "bring water" to the young manioc cuttings, thus helping the manioc grow quickly without eating the souls of human cultivators. The practice registers an effect that is eminently material—the intercropping of cultivars in the swidden. A cultural materialist might argue that the beliefs behind this practice are caused by and epiphenomenal to its "real" purpose, which is to maintain (through magical belief) a system of polyculture that helps the Aguaruna adapt to their tropical ecosystem. This reductionist approach, which is probably unprovable even on its own terms, founders on the principle of parsimony: why should such a belief, and the elaborate theory of manioc growth on which it is predicated, be needed to ensure the maintenance of a practice as simple as polyculture? Symbolists fare no better here. They would see the practice as a symbolic statement that addresses existential problems and gives voice to the cultivator's concern about her crop.

If one sets aside the action/meaning distinction implicit in both of these formulations, it is evident that the practice is situated within a "meaning-full milieu" (Chevalier 1982:43)—a manioc production system predicated on the idea that key cultigens possess human characteristics and needs. Certain cultigens have special qualities relative to others just as, in society, some people are gifted with unique skills. Both the manioc cultivation practices that we consider technical (varietal selection, planting, weeding) and those that seem magical (singing *anen*, using *nantag*) address the perceived needs of the sentient manioc plants. All aspects of garden work are equally part of meaningful horticultural practice.

A different instance of the process of practical signification is found in the manner by which new manioc varieties are introduced into cultivation. Despite some statements to the contrary (e.g., Sauer 1969:46), recent research has shown that many cultivated varieties of manioc retain an ability to produce flowers and fruits with viable seeds. They may cross freely with other varieties of cultivated manioc or with different species of the genus *Manihot*. In their definitive taxonomic study of the genus, David Rogers and S. G. Appan (1973:34) remark:

> Wherever the species [*Manihot esculenta*] occurs (or has been transported by man), there is evidence (putative) that the plants have hybridized with other locally-occurring wild species, thus changing the genetic composition of the cultigen in such ways that the hybrid produced becomes a cultigen essentially unique to the region where the hybridization occurred.

Most ethnographic descriptions of Amazonian manioc cultivation have nothing to say about the role of seed-grown manioc varieties, yet it is difficult to see how so many cultivars of manioc could have come into use if the plant were propagated only vegetatively, a procedure that is in fact a kind of cloning.

That manioc plants produce viable seeds is no mystery to Aguaruna women. They do not commonly plant manioc seeds for the simple reason that their growth takes longer than plants propagated by cuttings. From time to time, however, knowledgeable women find seed-grown plants in recently abandoned gardens. They say that these plants (called *tsapak mama*, "grown manioc") have the potential to be highly productive varieties.[12] Women therefore take cuttings from promising-looking plants and cultivate them under controlled conditions, which from the Aguaruna perspective include the use of garden magic. New varieties that respond well to these procedures are incorporated into the garden inventory and propagated like any other of the many manioc varieties that each woman has in her swidden.

Young women ask older kinswomen for cuttings of these new varieties because an older woman has accumulated more gardening expertise and is therefore more likely to have treated the plant in such a way that it will produce well. In taking inventories of manioc variety names, it was not unusual to come across varieties named after the woman who originally discovered and propagated it (e.g., *Urucínta mama*, "Rosinda's manioc"). Young women could look for new varieties in their own abandoned gardens, and to some extent they probably do, but they prefer to get them from older women whose expertise in magic is widely recognized. James Boster (1980:41) discovered an identical movement of new cultivars during his research with the Aguaruna of the Alto Marañón:

> Some of the older women took a special pride in their knowledge and ownership of a range of different cultivars of manioc. The gardens of these women served as a source of rare cultivars for other women in the community. Younger women tended to cultivate only the core of the most common cultivars and I suspect would be likely to treat a manioc volunteer as just another weed.

The movement of new varieties between women even ties into the network of regional trade. The Aguaruna of the Alto Mayo say that the Aguaruna of the Alto Marañón have greater knowledge of magic, especially garden magic. In their contacts with kinswomen from tributaries of the Marañón, Alto Mayo women try to obtain (by purchase or trade) new varieties of medicinal and food plants, including manioc, in part because they believe that the Marañón women's superior magic inevitably produces better plants. Varieties from the Chayahuita Indians, a distant Cahuapana-speaking group, are still more highly valued.

From the Aguaruna perspective, then, new varieties of manioc are found by women of acknowledged expertise in magic and eventually make their way into the gardens of less knowledgeable women. From the analyst's point of view, new varieties of manioc originate through cross-pollination in abandoned gardens, are selected by women with superior technical proficiency, and are then disseminated to other households and eventually to other regions. The system of expertise in magic that underlies this pattern contributes to the continual assimilation of new genetic material into the garden, with obvious adaptive benefits. While this fact does not in any sense account for the existence of garden magic, it does demonstrate the degree to which the interpenetration of magic and technology constitutes a meaningful and successful form of food production.