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MISKITO WORDS IN BELIZE CREOLE

THE ART OF THE CARBONERO

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THE ART OF THE CARBONARO



The forests of Belize yield an array of products to fill the need of men and women both within the country and throughout the world; raw materials for construction, carving, food, fuel, industry and medicines. Some of these products can be used directly as they come from the forest (fruits, nuts, bamboo, fuel wood). Others must be processed by sawing, finishing or milling as in the case of lumber, furniture and chicle. The collection of each raw material and its preparation into a final product requires a special skill. The wood cutter, shipwright and furniture maker all work with the same raw material, lumber, but each uses special skill to fashion that lumber into a different product unique to his trade.

Every trade has a skill, indeed an art that varies in its degree of precision and in the amount of time required to master it. One of the finest and most complex of these skills is that of the Carbonaro, the charcoal-maker; who is, just as the word "carbonaro" implies, a maker of carbon. His trade involves using fire to change wood, especially hardwood, into charcoal. His tools are few and simple, a saw and

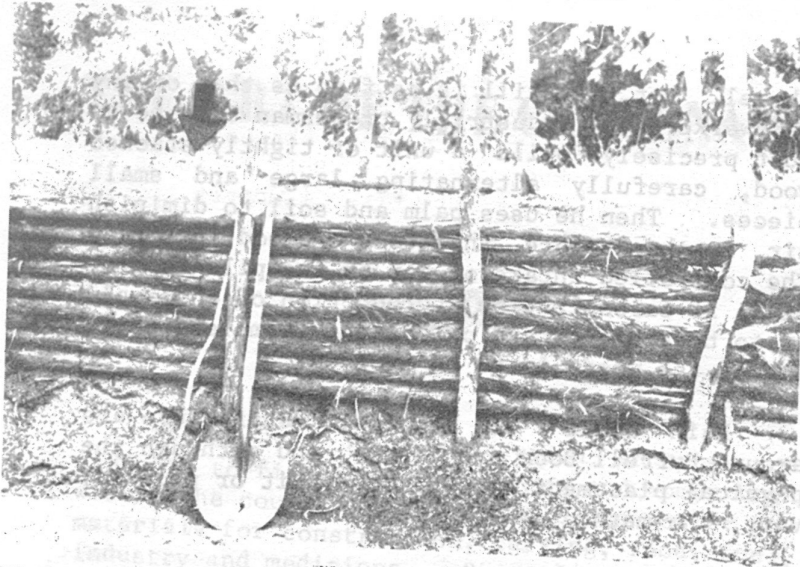
shovel. But his skill is as fine as that of any woodworker or industrial tradesman because he must precisely build a unit of tightly stacked wood, carefully alternating large and small pieces. Then he uses palm and soil to diminish air intake before the stack of wood is fired. The controlled intake of air by the pile is crucial if carbonization (production of charcoal) is to be achieved and oxidation (complete burning of the wood) is to be avoided.

Main areas of charcoal manufacture are around Burrell Boom and Sibun. And although the physical placement of the wood unit or pile may vary, the method is quite exact.

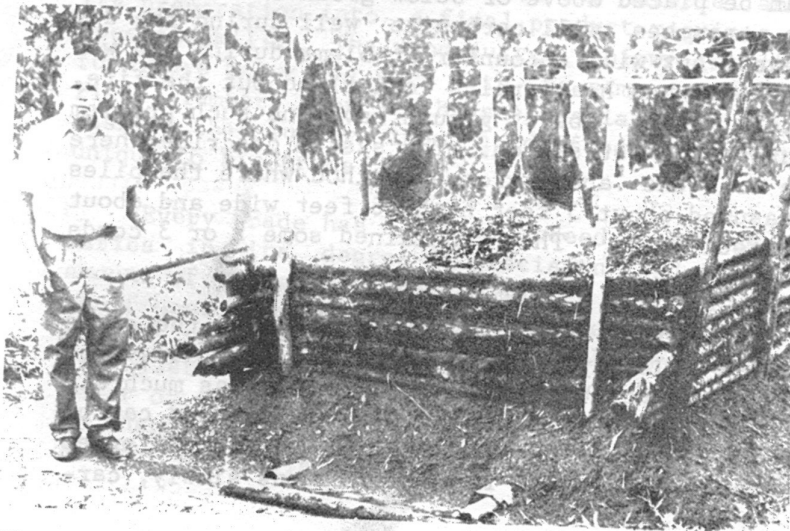
METHOD

A pile can contain anywhere from 1/2 cord (128 cubic feet to a cord) of wood or more and can be placed above or below ground. Wood piled in trenches will carbonize well during the dry season but will encounter problems during the wet season when heavy rains can flood out the fire. Piles built above ground have no such problem during the wet season. The system described here is of the above-ground method where the piles measured about 3 feet high, 6 feet wide and about 20 feet long. They contained some 2 or 3 cords of wood.

Cutting and stacking of wood and the shape of the pile may vary but the wood must always be tightly stacked in order to eliminate as much air (especially oxygen) as possible. Any wood can be used but dense hardwood such as oak is preferred because it is low in resins, burns slowly, car-



Photograph 1: Palm logs hold soil in place along the walls of the pile. Arrow shows where carbonization is occurring. Area to the right of the arrow already has formed charcoal.



Photograph 2: Leeward side of the pile. The vent pipes at the base and those on the top (arrow) facilitate air ventilation of pile.

bonizes more efficiently than pine wood and yields a higher proportion of charcoal from raw wood than does resinous wood. Soft resinous wood like pine may have more of a tendency to yield unwanted tars during the carbonization process and to oxidize rather than carbonize. This probably because the resins cause a hotter, faster burning fire and air intake by the pile is more difficult to control than with slower carbonizing wood.

Wood is cut directly from forest trees and in the case of the piles shown here, large log pieces measured about 1 1/2 feet long by 1 1/2 feet in diameter. These pieces are stacked on a level area of ground and as the pile is built, smaller pieces (12 inches or shorter by 3 inches or less in diameter) are placed between the larger. These smaller pieces help spread the fire along the pile from one piece of wood to the next.

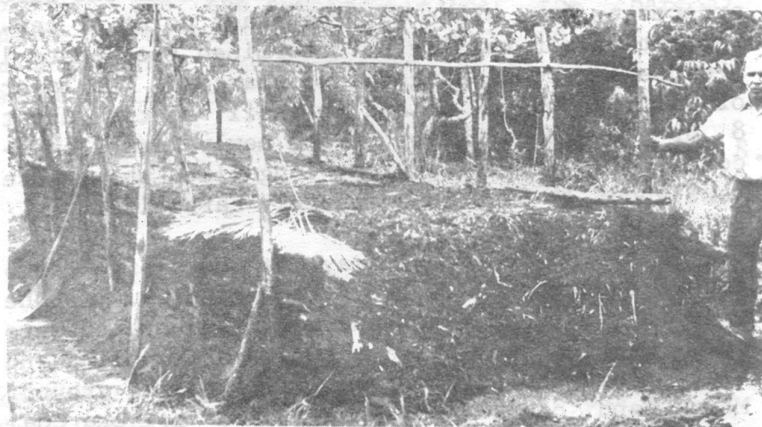
An important factor in eliminating air is a layer of soil which encases the piled wood on all sides. But the soil must not touch the carbonizing wood lest the fire be smothered. After the wood is carbonized the soil may come to rest on the charcoal but not before. So the trick is to keep the soil around the carbonizing wood without allowing soil and wood to come into contact. This is achieved by covering the stacked wood on all sides with a 6 inch layer of palm leaves and branches. The top of the pile gets a 12 inch layer of palm.

Now a three to four inch layer of soil is built on three sides of the pile and on top. Palm logs (see photograph 1) are used to hold the wall of soil in place on the sides. Too thick a layer

of soil especially on top of the pile may prove to be too heavy and crush the newly formed charcoal.

The windward side of the pile is not yet covered with soil because here is where the fire is set. Palm leaves and branches on this windward side are ignited and allowed to burn in the open air until the wood inside the pile catches fire. Now a 3 or 4 inch wall of soil (see photograph 3) is built along this windward side. The roof and walls of soil allow the pile to breathe in some air. The wind in fact drives the fire along the length of the pile.

An important factor in the rate of air intake is the density and porosity of the soil. Sand, silt and clay soils all have different densities and porosities. These affect the amount of air taken in by the pile. The carbonaro must be very familiar with his soil so that air intake can be thoroughly controlled. Photograph number 2 shows two pipes about 3 inches in diameter driven into the base of the pile on the leeward side. These pipes penetrate through the layers of soil and palm until they encounter the stacked wood. They do not penetrate the wood stack but help the pile take in necessary air. Further aids to air intake are seen in photographs 2 and 4 where two sticks about 2 inches in diameter are stuck in the roof of the pile through the soil at the point where carbonization is occurring. These sticks are moved along the length of the pile just ahead of the point where carbonization is occurring. Where more dense soil prohibits breathing of the pile, more such sticks can be stuck through the roof.



Photograph 3: Windward side of the pile. The fire is set at this end and when the wood center ignites, this side receives a 3 or 4 inch layer of soil like the rest.



Photograph 4: The pile gives off heat and smoke throughout the carbonization process. Arrow shows air-intake on the roof.

The pile releases heat and smoke as the fire progresses (see photo 2). The exact point of carbonization can readily be determined (see photo 1) because as wood changes into charcoal the layer of palm is burned up and the soil settles about 8 or 10 inches on top of the newly formed charcoal. The 16 or 20 feet long piles shown here take about 14 days to completely carbonize.

Finished charcoal may be as large as 6 inches square and 2 or 3 inches thick. As the pile is broken up, hot charcoal is shoveled onto metal grating to speed the rate of cooling and allow soil to sift off and fall to the ground. Moist sand can also be shoveled on hot charcoal to cool it and then both sand and charcoal thrown on the grating to separate the charcoal from the sand. Finished charcoal is packed in 40 or 50 pound bags and finds a ready market in and around Belize City and other towns.

Only an outline is presented here. One could not hope to produce top quality charcoal merely by following this description. Because as in any other skill, the carbonaro must augment his method as circumstances dictate. Wind velocity and direction, soil structure and density, air humidity and wood quality all combine to make a pile unique. The carbonaro knows and adapts to these changes. He learns this art slowly. He may be a man of the second, third or fourth generation practicing this trade. A young man may go through this procedure every month or 6 weeks. But as he grows older he may build a pile only 4, 5 or 6 times a year. He may use a power chain saw in place of a hand saw to cut the wood. Yet certain things never change. The hard work of cutting and stacking wood, the pride in operating

one's own business, pride in producing a quality product and the special tie that the charcoal maker has with the forest and the land (the soil) make him a skilled tradesman, an artist in every sense of the word.

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