POTTERY MAKING IN RURAL BARBADOS

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INTRODUCTION

BARBADOS, a small island of 166 square miles, lies about 100 miles east of the Lesser Antilles chain in the southeastern Caribbean. Chalky Mount, the subject of this paper, is a village of some 544 persons residing in 117 household units, and is located at an altitude of 400 to 600 feet in the northeastern section of the Scotland District—Barbados' one highland area. Though the Scotland District is not a very high one, especially when it is compared to the altitudes prevailing in other Caribbean islands, it, nevertheless, presents in miniature the overall relief of more mountainous country with steeply rising hills, some of which are badly eroded and barren. Along many of the hill slopes and most of the valley floors sugar cane, the ubiquitous crop of Barbados, is cultivated. In the vicinity of Chalky Mount easily accessible clay deposits, though not present in sufficient quantities for large scale commercial exploitation (Brannam 1948), are an important geological feature, playing some role in the community's ecology. For, although Chalky Mount's economy is largely based upon a mixture of cash-crop agriculture, plantation wage-labor, and some subsistence farming, small scale pottery production is of significance to about 13 percent of the community's households which comprise 15 percent of the total population. None of these households, however, is entirely dependent upon pottery as a source of cash even though Chalky Mount is the only village in Barbados where pottery is made.

To the best of my knowledge the anthropological literature on pottery as a cottage or folk industry is generally meagre. Hence, this paper will attempt to describe some of the more salient technological, economic, and sociological factors surrounding the production of pottery as these existed at the time field work in Barbados was conducted.[1] The data is presented in essentially the same sequence as the production activities themselves are followed by the potters.

COLLECTING AND PREPARATION OF CLAY

The potters recognize essentially two types of clay, red and white, though the red clays are sometimes subdivided into such categories as red, brown, grey, and

1 Research in Chalky Mount was carried out during the summer of 1960 and from August 1961 to June 1962. Funds supplied by Brandeis University and the Research Institute for the Study of Man made my field work in Barbados possible. I would like to express my gratitude to Phillip Dark for his many helpful suggestions in reading all drafts of this paper.

yellow, depending upon their color when first excavated. A detailed technical discussion of Barbados clays can be found in Brannam (1948) and Senn (1944). For present purposes it is sufficient to note that red clays are in far greater abundance and are used with greater frequency than white clays even though both types are found in seams and small pockets. If a potter chooses to collect a white clay he normally uses it to produce small decorative items such as ash trays, vases, etc. (see below, "Types of Pottery Produced"). These will ultimately fire to a white or cream color, while red clays fire to one of a number of different shades of red. The final color of any particular ware is largely determined by the nature of the firing process and the degree to which it is a composite of various types of clays.

Clays are normally dug from highly weathered surface areas, most of the regularly used pits being approximately 300 to 400 yards from a potter's house. Two persons, usually the potter and his son or wife, comprise the normal work unit in gathering clay. The clay is selected by the potter, extracted from its matrix with the help of a pitchfork, and is then dumped into a shallow reed basket or wooden tray. While the potter continues to dig clay his assistant breaks up the larger lumps in the basket while removing the more readily apparent impurities such as coarse quartz-grains ("grits") which abound in Chalky Mount clays (Plate 1a). The filled basket, normally weighing between 30-40 pounds, is then "headed" back to the house by the assistant who, after dumping his or her load, returns for another one. Though clay is gathered throughout the year, the potter usually collects, at one time, the amount necessary to produce enough wares to fill a kiln at a single firing.

The exact location to which a potter will go is contingent on at least three factors: one, the quality and color of the clay desired; two, the closeness of the bed to the potter's house, or, from the potter's point of view, how much physical exertion he is willing to expend in the collection of clays; and third, upon whose land the desired clay is located. For certain persons priority will be placed on distance from the house; for others, the most important consideration will be the quality of clay desired; but for all, the question of whose land one can use is always of paramount concern—for a person cannot go wherever he would like.

Concerning this latter point a number of limiting factors seem to prevail. First, clays cannot be collected from lands under cultivation or anticipated cultivation. Sugar is of primary importance, and no one, the potter included, is going to sacrifice his land especially while clay is still available from eroded spots. According to informants, the method of digging clay in large pits, which involves removal of much of the top soil, renders potentially cultivable areas useless for sugar planting.

Second, one must have the permission of the owner or tenant of the desired clay spot. Permission, once obtained, need not be requested again, but to ask for it is considered to be a primary rule of propriety. There were a number of occasions, however, wherein a person confessed to me that he never asked permission and admitted that the owner of the land would be angry if he knew that clay was being taken from his land by the person in question. In these cases the collector takes a calculated risk since the owner could take legal action against trespassing, but no prosecution of this kind has ever been known to exist.

A third limiting factor is that there are certain areas which are closed to all. Aside from plantation lands and the fields under cultivation or anticipated cultivation, as indicated above, prohibited areas include non-cultivated, badly eroded spots which contain clay deposits. The precise reasons for prohibitions in these areas are difficult to obtain, but the most frequent explanation given involves the feeling that the owner who refuses permission to collect clays does so because the potters are making money from his land and he is getting nothing in return. At any rate, this is the way the situation is described not only by potters but by non-potters as well. As one informant put it, "you're takin' away from their soil." In other words, potters believe that the land-owner resents the profit being made from his property. Potters are not necessarily pleased with this attitude, but other than considering the owners a "little stiff-minded" the objections do not seem to bother them to any great extent, for there is always some place available to anyone who really desires clay.

As each basketful of freshly excavated clay is brought to the potter's house, it is dumped into a specially excavated earthen pit or onto a flat ground surface. After the desired amount has been collected, the clay pile is then sprinkled, not doused, with water and is worked over by the potter or by one of his sons—a female will rarely be engaged in this aspect of production. Using a hoe, he will break up the larger lumps, remove those impurities that are apparent to the eye, and ultimately work the large pile into a state of plasticity (Plate 1b). This plastic mass is then covered with dampened burlap bags and is allowed to stand ("cure") for a period ranging from overnight to two or three weeks, the length of time varying according to how soon the potter needs the clay for production of wares. There is some recognition of the fact that "curing" the clay enhances its quality; but since market demands are an overriding factor in pottery production, one will take the clay as it is needed rather than wait until it has "cured" properly.

About a day or so before the clay is actually worked into wares, its plasticity is further increased by a method locally known as "trampling." Burlap coverings

are taken off and the clay pile is removed to a level piece of ground or rock outcropping. By treading on the clay with his bare feet the potter, or his son, gradually flattens the pile while still undiscovered "grits" are removed as they are felt by his toes (Plate 1c). This aspect of the productive process is never discharged by females and is sometimes omitted if, for example, an elder potter has no younger sons or other kinds of familial assistance available. After being "trampled" the clay is once more rolled into a single pile from which manageable units are then extracted for the next phase in clay preparation—wedging.

Wedging, or "kneading," as this part of the process is locally called, is normally performed by an adult male and is done immediately prior to the actual construction of wares. By knowing the size of the vessel or vessels to be made the potter will estimate the amount of clay necessary, extract it from the large pile, place it on a rough plank table, and work it in a manner analogous to that of kneading dough (Plate 1d). Impurities that still remain are removed as they are felt by the potter's fingers, and the malleability of the clay is further increased. Air bubbles, which can cause severe damage to a vessel during firing, are eliminated from the clay during this phase, but the potters do not seem to recognize that wedging serves this important function. The finished wedge, in the shape of a flattened ball about 6 inches in diameter and about 3-4 inches high, will then be placed on the wheel and worked into the shape of the desired vessel.

POTTERY MAKING

Throwing and Trimming

Workshops are located in or adjacent to the potter's house. In some cases the wheel and kneading table are in the cellar, but if the cellar is not of sufficient height the wheel is placed outside, sometimes under a thatched shelter especially constructed for this purpose.

All pottery is made by males on a wheel which has usually been inherited from the potter's father. If the wheel is constructed during the potter's lifetime, a carpenter makes the disk and its supporting wooden carriage, while a blacksmith shapes the metal crankshaft. The wheel is kept continuously rotating during production—comfortable throwing speeds ranging between 90-105 RPM's—so that the potter is permitted to shape both large and small wares without interruption.

The Chalky Mount wheel has several interesting features. It consists of a flat wooden disk, upon which the clay is worked, and a vertically placed metal axle shaped in the form of a crankshaft. The top of the axle is tightly wedged into

the underside of the disk so that both disk and axle rotate together. Both of these are contained within a four-legged wooden frame. The disk rests above the horizontal boards of this frame; the center board is perforated and lined, usually with a piece of leather, thus allowing the axle to pass through it and rotate while it is held firmly in place. A shallow depression in the ground, in which the axle base

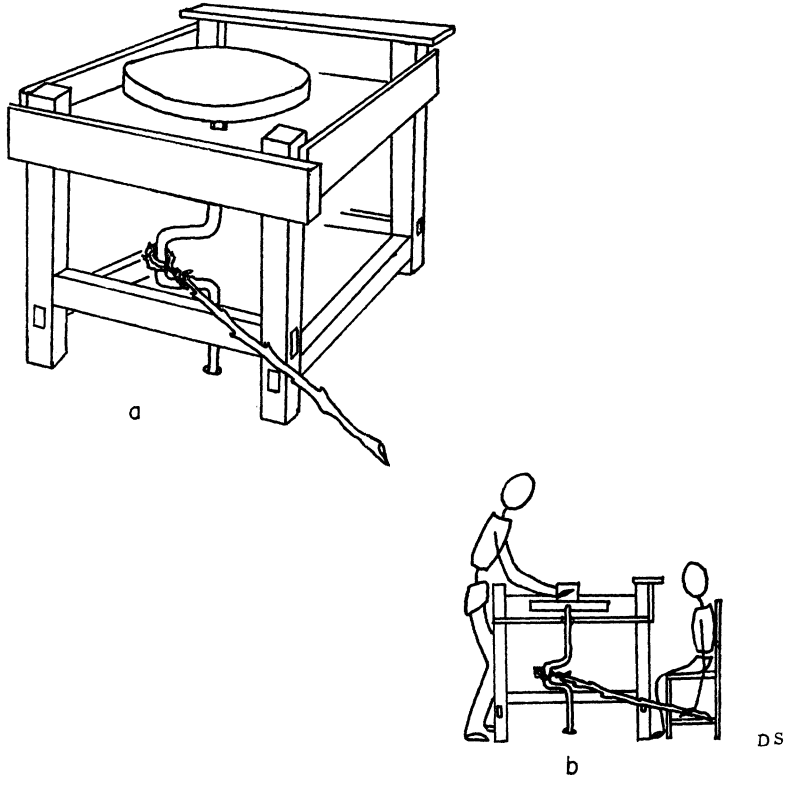

FIG. 1. Chalky Mount wheel.

pivots, further helps to maintain the axle's stability (Fig. 1a). Continuous motion during throwing is imparted to the wheel by the potter's assistant, who pushes a stick which is lashed to the crank (Fig. 1b).

In a recent article Foster classified various potters' wheels as they are known from the ethnographic and archaeological literature. The Chalky Mount wheel is comparable in certain respects to one type of his pivoted variant of the simple wheel. In this wheel, according to Foster (1959:106),

> . . . the pivot is fixed on the underside of the wheel and revolves with it, its lower end fitting into a fixed socket on the ground . . . . With a short pivot, this wheel is subject to the problem of oscillation . . . . By increasing the length of the pivot, and by steadying it with a perforated horizontal cross bar, oscillation can be eliminated.

In many respects Foster follows Childe (1954:197), for whom

> The simple wheel is essentially a centrally pivoted disk of wood, stone, or clay on a wooden frame. The wheel must be heavy enough to retain its momentum when set spinning . . . . Once started even by a jerk from a stick, such a wheel will spin long enough for the thrower to complete a small pot, though for larger pots he may have to use the stick again.

An important aspect of the simple wheel, as described by Foster (1959:105), is that it

> . . . consists of a head, usually of such weight and proportions as to allow sufficient momentum to permit throwing of a pot after initial application of force. . . .

As long as momentum continues the potter is able to work his ware, but as momentum decreases the wheel must be reactivated.

According to Foster (1959:104-105) the "double" or "kick" wheel represents an advance over this simple wheel and is considered by him to be ". . . the last stage in a long evolutionary line." The kick wheel

> . . . is characterized by two horizontal discs rigidly joined by a vertical axle, supported at the bottom by a thrust bearing (in the case of crude wheels, a depression in the stone) and beneath the head by a second bearing. The potter . . . imparts motion to and controls the speed of the instrument by kicking the lower wheel which, in addition to serving as the source of power, functions also as a fly wheel to govern the speed and give momentum . . . the double wheel revolves smoothly without oscillation. . . .

The wheel used by Chalky Mount potters operates in a similar manner to that of the kick wheel. The assistant, by a constant pushing and pulling of the stick attached to the crankshaft, is able to keep the wheel continuously rotating, and the

potter, if need be, can control the speed of the wheel at any time by verbal commands. The following passage from Foster (1959:105), relating to pottery made by kick wheels, is equally applicable to pottery produced by the Chalky Mount non-kick wheel:

> Since thrown ware requires a paste more moist than most hand-made ware, the resulting object may sag during drying, unless it is made heavier and thicker at the foot than desired. When leather-hard this heavy and thick object (ébauche . . .) undergoes a lathe-like process on the wheel whereby, with cutting instruments, it is trimmed to its final form. This process known as "turning" or "trimming" . . . is a basic requirement for most thrown wares, and it would appear to require a wheel that oscillates little if at all.

The non-oscillating simple wheel can also produce ébauche wares but is considered evolutionally less advanced by Foster, presumably because the potter cannot control the speed of the wheel, and energy is lost as the momentum of the wheel decreases.

Although the Chalky Mount wheel structurally approaches the non-oscillating, pivoted variant of the simple wheel, as described by both Foster and Childe, functionally it is comparable to the more advanced kick wheel having, as far as can be seen, essentially the same productive potential as the latter. The Barbados wheel may be considered as an important structural variant of Foster and Childe's simple wheel while *perhaps* being, in evolutionary terms, a functional alternative to the kick wheel.[2] To the best of my knowledge, the Barbados wheel, as a type, has not been described in the literature, and *seems* to be uniquely localized in this area of the Caribbean.

Wares are thrown in a manner quite similar to that employed by home potters in the United States and England, but the only tool employed during throwing is a small, thin, rectangular piece of wood locally known as the "rib." It is used to plane roughness, to smooth the sides, and often to incise designs while the vessel is being rotated. After completion, wares are cut loose from the wheel with a piece of string, placed in the sun to dry for about an hour, and then removed to the

2 According to Foster "An interesting evolutionary point is illustrated" by the socket (not discussed in this paper) and pivot variants of the simple wheel. "With technical improvements, the oscillation can be eliminated from both. But in the case of the socket variant this improvement, a deep socket, is the end of the road. The wheel is now as perfect as it ever can be, and in terms of the potter's art it proves to be an evolutionary blind alley. Extension of the revolving pivot, however, eventually leads to an axle, to which the foot wheel is fastened, thus giving rise to the double wheel" (Foster 1959:106).

potter's cellar for the "house cure." A day or so later they are taken out of storage and are trimmed on the wheel. By now they are "leather hard." Using a small, thin piece of bent metal the potter trims them (Plate 1e). Wares are then placed in the cellar again to dry further, and usually from three to ten days later they are fired.

Types of Pottery Produced

Chalky Mount wares are largely restricted to a handful of standardized forms which are made in various sizes (Plate 4c). Among these forms the flower pot is increasingly becoming the most important as market demands for other kinds of wares decrease. The flower pot is essentially the same as that seen in the United States. It is made in about eight or nine standard sizes ranging from three to fourteen inches high, has a hole punched in the bottom, and usually stands on a saucer which has been thrown in proportion to the size of the pot. Pots are left unglazed and normally undecorated, except for the occasional incising of two parallel lines under the rim and around the outer circumference. Occasionally a special order will be placed for an exceptionally large pot, and in such a case the potter will throw both the bottom half and the top half separately, joining the two pieces together with a thick slip after they have "cured" for a while. Aside from the standard flower pot, another type made is known as a "crimp pot" because of its main decorative feature, which is produced by pinching the entire circumference of the rim between forefinger and index finger as the vessel is slowly rotated on the wheel. While the ordinary flower pot tapers straight down from the rim to the base, the "crimp pot" has an extended shoulder giving it a jar effect (Plate 3b; Plate 4c). It is made in about the same number of sizes as the ordinary flower pot, has a hole perforated in its bottom, and is also accompanied by a saucer thrown proportionate to its size (Plate 3a). However, the "crimp pot's" exterior is normally glazed and its sides are usually incised, prior to glazing, with the prongs of a fork. The design thus formed runs zigzag around the pot from rim to base. Other types of flower pots, such as rose bowls and orchid pots, are made from time to time when a special order is received, but these are normally unglazed. Private homes, in which potted plants are a favored form of decoration, the personnel of various horticultural clubs, and hotels on the island provide the market outlet for Chalky Mount flower pots.

The water jug ("monkey") is also one of the most common wares produced, although it is increasingly losing its market as it is being supplanted by other types of technological items. The "monkey" closely resembles a globular teapot and is made in two standard sizes, large (about 12-14 inches high) and small (about

8-10 inches high), with its greatest breadth being roughly 12 inches and 8 inches, respectively (Plate 3b). The spout, which is constructed separately, is wheel thrown, and while still fairly wet it is smoothed into the sun-dried body of the "monkey." Handles are made of an elongated cylindrical piece of clay prepared on the kneading table. Grasping this piece of clay in one hand the potter, using his other hand and making even, downward strokes, gradually pulls until the handle is formed. It is then attached to the body in the same manner as the spout. Lids, about 2½-3 inches in diameter and about ¼-½ inch thick, are also thrown on the wheel. Since the handle and spout are applied before the main body has been trimmed, trimming is done without the wheel. The potter holds the "monkey" in his lap, and by using the same piece of bent metal employed in trimming other wares he cuts off excess clay from the bottom and basal sides. Afterwards the "monkey" is burnished with the flat of a knife blade. No other decoration is applied to these vessels except for an occasional line which is incised around the "monkey" before it has been cut from the wheel. Trimming is normally done by males, but either a male or female can do the burnishing.

The "monkey" is sometimes used as a water carrier, but its primary use is that of a water cooler. In the past it was an extremely common item among all classes of Barbadian society, but in recent years it has usually been found more widely among the lower class, whose limited purchasing power prevents the acquisition of such items as refrigerators. Even within this class people are not replacing their broken "monkeys" as frequently as they used to. Nevertheless, the high porosity of the "monkey" functions effectively to keep the water inside quite cool. Occasionally a middle-man will order a quantity of "monkeys," sometimes up to 200 for sale in other areas of the Caribbean, and frequently miniature "monkeys," about 3-4 inches high, are made and sold as children's toys.

The third most common type of ware produced is known as the "cornaree." It is a jar whose mouth is approximately as wide as its base (Plate 3a). It is used for storing corn meal and meat. Two small handles, constructed in the same fashion as the "monkey's" handle, are smoothed into each side of the vessel just below the rim. Lids are thrown on the wheel. Normally the interior of the "cornaree" will be glazed as will the bottom side of its lid. "Cornarees" are also made in essentially standard sizes which are recognized by the potters as being large (approximately 10-12 inches high), medium (about 8 inches high), and small (about 6 inches high).

With the "cornaree," as with other widely produced wares, efforts are made to standardize sizes, but ordinarily no measuring device is used. The potter estimates

the size of the vessels as they are constructed, and though they are meant to be of the same size in actual fact they tend to vary. Some of the persons who place special orders are emphatic in their instructions to the potters, insisting that all pots they order of a given dimension are to be actually produced to that dimension. Under such prodding, the potter will record the dimensions, and, by using either a small ruler or preferably broken twigs as a guide, he will take more time with each vessel to insure that it meets the specifications. He will make the vessels slightly larger than specified, estimating, of necessity, the amount of shrinkage that will occur during "curing" and firing.

Other items that are regularly made include such things as ash trays, penny banks, and vases of various kinds, which not only find a local outlet but are also sold to tourists who come to the village to see the potters at work. From time to time, and on special orders, the potters will also make such things as bird baths, basins, lamp bases, candle-stick holders, mugs, casseroles. These items have usually been requested in advance, the customer normally coming to the village and explaining to the potter what he or she would like. The explanations are usually accompanied by a sketch or magazine photograph of the desired item.

On special orders of this kind the potter will usually make more than the specified amount; if breakage occurs during firing, the loss will not be a total one. These extra items are then taken to the marketplace in town where they are left on display. If they sell fairly rapidly and therefore appear to have future sales potential, the potter will then make additional ones. If a ware type proves to be relatively popular and sells, other potters will then start making it as well. There is practically no experimentation with new ware types. Potters do not try to invent new types on the chance that they might sell. If a new form is introduced as a result of having been specially ordered and seems to have a sales potential, a potter will continue to make it; but if it does not sell, it will be discontinued until it is requested again.

It normally takes a potter from 2-2½ days to throw sufficient wares to fill a single kiln. This figure does not include the time needed to trim, burnish, and glaze the wares; this additional time will vary from approximately three to ten days depending upon the types and quantity of wares that are produced.

Work Relationship and Exchange Labor

Because of the nature of the wheel, at least two persons are engaged in any given production situation. Although only men throw wares and do the trimming, quite often women or older children of either sex will push the stick which rotates

the crankshaft. The personnel involved in this work are usually non-paid members of the potter's household. In cases where a potter is producing wares for his own sales, he will normally do his own kneading; but if he feels particularly pressed for time—he might have an order deadline—he will hire a kneader, thereby relieving himself of this chore and increasing his speed in producing the desired quantity of wares.

By community standards the status of potter is defined as a person who is able to throw wares on the wheel. There is no formal apprenticeship. Potters learn the art by observing, and they are usually informally recruited from the ranks of those males who assist at various stages of the productive process. Now, there are some persons on Chalky Mount who regularly engage in pottery production and can perform most of the operations (collect and prepare clay, fire a kiln, etc.) but do not throw wares. These persons also rely on the income they derive from pottery sales. Lacking technical proficiency on the wheel, however, they will hire potters on a cash basis to produce their wares. They will then either knead, in which case a non-paid household member will turn the wheel, or hire a kneader, in which case they will turn the wheel themselves. In these latter instances there are normally three persons involved in a production situation. The same non-potters, when they are not involved in the production of their own wares, will work for others, potters and non-potters alike, in various stages of the productive process. It is therefore apparent that persons frequently change occupational roles: a potter in one situation might be a kneader in another, and a kneader in one situation will turn the wheel in another; similarly, a man can be an employer one day and an employee the next. When household lines are crossed, the relationships formed in a working situation usually rest on a cash basis.

Workers are paid by the day according to the job performed, a potter earning between $1.80 and $2.10 (U. S.) and kneader or wheel-turner between $1.20 and $1.50, so that one result of the frequent shifting of the employer-employee relationship among the same personnel is that persons can become involved in a series of cash obligations; and, although people usually experience cash shortages, especially during the out-of-crop season, they are generally unwilling to work for one another unless payment is made as work is completed. A major part of the Barbados economy revolves around sugar cane production, and Chalky Mount is no less involved in the consequences of sugar dependency than most other rural communities. "Hard times," the local name for the period when sugar is not being reaped, implies greater unemployment and underemployment than is normally the

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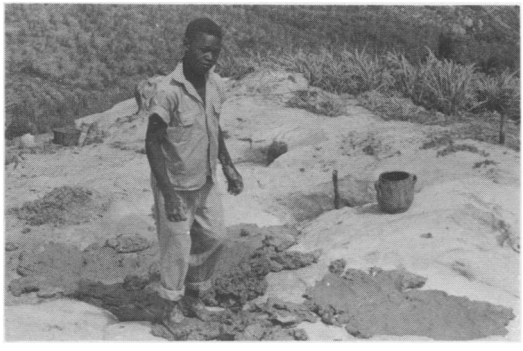

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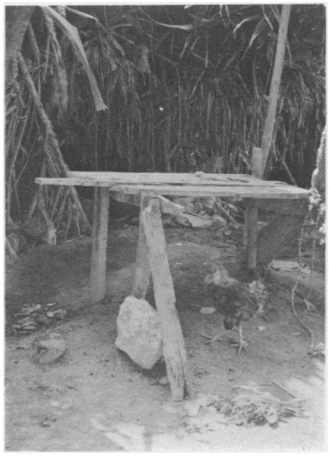

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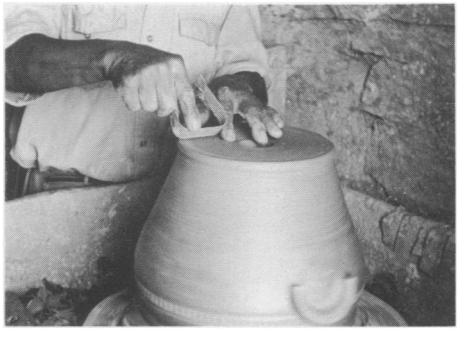

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a) Husband and wife team collecting clay.
b) Working over freshly collected clay with a hoe.
c) "Trampling."
d) An outdoor kneading table.
e) Trimming the base of a large, specially ordered flower pot.

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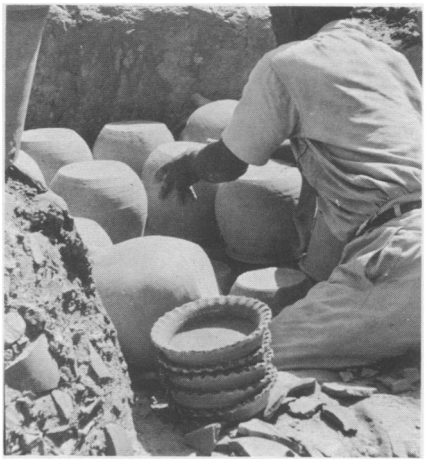
b

c

a) Sifting lead powder for glaze.
b) Applying molasses to a "crimp pot." Man on left is sprinkling the lead powder on an already coated vessel which is not shown in the photo.
c) Two kilns. Note "arch" on kiln in foreground and partially hidden "arch" on kiln in background.



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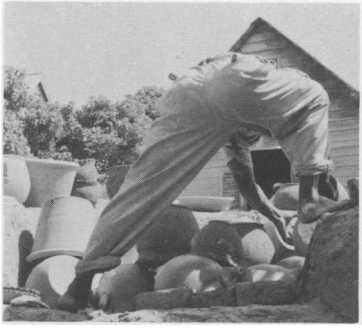

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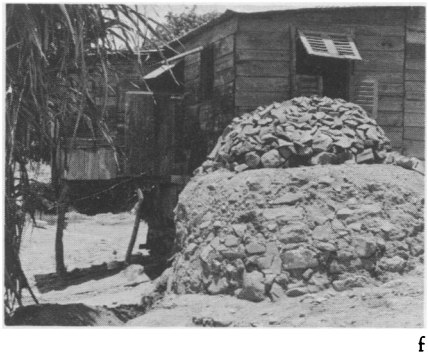

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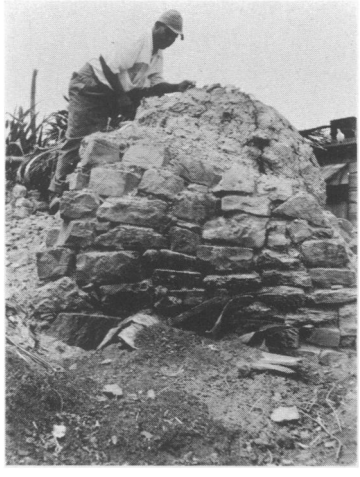
a) Potter seated on short wall of kiln while placing "cornarees" during early phases of loading. Interior glazed "crimp pot" saucers, to be placed between the "cornarees," can be seen resting on the kiln's short wall in the foreground.
b) Loading while standing on the kiln walls. Note "monkey" in foreground and inverted "crimp pot" in center of kiln.
c) Loading.
d) The kiln at terminal phases of loading. The potter's son is bringing out a few remaining small items. Note the partially built up stone retaining wall in the foreground.
e) Front of the fully loaded kiln just prior to being "mortared." Note the brick retaining wall and sherd covering.
f) Rear view of 3e. Ash refuse of former fires and entrance to fire hole can be seen at lower left of photo.



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a) Removing the sherd covering in the initial phase of unloading. Note the fire-baked "mortar" above and the cactus and ash-covered "arch" below.
b) Unloading the top wares after the sherd covering has been removed. The man on the left is beginning to crack through the "mortar" encasement.
c) Waiting for customers in the Fairchild market. Narrow aisles demarcate one seller's ware from those of another's. "Cornarees' with lids, "crimp pots," and "monkeys" can be clearly seen in the right foreground.

case on this island where chronic unemployment and underemployment are critical features of the economy. One consequence of "hard times," for the potters at any rate, is that fewer people are buying pottery; as a result there is little surplus cash with which to pay persons whom one employs. Concomitantly, employees are more prone to demand immediate payment. In any event, a man does not usually consider asking someone who is not a household member to do work for him if cash is not on hand with which to make payment.

Exchange labor, locally known as "swappin' change," sometimes occurs in pottery production and other cash-oriented activities, such as agriculture, but it occurs with no great regularity and is something that is largely avoided. Most informants agree that exchange labor has its advantages, the most important of which is that it permits jobs requiring two or more persons to be done while obviating cash payment. But, equally, most agree that since money is a major orienting factor in labor, persons are unwilling to help each other in situations from which they could not immediately or eventually expect to derive cash. One of the older informants states the case in the following way: He claims that he would knead clay for another potter if that potter would be willing to knead clay for him in return. But, he goes on to say, this would never happen since the other person would "want to see de money right away." Older persons stress that in the "old days" people used to exchange labor to a greater extent than they do now, and they generally lament what they believe to be a change of values in the younger generation. These lamentations are usually expressed in terms of there being a "lack of unity" on Chalky Mount.

"Lack of unity," a common phrase used by informants, connotes the felt discordance between neighbors and their inability to move together in common ventures and the like. It is usually claimed that in past days there was no such "lack of unity," and one informant even went so far as to say that if people had more money today "they would be kinder and happier and there would be plenty of unity." In Barbados this theme is not isolated to Chalky Mount alone.[3] The regrets that older informants have, their idealization of days gone by, and the contrasts they make between their own values and those of younger persons often did not coincide with what was observed. For the same informants, who would complain

3 Greenfield, working on problems of land tenure in a different Barbadian village, found essentially the same type of attitude. "The modern tendency toward individual ownership and freedom to alienate the land . . . is in conflict with the older theory and often produces disharmony, and at times, open hostility among kin. The villages rationalize their present behavior by saying 'if people lived lovin' as they were assumed to have done in the 'old'n days' they all could share. But since others are selfish, they too must be selfish" (1960:167-168).

about the pecuniary orientations of youth, would often be those who, when they worked for others, would insist upon the work's being done on a cash basis. Invariably, the contradiction between normative and actual behavior would be explained in terms of the fact that even if they wanted to exchange labor others would not be receptive to the idea.

Another inhibiting factor to exchange labor, as verbalized by informants, is that one can never be sure if a person will reciprocate. That is, a man might perform a task for someone else, but he feels that he has no guarantees that the person for whom he worked will live up to his end of the bargain. The other person might take advantage of an opportunity for cash employment, and, as time goes on, he will willingly "forget" about his obligations to the individual who once gratuitously worked for him—or only offer his services when they are no longer needed. It is for these reasons, informants explain, that one has to be particularly sure of the person with whom labor is being exchanged, so as to have some guarantees that labor will be returned.

Guarantees would be implicit within the relationship of two persons who are closely related or are good friends. Although an exchange labor agreement is normally justified along lines of sentiment, the agreement seems to be contingent upon factors other than the expressed obligations between close kinsmen or friends. It appears that a mutual estimation of equal work capacity in a given chore is what is of special significance. That is, two men exchanging labor do so because they think they can get an equal amount of work out of each other; one man's contribution will not be disproportionate to the other man's. Thus, if an exchange labor relationship is established, it is done because each feels the other is equally competent in a given chore; but, if either is asked why he is exchanging labor with the other, the reply will invariably be "he's my brother," or "we gets along well." When these situations do occur, labor is exchanged on a day work basis, not in terms of the total job to be done.

However, as mentioned above, situations of exchange labor are rare, informants confirming observations that they are by far the exception rather than the rule. The situation, as it stands today, seems to reflect an overriding emphasis upon cash. This does not mean that every activity is based upon money and that there are no cooperative labor ventures in the community, but, rather, in those work situations which are ultimately devoted to the acquisition of cash, whether they be in pottery or agriculture, cooperative work relationships between members of different households are normally formed along pecuniary lines.

Glazing

An occasional incising of wares, the burnishing of water jugs, and glazing are the decorative techniques most commonly employed.[4] Scrap lead, bought in town, is the source of most Chalky Mount glazes. The day before firing, the lead is melted in an iron cauldron, and under vigorous stirring a litharge (lead oxide) is produced, which takes the form of a coarse powder. As it forms, the powder is skimmed off the surface of the molten lead; and, when cool, it is sifted through a small burlap sieve (Plate 2a). The coarser particles, which are held back by the sieve, are later remelted. About five or six hours of continous work produces enough glaze powder for one firing. The powder is then stored in an old pot or tin can until it is ready to be used.

On the morning that firing takes place, glaze is first applied to certain selected vessels. These are coated with a layer of low grade molasses which has been purchased in town or from one of the local sugar factories. Then the lead powder is lightly sprinkled on the molasses, which serves as an adhesive (Plate 2b). The vessels are now ready to be fired. The glaze, after being fired, usually colors to a dark green shade, though the shade can be lighter or darker depending upon how close the ware is placed to the fire and for how long it is fired.

Glaze making is normally a man's job, and women usually apply it to wares; but the division of labor is not a rigid one, for women will sometimes make glaze while men have been observed applying it. In most cases work on this phase of pottery production is done by non-paid members of the potter's household.

FIRING

The Kiln

All wares are fired in vertical wood-burning kilns which are made of mud, stone, sherds, and clay, and are usually located not more than ten yards or so from the potter's house (Plates 2c, 3f, 4a). A typical kiln is approximately circular in shape with one of the sides being shorter than the rest; and since it has no permanent ceiling, wares can be loaded from the top. Initially, however, the potter will load by stepping into the kiln from the short walled side, and gradually, as the level of wares inside rises, he will move outside to complete his loading by standing on top of the walls (Plates 3a, b, c, d). There is no permanent structure, such as a shed, built over the kiln; if rain threatens, the potter will put off firing until

4 During the Christmas season potters will sometimes buy inexpensive pastel colored oil paints and apply these to various flower vases. The paint is applied with a brush, directly from the can, after the wares have been fired.

another day. If rain begins to fall during the early stages of loading, the already loaded wares will be quickly covered with whatever materials are available, such as burlap bags, and the wares waiting to be loaded will be moved back to the shelter of the potter's cellar. If rain falls while the fire is already going (see "tempering" and "running the fire," below) no precautions are taken. The first layer of wares is stacked directly on the grate, which is at the bottom of the kiln walls. The grate is directly over the fire pit, which has been excavated prior to construction of the kiln and is reached from the outside by a hole ("arch") at the base of one of the kiln walls (Plate 2c). The "arch," embedded in the wall, is usually made of scrap metal supports. Because of the structure of the kiln, wares will often be unequally fired, those resting closest to the grate sometimes coming out a black color. Scott's comments on the simple vertical kiln are particularly relevant to Chalky Mount. According to him

> There are broadly two types of kiln, the vertical and the horizontal. The former, the more elementary, has been dominant in the west until modern times. Essentially, it is a cylinder which encloses the hot gases from the hearth at its base, and leads them upwards into a dome, whence they escape through an aperture in the chimney. *In its simplest form* . . . . the dome may be merely temporary, and may even consist of layers of sherds resting on the pots being fired. . . . The main weakness of the vertical kiln is in the regulation of draught. The hot gases tend to roar upwards, and it is difficult . . . to equalize temperature and atmosphere between the top and bottom of the chamber (Scott 1954:392-393; italics mine).

Potters sometimes have two or three kilns of varying sizes which have been made by themselves, though, on occasion, a person lacking the technical proficiency to construct a good kiln will hire another to do the job.

Firing Process

The entire process of firing is divided into a number of steps of varying durations. Each of these will be discussed in the sequence that is normally followed by the potters themselves.

While various household members bring the vessels out from storage, the potter begins the long and tedious job of stacking them in the kiln. Wares are painstakingly *loaded* and judiciously placed within the kiln in order that the maximum amount of vessels are fitted within the space available. Loading requires many changes and readjustments, for careful consideration is given to each vessel in order to determine its best spot and angle of placement. Since every effort is made to economize on kiln space, all vessels rest tightly against each other, glazed and

non-glazed wares being loaded together (Plates 3a, b, c, d,). During firing the glaze often runs on non-glazed vessels, fusing them together, and often pots are badly damaged as they are pried loose from one another when the kiln is ultimately unloaded. Another constant hazard in firing is the flow of hot air which, while expanding in the kiln, might cause loose vessels to move against each other and break; hence, careful placement of vessels against each other and "coupling" (i.e., placing a sherd between two vessels so as to steady one or both of them) helps insure against loss.

Vessels are loaded both vertically and horizontally, and are often stacked two or three feet above the highest walls of the kiln. For this reason a small retaining wall of bricks is built around the outer circumference of the permanent walls, adding to their height (Plates 3d, e, f,). After being loaded the wares are then completely covered with old sherds (Plates 3e, f). These in turn are "*mortared,*" i.e., encased with a thick mud paste which helps to retain heat within the kiln during firing. A small space of the sherd encasement at the top of the kiln is left unmortared to facilitate the escape of hot gases, though this function is not recognized by the potters. The time necessary to load and mortar a kiln is generally about three or four hours.

The kiln is next "*tempered.*" Refuse from former fires is cleaned out of the fire pit, and a small fire is built at its entrance (the "arch"). Initially only smoke will go into the kiln, but as the hours pass more and more wood is added, while the fire is gradually pushed into the fire pit directly under the concrete grate upon which the vessels are resting. After about six and a half hours of gradual "tempering" (i.e., increasing the heat within the kiln), the potter "*runs the fire.*" During this phase, which generally lasts about two and a half hours, the fire is fed as fast as it consumes wood, and the greatest heat intensities are reached within the kiln.

Pyrometric cones were placed in four kilns in an attempt to ascertain the maximum heats reached. Although this method has a number of shortcomings, especially in vertical kilns, it was the only one available to me. The cones, which were all placed approximately midway between the grate and uppermost level of pots, melted at temperatures ranging from 1608-1786° F. to 1842-1921° F. at the maximum. Kiln temperatures can probably go higher, but those recorded were the ones at which the potters felt their wares to be adequately fired.

Loading generally commences in mid-morning, the potter timing the whole process, including "tempering," so that "running the fire" will normally occur between seven and nine in the evening when the sun has already set. The surrounding darkness vividly sets off the glow from the kiln as it filters through the unmor-

tared sherds on top. The firing point is ascertained at night, for it is only by judging the color of the fire, as it moves up into the kiln, that the potter can determine when all his wares have been adequately fired. Each potter's experience tells him when the wares are done. At this point the "*arch is plugged.*" That is, the red hot embers are quickly raked from the fire pit, and its entrance is sealed with ashes, cactus leaves, or corrugated iron sheeting to prevent cool air from entering the kiln and possibly causing damage to the extremely hot wares inside (Plate 4a). Now the kiln commences the long cooling process, and by the following morning wares are generally ready to be unloaded.

Unloading proceeds in a reverse order from loading, only it is more rapidly accomplished, taking on the average about an hour. First, the unmortared sherds are removed, small vessels extracted, and then the mortar covering is broken and larger vessels taken out as the potter moves down into the kiln, unloading from the top (Plates 4a, b). After being unloaded, vessels are removed to storage under the potter's house, from where they will be gradually taken, as needed, to be sold.

The entire process of firing, from the commencement of loading to the termination of unloading, takes about 26 hours, but it can vary. Time variations are due to one or a combination of factors: the intervention of rain, which delays loading; the potter's proficiency in stacking; the availability of help for such tasks as loading, unloading, and mortaring; the number of vessels loaded; the size of the kiln; the type of wood used in firing; the speed with which the wares are needed after having been fired (i.e., the amount of time allowed the kiln to cool); the distance from the place of storage to the kiln. Vessels are actually baked during the phases known as "tempering" and "running the fire," which together normally take nine hours, though the time can vary between seven and eleven hours depending upon the size of the loaded kiln and the type of wood used.

Firewood, for a number of years, was ordinarily bought from dealers in town, who imported it from neighboring islands. Since these importations stopped, potters must rely more upon what they themselves can collect; and because wood resources are heavily depleted in the Chalky Mount area, they depend more upon outside sources on this generally wood-scarce island. This means that a cash outlay is still normally required. The cost of firewood, which includes transportation to the Mount, is considered to be a major production expense. Wood costs 60-70 cents (U.S.) per 100 pounds, though it is slightly cheaper if bought by the ton. Between 500-700 and 800-900 pounds of wood are normally consumed at one firing, depending upon the quality of the wood and the size of the kiln being used.

Firing is an adult male's responsibility, especially those aspects that deal with tending the fire (e.g., "tempering," "running the fire," and "plugging the arch") and the actual stacking of vessels in the kiln. Other members of the household, including children, normally help in the loading and unloading. In all cases non-paid labor is used, and in most cases only members of the potter's household participate.

One of the few instances of regular, non-pecuniary cooperation between potters of different households takes place in firing and relates to the firing of one's own wares in another's kiln. Because wood costs money and firing is a long and tedious process, a potter will not fire a kiln unless he can fill it completely with wares. Yet he will sometimes have an order for a few ash trays, vases, or flower pots, and, because these items would only fill a small fraction of a kiln, he will not want to fire them alone. However, he would like to receive his cash as soon as possible and therefore feels pressed to meet the order deadline. The solution to this dilemma is that the potter waits until someone else is firing, and he then takes his few wares over and puts them in his neighbor's kiln. Firing for another person is never done on a cash basis, always involves small quantities of pottery, and is done not so much because one enjoys sacrificing what little kiln space he has to another's wares, but more so because of the recognition that he, at some other time, will be in a similar position of needing a few of his wares fired.

There is no guarantee, however, that a potter will fire for someone else. Often he waits until the kiln has been almost completely loaded with his own wares before he will add those of his neighbor. Sometimes there is no room left, and if the person bringing over his wares is not willing to recognize this himself, a strained situation arises. In a circumlocutory way the potter doing the firing tries to make it known that he is unwilling to fire his neighbor's wares for lack of space. I have never heard an argument develop over this point (although in other tense interpersonal areas arguments develop all too easily), for both sides apparently realize that on this particular issue it would be unwise to risk a breach in their relationship. Tensions do arise but are usually resolved by one of the parties voluntarily conceding his initial position.

There are also times when a potter has a complete load of vessels, but his own kiln is in disrepair and cannot be used for a firing. Under these circumstances he can use a neighbor's kiln, at no cost to himself, though he must provide his own wood.

DISTRIBUTION OF POTTERY

All pottery is produced for a cash market. The demand fluctuations of this market determine, among other things, the types and quantities of wares produced, firing frequencies, and the extent to which pottery personnel depend upon other sources of income, such as plantation wage labor or small scale sugar cane production. It is beyond the scope of this paper to present a detailed discussion of the distribution of pottery, yet a few general remarks would perhaps give a clearer picture of the overall situation.

Usually women do the selling. Formerly they used to walk the 14 miles or so from Chalky Mount to "town" (i.e., Bridgetown, the capital), peddling their wares along the way and staying in town until all their pottery was sold. Today, travelling on public buses, they go directly to town, spend the day in the marketplace, and return to Chalky Mount at night. Over a period of days they are gradually able to convey all their wares to the Fairchild market, one of the two major government owned marketplaces in Bridgetown, in which the potters are allocated two stalls. The pottery, when not on display, is then stored in padlocked wooden boxes which are located on the market's premises. The market place at Bridgetown is the main sales outlet for Chalky Mount pottery (Plate 4c).

Other ways in which pottery is sold include direct peddling of wares to hotels in various parts of the island, sales to both foreign and local tourists who come to the Mount to see the potters at work, and the filling of previously placed orders. Orders are either taken by the potter's wife at the market place or by the potter himself if the customer comes directly to the village. After completing the order the potter will then deliver it himself to the customer.

Ordinarily each household sells its own wares. But from time to time a potter gives out some of his wares on consignment to a woman from another household in the village; she will earn a fixed percentage on each type of ware she sells, returning to the potter any unsold items.

Prices charged on pottery are fairly constant from seller to seller, especially in the market place where there is little or no negotiating with a prospective buyer on the price of a particular item. Prices are not marked on the wares, and the customer usually accepts the price quoted or leaves. In other sales situations as well, prices are apt to fluctuate depending upon what the "traffic can bear." Even though the financial outlay in pottery production—e.g., cost of wood for firing, lead for glazing, hired help, bus fare to town—is known by each potter, prices are not calculated on the basis of these costs and on an estimation of the worth of one's labor in relation to what is considered to be a proper profit margin. Prices have changed

over the years as the "cost of living" has increased, but they seem to have changed according to an assessment of what the "traffic can bear" rather than according to any fixed standards.

Although sales to tourists are increasing, these sales usually involve small items and little quantity and cannot be relied upon. In general, according to informants, the overall market demand for Chalky Mount pottery is declining, but this paper does not permit consideration of the factors responsible for this decline. However, there are fewer potters now than in previous years (though potters have always formed a definite minority of Chalky Mount's working population), and few, if any, new ones are being recruited. Many of the younger people have emigrated to England, and those remaining show little inclination and receive little encouragement from their fathers to become potters.

Pottery, as a cottage industry, has been in existence on Chalky Mount for at least 120 years and probably longer (Handler 1963). In many of its essential features the industry has apparently changed but little over this period. The changes that have occurred have been primarily in ware types, prices, and certain marketing techniques. Today, the practicing potters are in active competition for what appears to be an increasingly diminishing market, and it would seem that, unless new sales outlets are opened up and technological and other changes are made in productive techniques, the future of the pottery industry on Chalky Mount is a dim one indeed.

Bibliography

Brannam, J. R.
1948 *Report on a Proposed Clayworking Industry in Barbados.* Bridgetown: The Colonial Secretary's Office.

Childe, V. Gordon
1954 "Rotary Motion," in *History of Technology,* vol. 1 (ed. by I. C. Singer, E. J. Holmyard, and A. R. Hall). New York and London: Oxford University Press.

Foster, George M.
1959 The Potter's Wheel: an Analysis of Idea and Artifact in Invention. *Southwestern Journal of Anthropology* 15:99-119.

Greenfield, Sidney
1960 Land Tenure and Transmission in Rural Barbados. *Anthropological Quarterly* 33:165-176.

Handler, Jerome
1963 A Historical Sketch of Pottery Manufacture in Barbados. *Journal of the Barbados Museum and Historical Society* (in press)

SCOTT, SIR LINDSAY
1954 "Pottery," in *History of Technology,* vol. 1 (ed. by I. C. Singer, E. J. Holmyard, and A. R. Hall). New York and London: Oxford University Press.

SENN, ALFRED
1944 *Inventory of the Barbados Rocks and Their Possible Utilization.* Department of Science and Agriculture, Bridgetown, bulletin no. 1, new series.

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