

Scene 3: Burning.

The burning of the tumba usually takes place during ~~the~~ late March or early April, but some of the farmers who felled in January burned as early as February. The place for this scene is, of course, the tumba, the mass of desiccated vegetation on the mountainside. The principal activity of this scene is the placing of fire on various parts of the tumba.

This activity is performed by the mountaineer himself. He usually recruits help, in one of the fashions listed in the preceding section, not because the act of burning could not be done alone, but because the birning could take a course which one man alone might not be able to control.

There are two principal dangers involved in the firing. The first is that the firing may not effectively burn up the vegetation. The second is that the fire may accidentally spread to standing vegetation surrounding the tumba and get completely out of control, burning up pines and resulting in stiff fines.

It will be recalled that in the act of appropriating a site, the farmer will have slashed an alley around the perimeter of the site. Before the burning, this alley is once again cleared out, all vegetation found there being thrown into the center of the tumba. Thus there is a firebreak several yards wide around the perimeter of the tumba.

Over and above the strategy of having a lot of people on hand during the firing, there are other precautions which the serrano may take if the surrounding vegetation appears especially inflammable. The fire (candela in local terminology) is usually begun at the bottom of the tumba. The farmer lights a peice of cuaba (inflammable pine wood) with a match, and kindles the tumba in several spots at the bottom. The fire then rushes upward, and within an hour the candela is over.

If the vegetation above the tumba appears especially inflammable, the candela will be kindled at the top, and the fire will work its way downward. The candela takes longer, but there is less danger of its getting out of control. And if the forest ranger perceives a special danger in this particular site, he will have instructed the farmer to burn off the tumba at night. In this fashion the escaping sparks are made much more visible.

It is of great importance that the firing be a success. if the vegetation is only partially burned, the following operation, the avite, will be laborious and time consuming. A full burn will cover the entire site with a coat of white fertilizing ash; a partial burn will fail to provide this. Failure to achieve a good burn is attributed to the will of God by the farmer--and to a sloppily made tumba by his neighbors. When a successful burn has taken place, it is said: la tumba se barrió. If the burn has failed;

la tumba se chamuscó. To the untrained eye, the burnt tumba presents a dismal sight: scorched ash-covered earth, charred stumps and tree trunks strewn over the tumba.

The difficulty of the next task depends on the success of the firing. The avite (corresponding to the coivara in Amazon Town) is the activity of which all of the unburned loose vegetation is raked together into piles all over the tumba and gradually burned. The stumps of the trees are left on the tumba. In the lowlands where a site is cropped year after year, and where the land will be ploughed, such stumps would be removed. But in the mountains they are left in the ground. Likewise the heavier tree trunks will be left lying where they fell. They are harmless now that they cast no shade. The extra square feet of planting space would not justify the enormous labor that would be involved in moving these charred trunks from the tumba, and to chop them up is a waste of time, unless the wood is needed for fencing material. Thus they are left to rot in the spot where they were felled.

Scene 4: Fence Building.

As has been mentioned already, one element in the technology of the serranos which greatly surpasses in skill and man-hours the corresponding element in the technology of most other shifting cultivators reported ethnographically is the process of fence building. It is of interest to know the circumstances under which this emphasis on good

fence-building arose. The following discussion may throw some light on the matter.

One of the principal supplements to the economy of the serranos is the acquisition, branding and ear-marking, and turning-loose of cows and pigs to forage on the mountains. These animals, though never destined to become very fat, will nonetheless serve as ready sources of needed cash in moments of scarcity or medical emergency. The fashion in which these animals are kept--set loose in the sierra--is a remnant of the days when the hato (the huge ranch) was the dominant economic institution of the eastern end of the island. In the days when Haiti was a flourishing plantation society, (before it was named "Haiti"), the Dominican Republic was a society of ranchers.³⁸ The extremely low density of population which characterized the Dominican Republic until the third and fourth decades of this century permitted--encouraged--an extensive use of grazing land. The agriculturist was an apologetic intruder; to suggest that livestock should be fenced in was to incur the wrath of the dominant members of society.³⁹ For centuries livestock and hides were the principal items of export from the eastern end of the island, today the Dominican Republic.

In the nation as a whole, that situation has drastically changed. In the Northwest lowlands especially, the population increase of the past forty years and the building of extensive irrigation works has transformed the land use in most

parts of this region. Land is now dedicated to permanent-field agriculture and laws are enforced which declare most regions zona agrícola; in these zones it is forbidden to turn animals loose to forage, as they will harm the crops. Thus cultivators are now protected by law against foraging animals.

But the extensive grazing system has survived--and with it the animosity towards those who would curtail this extensive grazing--in the high hill country of which Pino Tumbao is a part. The shifting cultivators, for whom livestock are a necessary supplement to the conuco, protest vehemently at the suggestion of converting this area into a zona agrícola, of curtailing in any way their freedom to send their animals out to forage for food on the mountains. There is one paraje which is an exception; in this paraje coffee-growing is especially important. The coffee groves of these people, much too extensive to be economically fenced in, are frequently damaged by wandering cows, pigs, and goats. The members of the paraje have expressed the wish that the hills be turned into a zona agrícola. This the other inhabitants of the sección respond very hostilely. The people of the exceptional paraje are frequently called gente mala, for wanting to outlaw a system of livestock raising that is the only one feasible for the shifting cultivators of the mountains.

Thus, in Pino Tumbao, the right of the animals to forage is fervently defended. It is seen as being primarily the duty of the cultivador to protect his crops; the owner of animals is seen as having a right (deemed all the more

"sacred" to the degree that it has been threatened) to turn his animals loose. The farmer is living in a region where it is viewed as his duty to build a sturdy fence. This fence is primarily a source of protection to the crops--but very much a protection to the animal as well. Those farmers who build mediocre fences are criticized as being potential givers of machetazos (machete swipes) to the innocent animals who take advantage of the shoddy fence and enter the conuco, where they enjoy manioc and sweet potatoes that are not to be found on the mountainsides. Many animals have been hacked by angry serranos--the ones who make shoddy fences usually being the ones who have few animals and little stake in the persistence of the extensive grazing system.

The serranos have an informally enforced system whereby an animal who is bravo--a destroyer of even well-made fences--has to be sold out of the sierra or butchered. It is recognized that certain cows, for example, for one reason or another, are genuine destroyers of crops despite the quality of the fences made. Such an animal will have to be killed or sold. But the ordinary cow and the ordinary pig will be harmless if the farmer takes the trouble to build a sturdy fence. Thus the mediocre fence builder is guilty on another count: he spoils otherwise harmless animals. Once a harmless cow or pig has by accident wandered into a poorly fenced conuco and feasted on the cultivates, chances are that he will be spoiled and turn into un animal bravo, who makes any effort to enter any conuco upon which he comes. He will

then have to be sold or slaughtered by the owner. And in this fashion the mediocre fence builder is jeopardizing not only his own crops, but the animals of his neighbors. He is a threat to livestock. One of the qualities about which serranos are heard to boast is their ability to make good fences.

It is in this framework that we can begin to understand the evolution of such excellent fence-building in Pino Tumbao. And of course it should not be forgotten that fences are also used as a marker of property. But this is a secondary function, since the fence will be in a state of decay within a few years no matter how well it is made; the property-claim provides no motive to making the fences as sturdy as they are made.

The first step in making the fence is to provide the wood which will be split up into the proper size poles. If there were trees on the conuco site before it was cleared, the task becomes one of splitting up the heavier trunks into the smaller poles. The trunks and thick branches were not removed before the firing; the firing passes so rapidly that the wood is usually not damaged. The most desired wood for use on the fences is pine wood, as it resists decay the longest. Since the household will be cropping yuca and sweet potatoes for as long as the third year after the tumba, it is to the advantage of the farmers to make fences which will not be in constant need of repair. If there

is not sufficient wood on the tumba itself, then the farmer will have to chop down wood from neighboring hillsides and haul it to the new site. For this reason one of the prime considerations in site selection was the state of the vegetation on the site; less attention is given to the state of the soil than to the availability of wood for fencing on the site.

The fences made in this part of the sierra (and there is local variation) are solid and relatively tall, six feet being a normal size. The first operation, once the wood has been brought to the proper place, is to make a series of holes around the perimeter of the tumba with a pick. The holes are spaced some three feet apart, and there are two rows of holes, each one being about eight inches from the corresponding hole in the other row, directly across from it. The best wood is used to make the uprights, which will be placed in these holes. The principal row of uprights is called the estantería; the parallel row, on the inside, is the estequería and need not be of such hard wood, if none is readily available. The posts are made by splitting the larger logs with an axe. Two men are usually needed for this, one man doing the splitting, the other placing a wedge in the lengthening slit to widen the prongs and facilitate further splitting. Young boys from the household are frequently recruited for this task.

When the estantería and its parallel estequería are now surrounding the tumba, the remaining poles are diagonally

inserted between these two rows of uprights, resting physically one on top of the other. As the farmer piles up one pole on top of the other between a given estante-esteque pair, these two uprights are temporarily held close to each other with a rope at the top. When the diagonal poles are lying in place, the uprights are permanently fastened to each other with loops of wire (purchased inexpensively at the local bodega) to keep the pressure of the other reclining poles from separating them.

Much of the time and labor involved in fence making can be avoided if the upper part of the fence is strung with barbed wire. The solid wall of semi-inclined poles then need only be high enough to keep out chickens and smaller animals. But barbed wire is a luxury which very few of the serranos are able--or willing--to invest in, though occasionally one sees a fence where the top half consists of a few strands of barbed wire strung from estante to estante.

There is a special problem involved where the tumba has been made immediately adjacent to the conuco of the previous year. This is frequently done to avoid having to make four fences; if the new tumba is merely an extension of a cropped conuco, the fence from the old conuco need merely be extended somewhat--the length of the new conuco--and the fence moved out. Thus half of the labor is saved. But the dismantling of the old wall and its re-mantling must be done on the same day--otherwise the cultivated conuco will be exposed overnight to foraging animals. The new

extensions will have been made first. Then on one day the farmer will recruit sufficient help so that the entire process of moving the old fence wall to its new place can be done quickly.

It is difficult to estimate the time involved in making fences, since so many variables come in. A reasonable estimate is that for each tarea that must be encircled, two full days of a man's labor will be needed, including the time necessary to carry wood from where it is chopped to a new site.

When the fence is finished, the tumba (for it is not yet a conuco) has taken on the appearance of an orderly undertaking. The onset of the next scene must await the coming of the rains.

Scene 5: Planting.

In the community of Pino Tumbao, the principal activity of the following scene--the committing of seed-grains or vegetal cuttings to the ground--is done within a place whose defining objects (viz. a site covered with ashes and surrounded by a sturdy wooden fence) are the result of prior technological activity on the part of the same individual who will be the principal actor in this scene himself. In this respect the man of Pino Tumbao differs not only from the vast majority of members of a technologically advanced society, few of whose economic activities constitute such a ~~logico~~ logico-physical concatenation of self-performed cumulatively dependent

achievements; but also from the majority of farmers in the lowlands of the Dominican Republic. The physical energy and man-days of work involved in preparing the place for the activities of the planting scene in Pino Tumbao--perhaps as much as a month, not including the time for desiccation of the felled vegetation--is nowhere duplicated by the permanent-field agriculturists on the lowlands. And it must be remembered that the vast majority of serranos perform this feat each year.

In one crucial sense, the cropping system of the serrano differs from that of his counterparts in Tepoztlán, Chan Kom, and Amazon Town. In the former two communities the shifting cultivators plant almost exclusively corn on their milpas; and in Amazon town, the shifting cultivation is used primarily for the planting of manioc gardens. The former are seed-grain cultivators; the latter are root-crop cultivators. Each of these systems is historically and analytically distinct. There is some argument about which originated first in the history of plant domestication.⁴⁰ Spencer concludes that the cultivation of vegetatively reproduced crops probably antedates that of seed-producing plants in absolute historical dates; but that in determined regions the latter may have been invented as the first domestication technique for that region. In any case the pattern which manifests itself in the broad Southeastern Asian area which he studied manifested a pattern of the

gradual spread of the seed-grains and their growing ascendancy over historically more primitive vegetatively reproduced crops.⁴¹

This appears to be an accurate model of the general trend which occurred on the island of Hispaniola. Though the pre-Columbian Arawak, bearers of an Amazonian culture broadly similar to the aboriginal predecessors like the manioc growers of Amazon Town, did seem to possess corn, their principal crop was manioc (called by them and the Dominicans of today "yuca. "). In his chapter on the cropping of yuca by the Arawak, the seventeenth century Spanish chronicler Fernández de Oviedo talks specifically about the island Arawak. But in his chapter on maize cropping and processing, he switches to discourse about the Indians of Terra Firme, the contemporary name for mainland Central and South America.⁴² The extensive use of corn (and other grain crops) on the island is apparently a result of post-Conquest innovation. At any rate the present day serranos of Pino Tumbao differ from both their Mexican and Amazonian counterparts in relying on both types of cultivates.

In general there is a great difference in the seasonality of cropping cycle associated with grains and root crops. The former are much more sensitive to seasonal variation of light, heat, rainfall. The latter are more resistant to such variations. Root crops (and most other vegetatively reproduced cultivates) can be planted the

during most of the year, even in periods of scant rainfall. The grain crops, on the other hand, must be planted in specified months.

Though both classes of domesticate are found on every conuco, the same process which in other places has resulted in the growing ascendancy of grain crops has occurred to some degree in the sierra as well. Because the only cash crops of the conuco are grains, the entire agricultural cycle of clearing and cropping is governed by the seasonality to which grain crops are subject.

For analytic purposes, we need not consider the planting of each cultivate as a separate scene, since the place for all has the same characteristics, and since the episodes involved in planting are broadly similar. We may distinguish two separate sub-scenes; those in which the actone objects are grains which are dropped in the ground and those in which the actone objects are stem cuttings which are placed in the ground. There are six crops which are planted by the majority of the serranos. Three of them--beans, rice, and corn--are reproduced by the planting of seed grains; and the other three--yuca, sweet potato, and plantains--are reproduced by the planting of cuttings from previous plantings. I will give the following information concerning the planting of each of these:

1. How the grains (or cuttings) are obtained.
2. When they are planted.
3. Technology used in planting them.
4. In what quantity they are planted.