

POTTERY
CRAFT AND CULTURE

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February, 1971
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INTRODUCTION

'The idea and fact of containment have been the primary significance of pottery from the beginning, and pots of all ages and peoples, even when their ostensible function was ceremonial or symbolical, have expressed by their generous swelling volumes, the potential of holding things of vital importance to man - food, liquid or the furnishings of the grave.'⁽¹⁾ The utilitarian value of a pot is inseparable from its aesthetic quality. 'There can be no fullness of complete realization or utility without beauty, refinement and charm, for the simple reason that their absence must in the long run be intolerable to both maker and consumer... The continued production of utilities without delight in making and using is bound to produce only boredom and to end in sterility.'⁽²⁾ Modern pottery, whether industrial or that of the artist potter, has each in its different way tended to separate the aesthetic and the utilitarian. This is one symptom of the cultural

decline of our Western tradition since the Eighteenth Century.

The making of pots has persisted from earliest times to the present day through our ever changing world. Circumstances have at times obscured the essential truths of this art.

PART I

GENERAL TRADITIONS OF POTTERY

1. Myth and Material

Before the scientific and industrial revolutions of the Seventeenth Century and Eighteenth Century, man tended to view his life within a religious framework. Politics, art, economics and the whole pattern of social life were all part of this framework and not separate from it. Earlier peoples valued the things they made not merely for their utilitarian or aesthetic quality but also as an essential part of religious and moral life. For primitive people in particular, not only men's political, artistic, and economic activities but also the whole world of nature was closely involved with their religion. In the primary condition of humanity 'man looked out', writes Robert Redfield, 'upon a cosmos partaking at once of the qualities of man, nature and God.'⁽³⁾ His world was personal, natural and sacred at one and the same time. 'Sky and God, rain and deity are somehow together, aspects of the same thing.'⁽⁴⁾ Objects which descended from the heavens were supposed to proceed from the spirits and were therefore charged with supernatural power.

The Bushmen, for instance, believed that the stars were their ancestral spirits. Objects of stone or clay found in the earth were endowed with similar properties, and among many peoples stones were objects of religious reverence because they were looked upon as man transformed into a different medium or regarded as embodying some definite god. In ancient Peru stone worship was very prominent, forming part of a polytheistic religion. Certain stones were sons of the Sun and people were descendants of these stones. In many cultures stones served as the place of worship. The large monoliths of Neolithic times, the circles of stones, the huge upright stone blocks joined by massive lintels and the large stones with circular holes, were all places of magical and religious significance. But more particularly, stones were sacred objects in themselves. In ancient China it was believed that jade was forged from the rainbow into thunderbolts for the Stormgod, and that it had magic curative powers. In the Shang and Chou eras votive objects of jade were used in the ritual worship of the four seasons and heaven and earth. Jade was associated with the Supreme power of creation and small perforated discs of jade were symbols of heaven and earth.

So different peoples endowed natural objects with life in different ways. Some saw them as the reincarnation of their ancestors and others as sacred objects with ritual significance having a magic life of their own. Many of these sacred objects remained in their natural state but many were also shaped into forms. Pots in particular had a strong religious significance closely connected with the afterlife and the departed spirits. The ancient Greeks even went as far as to bury bodies in pots but later they altered this practice and used vases as tombstones. These vases were five or six feet high and the Greeks poured into them oil which seeped through the perforated bottom of the vase and nourished the dead below. Pots have always been placed inside graves by most early peoples. Their purpose was to accompany the spirits of the dead to the world beyond. During Han China (206B.C.-220A.D.) thousands of ceramic objects of all types were placed in a single Imperial grave. During the era of Shang China which was the first historical civilization of the Far East and emerged around 1600 B.C. in the Yellow River Valley of Northern China, the outstanding works of art were bronze ceremonial vessels. These

were media through which the forces of nature and the spirits of the ancestors were worshipped. A large number have been found in tombs, and the best rank with the masterpieces of the art of all times. Daniel Rhodes says of these that their 'mysterious and magnificent forms must have had profound symbolic feeling.'⁽⁵⁾ Although during this era these vessels were predominantly made of bronze, they were in fact imitations of earlier clay pottery and later pottery was influenced by them. They were used for offerings of wine and food to the ancestral spirits. They were given as presents on important official occasions and were placed in the tombs of the Shang aristocracy. The Chinese have always valued these vessels and they are looked upon as the most important artistic production of Ancient China.

Thus serving as tombstones, sacred vessels and ancestral offerings, pots assumed enormous spiritual significance for earlier peoples. However it was not only the pots themselves that were significant but also the decorations and symbols on the pots. The bronze vessels of the Shang period were decorated with elaborate ornamental designs often in the form of

magic animals which symbolized the forces of nature. While some of these are derived from real animals, others, like the dragon, are completely imaginary. Two dragons in profile were made up onto a face or mask, the tao-tieh or tiger mask. The tiger was a symbol of the earth. Dragons were regarded as powers of the air and bringers of rain. They threatened the light and power of the sun. The archaic five-clawed dragon on ancient bronzes was seen as an emblem of the Emperor who was closely connected with the heavenly powers. The Blue Dragon of the East, the Tortoise and Serpent of the West, the Red Bird of the South and the White Tiger of the North, formed a group of four supernatural creatures in China. These mythological figures were often found on pots of Han China. On these pots could be seen figures riding upon dragons with drawn bows in their hands pursuing tigers. This type of decoration says Bushell 'is a genuine relic of early art striving to outline its conflict of heaven and earth. The dragon, as prince of the powers of the air, bestrides the frieze with gaping jaws and voice of thunder, while the tiger, king of the land animals roars defiance.'⁽⁶⁾ In pre-Columbian art wild beasts are not only painted on the pots but sometimes the pots themselves are made in

the shape of demons and monsters. These monsters were seen as incarnations of the godlike energies that dominated the world.

China's neolithic pottery, dating from the middle of the third into the middle of the second millenium carried designs consisting of spirals, wavy lines, bands, squares, triangles or occasional styled figures, all of which were magical in purpose. The circular or spiral design which has been interpreted in modern times as a stylization of waves or as a sign of thunderbolts or as symbolic of the earth and fertility is one of the primordial forms invented by many early peoples. These spiral designs are also found on stones lining megalithic tombs, and on murals in Minoan Crete. 'In primeval art the circle in all its forms - balls, hollows, perforations, spots - exerted an extraordinary fascination... Its form may well have been inspired by the sun, upon which all life depended. The shape of that celestial body became the symbol of life itself.'⁽⁷⁾

The designs on the pottery of the American Indians consisted of special tribal patterns and symbols. 'Potter and artist draw upon their spiritual sustenance from their tribal life, and that life is all a design,

a dance and a ceremonial, from birth to death, and through all the ramifications of daily life; it is a whole, individuals are part of a pattern. The deer and the rain design and the unit derived from the butterfly, are used on jars and pictures, they are set deep in the life of the artists, they appear in other forms, still patterned and controlled, in the dances... Their whole life is charged with symbols, from them inevitably they draw their aesthetic patterns. (8)

Amongst many of these early societies there was much similarity in the shapes of these pots and in the designs used to decorate them. The Indians of Mexico and Peru, the early Cretans and Persians, the prehistoric Chinese and Russians, all did work that was akin in both outward form and inner spirit to their work and their art, and though the forms they made and the symbolic designs that evolved appear remarkably alike, this in no way detracts from the originality, vitality and freshness of the pottery of their respective cultures. And again, a potter in such a society worked within the tradition of his particular culture. There was no need, intention or preoccupation with achieving any kind of

uniqueness or originality as there is with artists of modern times. The artists or potters were anonymous but the pots themselves although similar were never repetitive. Bernard Leach says, 'in a broad way the difference between the old potters and the new is between unconsciousness within a single culture and individual consciousness of all cultures.' (9)

2. Tradition in the East

The art forms of a community are the expressions of its culture and this is true of pottery. Pottery has always been deeply embedded in the cultural traditions. In China this tradition of pottery-making was built up over thousands of years with the early development of the pot as a symbolic vessel. 'The special regard in which the ceramic art has been held in China needs no emphasis. It is something with hardly a parallel elsewhere, even among Greek vase-painting. It springs from the same mystical sensuousness and humility in the enjoyment of form, texture and colour as influenced Chinese poetry.' (10) And again Honey says, 'Pottery is no minor art; porcelain has been esteemed by them with jade as noble material

above gold, silver and diamonds and objects made of it have been collected and treasured for thousands of years.'(11)

By the second or third century A.D. the directions which Chinese ceramics were to follow for the next thousand years were established. Such was the veneration of the past and the respect for tradition, two essential features of Confucianism, that Chinese potters from this time made no great change in their attitudes. Even during the political and social upheavals which separate the various stable dynastic regimes, no radical changes occurred in pottery. Rather did each generation of potters add to the growing tradition and some types of ware were made continuously for hundreds of years. This is underlined by the fact that wares were not valued as belonging to a specific era but rather to areas or styles.

So there grew up in China a steadily evolving tradition of pottery, which was closely integrated with the whole Chinese world view. Bernard Leach points out that 'in the Tang period it is not difficult to recognize the Chinese genius for synthesis, here

reinterpreting Greek or Buddhist ideology in terms of contemporary need, and combining these elements within the native framework of Taoist and Confucian concepts, thus fundamentally modifying and extending the boundaries of their ideas of beauty and truth. In the greatest period, that of the Sung dynasty, all these different influences are welded together in one, for the unification was then supreme. (12)

Confucianism was one of the most influential elements of this tradition of Chinese pottery. The pottery of the Han period (206 B.C. - 220 A.D.) reflects perfectly the stability, the order and the respect and veneration for the past of Confucianism. The forms are controlled and carefully proportioned yet free and plastic. Han stonewares were never whimsical or personal but rather sombre, quiet, and restrained with a suggestion of the past.

There are, however, two general paths or broad tendencies in Chinese pottery closely reflecting the two aspects of the Chinese mind and spirit. One is this Confucian ideal found repeatedly in the pottery of China through the constantly rising and falling dynastic periods. Conservative and restrained, constantly referring back to classical standards of

revered ancient jades and bronzes, these pots are the Imperial wares of China, or the court or official taste. The other is the 'Romantic' or 'Tao' school, wilder, more northern in spirit, belonging to the instinctive taste of the peasant and the sage, the Taoist followers and the Buddhist sects, as opposed to the luxurious taste of the leisured class of patrons and the court. These two streams of Chinese thought and spirit run together throughout the greater part of Chinese culture giving great strength at different times and in different ways, not dividing but continually keeping alive and revitalizing the old Chinese concepts. Taoism and later Chan Buddhism could be seen as increasingly sophisticated versions of the ancient concepts of the unitary cosmos. Thus the ancient Chinese concepts were never lost but rather grew into elaborate and more intellectualized versions. This unbroken and growing path is the great cultural strength of China.

So Chinese pottery and other early pottery gained its strength and vitality because it was part of a tradition and was closely integrated with the religious, social, political and philosophical order. Early pottery thus reflected this unity of man, God

and nature. This is also to be seen in the way in which materials were used to make pots and the delight in using natural materials of their everyday environment. This was partly out of necessity but it was also due to the aura of mystery and religion surrounding the materials which were not conceived rationally in the minds of these peoples but were felt as part of this unitary cosmos of man, God and nature.

One important characteristic of Chinese ceramics which was quite apparent in Han times, and before, was the ability and the willingness of Chinese potters to make use of the natural character of ceramic materials and processes. Effects were seldom forced, they grew directly out of the available clays, rocks and minerals. It was with a similar enthusiasm that natural elements were used to decorate the pots. The discovery that ash melted to form a glaze was absorbing to Chinese potters, and this method was developed through the centuries into the refinements of the celadons of the Sung dynasty.

The work of these potters, depending upon natural materials and working at a time when scientific

knowledge of these materials was very limited, was thus restricted. The character of the pots was determined by the limited nature of these materials and methods of early potters and were an advantage in that they enabled these potters to become masters of their own particular processes and techniques. These limitations also led to a single-minded devotion to their ways of working by a number of potters over very long periods of time, so that each potter was able to carry on further the work of his predecessor.

The Chinese had built up a traditional veneration for jade which they valued above all the precious stones and metals. A gradual progress in the selection of materials and in the perfection of methods of manufacture led to the selection and preference for the glazes which had jade-like qualities. The ideal sought in glazes was the dense, smooth, only half-translucent texture of the 'mutton-fat' jade. 'Rich and unctuous' and 'congealed lard' are terms frequently used by old Chinese writers to describe this glaze quality - which appeals to the sense and touch as much as to sight. These glazes, reaching perfection in the Jung celadons, with their great beauty of texture, the variety of dense, hazy

qualities, minute bubbles and greenish ointment or slightly clouded jelly miraculously hardened 'could not have been the growth of a day'.⁽¹³⁾ They were 'the patient unassuming outcome of centuries of tradition gradually developing through the experience of material and increasing complexity of need, and the sublimated emotion of a long succession of Chinese or Korean workers... I know now that it is a task beyond the power of any one man.'⁽¹⁴⁾ In this way they worked towards perfection.

Their idea of perfection was, however, very different from what it is now. The present Western technological ideals of perfection in pottery have come to mean meticulous surface finish and a concealing of the means by which the end has been achieved. Earlier pottery aimed at no such superficial flawlessness and there was no attempt to conceal the characteristics of the materials and the processes by which they were made. Indeed the Japanese believed that evidences of making were not out of place on the finished ware, especially if it spoke of the intent of the potter and did not conflict with the purposes for which the ware was made. It would have been impossible anyway to have tried to conceal these processes because they were often

arrived at by accident rather than by intent. For instance rapid and somewhat casual glazing techniques resulted in frequent runs or drips of glaze. Much of the best Japanese pottery has a relaxed and informal quality. The evidences of craftsmanship were not hidden, but used directly and enjoyed for their own sake. For instance the marks of the fingers made on the pot while throwing were left. Deformations caused by lifting the pot while damp and soft, or the warping which occurred during the firing were not so much regarded as flaws but as natural outgrowths of the making process. Some Chinese and Korean potters achieved a similar spontaneous accidental quality. But although this quality may have been arrived at accidentally it was often repeated intentionally so that these beautiful effects could be achieved again. Some Western critics of Oriental art have apologized for these so called imperfections but such expressions of opinion merely expose the critic's lack of insight. As Bernard Leach says, 'The Far Eastern point of view is that all these qualities can be used and that they are incidental to nature rather than accidental to man.'⁽¹⁵⁾

Daniel Rhodes speaks of this 'quality of enjoyment of pottery in the East as an art form rather than

as something used either for ostentation or for merely utilitarian or humdrum purposes. The Japanese potters obviously practised their craft with gusto and enjoyment... It is out of the actual process of potting and art of the attitudes, values, skills, and sensitivity of the potter to his material that the real meaning of the pottery finds embodiment. This is in contrast to much European pottery, which is more planned out in advance, more "designed", and which depends on craftsmanship merely to carry out an idea already established, rather than to create the idea along with the pot. Japanese pottery must be understood in terms of the way it is used. The Japanese value pottery as they would any other art form, and the fact that pottery is useful in certain ways does not make them think the less of it... Art in other words is allowed to enter into and to fructify all phases of life. (16)

The tea ceremony as it was practised in the Sixteenth Century in Japan had a very important influence on pottery. The ceremony in the beginning, before it became more elaborate and gradually degenerated into a social accomplishment, was a formal relaxation and

appreciation of simple, natural beauty and the pottery used embodied this ideal of simple austerity and humility and sensitive awareness of the transient beauty of the visible world. The ceremonial vessels comprised small jars for holding the powdered tea, bowls for infusing and drinking it, a vessel for water, a fire-pot for burning charcoal, incense boxes, a vase for a flowering spray and dishes for cakes. The style most favoured by the tea masters tended to be very unassuming and without artificial refinements. 'Today there is a narrow dogmatism concerning the tea ceremony as to the unchanging principles to which "good" pottery should conform and an insistence upon a single standard of beauty... Instead of discovering beauty as a state which may be attained by an endless procession of different forms, the new tea-masters and critics define it as conformity with a single standard, arbitrarily chosen but claimed as an absolute. Like the concept of unchanging goodness and other abstract qualities, it is of verbal origin only.' (17)

3. Science and Pottery

The fluid, spontaneous quality of these pots was achieved by the manner in which they were made.

In our present society the trend has been since the scientific and industrial revolutions for man to work against nature and try to achieve a domination over it. So that when wares are made nowadays they are shaped and moulded entirely according to the will of their maker. There is no possibility of form and design emerging out of the fluidity of the substances that go into its making. Today industrial potteries and most potters work according to strict formulae which have been rationally organized and scientifically proved, and so can expect definite results. Earlier potters, on the other hand, worked with their materials rather than manipulated them. They worked to no set patterns but with an intuitive feeling for the flexible nature of their materials. They allowed their pots and their forms and shapes to grow freely rather than be made. Bernard Leach says, 'In looking for the best approach to pottery it seems reasonable to expect that beauty will emerge from a fusion of the individual character and culture of the potter with the nature of his materials - clay, pigment, glaze - and his management of the fire, and that consequently we may hope to find in good pots those innate qualities we most admire in people.' (18)

Today scientific knowledge is increasingly being

substituted for intuition as the chief vehicle for artistic creativity. Earlier potters did not possess such scientific knowledge. The shapes and designs of their pots were the products of generations of experience. The knowledge was not learnt as a potter must learn today but rather was handed down. The chemical composition of his materials remained completely unknown to him. He was aware only that a certain earth with a certain physical character from a particular locality might, under certain conditions, produce a desired colour. This intuitive and practical approach was obviously necessary because scientific knowledge was limited. But it would have been foreign to his way of thinking to dissect his materials and analyse them. For him art and science were closely fused. The process of pottery making was a unified activity and the pots were valued in religious and aesthetic terms and not for their monetary exchange value.

Today the potter lives in an age when scientific knowledge of his materials is not limited and he is faced with an abundance of materials, tools and techniques. In an effort to make the best possible use of all these he fails to master any single one.

Today there is no tradition or artistic tradition guiding the potter. There is no religion to which the activity of pot making is intimately connected. There is a tradition of sorts, but it is only an industrial, scientific tradition which cuts man off from the roots of his existence and destroys that unitary conception of the cosmos from which the most richly creative epochs have come in the past. Pots no longer have religious significance and what aesthetic quality they do have is generally subordinate to their utilitarian value. Crockery today is bought to be used. This emphasis on its utilitarian value has meant that pottery, like all other 'commodities' has become subject to various economic forces. Technological development and the division of labour has meant that goods can now be produced 'en masse'. The making of pots has fallen into this. Pots have become the product of carefully controlled scientific formulae, reliable machines and carefully analysed materials so that the activity of making no longer contains any element of chance and follows such a predetermined pattern that their pots have become divorced from man and from nature. Moreover this scientific certainty has meant that pots can be made

with a smooth uniformity and meticulous finish. These products have the advantage of being cheap and they are also superficially attractive in an age when culture is being increasingly intellectualized. Such a civilization is sceptical about that which cannot be rationally constructed. 'Rationalism signifies the belief in the data of critical understanding (that is, the "reason") alone. In the springtime men could say "credo quia absurdum", because they were certain that the comprehensible and the incomprehensible are both necessary constituents of the world... But now a secret jealousy breeds the notion of the Irrational - that which, as incomprehensible is therefore valueless. It may be scorned openly as superstition, or privately as metaphysic. Only critically established understanding processes value. And secrets are merely evidences of ignorance. The new secretless religion is in its highest potentialities called wisdom, its priests, philosophers, and its adherents "Educated people".'(19)

4. Industrial Culture

It is this intellectualized culture that has created the machine and it is the machine that has

enslaved man. In our present age, as Spengler points out, 'The peasant, the hard worker, even the merchant appear suddenly as inessential in comparison with the three great figures that the Machine has bred and trained up in the cause of its development; the entrepreneur, the engineer, the factory worker.'⁽²⁰⁾ So that in his attempt to master his environment man had become the slave of his techniques. Earlier man did not try to master nature but to work in communion with it. Nor was he the slave of his techniques but rather worked in intimate collaboration with them.

A necessary concomitant of this industrialized culture is the growth of the city. Mechanized mass-production can only be carried on in a factory. Factories can only function in cities. So peasants whose existence had previously been rooted in the soil are drawn into the belt of urban civilization. Again Spengler describes the effect of this transition. 'In place of a type-true people, born of and grown on the soil, there is a new sort of nomad, cohering unstably in fluid masses, the parasitical city dwellers, traditionless, utterly matter-of-fact, religionless,

clever, unfruitful, deeply contemptuous of the country man.' (21) Working in industry carrying out a minutely specialized task the worker is unable to realise his creative capacities. He works in a state of alienation from himself. This is partly because his work is not his own spontaneous activity but rather labour mainly in the interests of others. It is partly because the work he can be credited with is carried out by machines. And it is partly because the labourer is working not to realize any creative potential but to satisfy his need for money. Money is another force destroying the unitary cosmos of Man, God and Nature. It separates man from God because he has come to worship money and it separates man from nature because man has come to value nature not for its own sake but for its industrial potential and so as a possible source of monetary income.

Spengler sees money as an 'inorganic and abstract magnitude, entirely disconnected from the notion of the fruitful earth and the primitive values.' (22) In an urban civilization man has to possess money to stay alive and so its importance is stressed. But there is no doubt that money undermined the natural roots of man's existence. Primitive societies valued

objects, whether they were in a natural or a manufactured state, for their inherent quality. In money cultures these objects are valued in abstract monetary terms which are completely divorced from their natural qualities. Moreover the money factor intrudes upon the manufacturing process and motives of producers and makers of objects. Man, before the technological age made objects to satisfy a creative need, to serve a religious purpose and to answer utilitarian needs. Today man still has a need to work creatively but, as has been said in our industrial systems, this is virtually impossible. The individual craftsman potter today may be able to work to his own satisfaction, but he will be able to do little more. His pottery will only meet the needs of a small minority. So that any notion of these pots possessing a religious or aesthetic significance for the whole society is quite out of place. Moreover the same economic forces making for mass-production force the individual potter into isolation. He can no longer belong to a tradition but can only exist as a tradition in himself. Indeed this happens not only to craftsmen but to many artists. The people who resent the sterile uniformity of our industrial

culture aspire towards a kind of personal originality, and work, like the few craftsman potters, in isolation. Their work is essentially a reaction against the nature of Western culture rather than a part of a tradition. Artists in early cultures had no such concern for originality. As said before Chinese potters were content to carry on a tradition. They continued the work of their predecessors in new directions. But in fact each one of their creative works, however similar it may have seemed on the surface, was more original and individual and more vital than much of the supposedly original works of today.

PART II
TECHNOLOGICAL AGES

1. European Pottery of the 17th and 18th Centuries

In many ways the Seventeenth and Eighteenth Centuries were a turning point in Western history. This is also true of pottery. Both technically and aesthetically European pottery has always lagged far behind Oriental pottery. But before the Eighteenth Century European pottery did belong to a tradition. This was essentially a peasant tradition of craftsmen, who worked almost entirely within accepted styles and who did not think of themselves as artists. In China and the Far East the art of the potter has always been held in equal honour with that of the painter or sculptor. Whereas Oriental potters were patronized by the court and porcelain was highly valued as a precious material, in Europe pottery was not much used by the nobility who preferred wares of pewter, wood or silver to the insanitary, coarse earthenwares which were the best the European potter had to offer. European pottery was therefore largely an expression of the needs and tastes of the peasantry rather than of the upper classes and the character of the ware

tends to be earthy, robust and casual. Among the best of the peasant traditions were the salt-glazed stonewares of Germany. These jugs, 'steins' and tankards were made for a beer-loving people, and the pottery although it incorporates much fine detail is broad, sure and full of vitality. This salt-glazed stoneware tradition reached England in the Seventeenth Century. John Dwight, who set up a pottery at Fulham in the late Seventeenth Century, produced salt-glazed wares, mugs, tankards and teapots in a sturdy, vigorous style which was quite English in character. Daniel Rhodes says of this pottery, 'The early Fulham ware, a direct and honest expression of contemporary tastes and needs, remains one of the finest achievements of English pottery.' A similar pottery centre was at Staffordshire, where the Eighteenth Century stoneware production developed rapidly and salt-glazed figurines were also made in a true folk art style which was more genuine than the sophisticated figures made at that time on the Continent.

But although this tradition persisted into the Eighteenth Century, the new trends were already beginning to intrude. In Germany the quality of the forms and

the decoration of the stoneware pottery deteriorated in the Seventeenth and Eighteenth Centuries. In part this was the result of the influence of the then popular rococo style in design, which led to an over-elaboration and an excessive preoccupation with surface effects. In England, too, the sturdy and indigenous pottery tradition as typified by the earthenwares and stonewares made prior to 1750 was lost, and throughout the Nineteenth Century the English potteries poured out vast quantities of pretentious, over-elaborate and imitative work. It was towards the middle of the Eighteenth Century that the pottery industry in England changed radically. The old handicraft methods at Staffordshire could no longer meet the demands of a growing population and the industrial revolution radically altered the whole method and character of production. The coming of steam power and the division of labour were the two most revolutionary features of this change in the field of pottery. Josiah Wedgwood, who introduced power machinery and more exact controls over the firing processes, was a prime mover in ushering in the scientific and technical age of pottery, and this was responsible largely for great changes in design. Table-

ware became more functional and more simple. On the other hand the neo-classical spirit led to the making of the fashionable "art ware" pieces.

Technical knowledge coming from the continent accumulated, and during the Eighteenth Century English industrial potteries gained control over the whole range of pottery substance and decoration. And so they achieved a scientific mastery over their materials and processes which was to destroy that more personal and natural framework within which earlier potters worked.

2. Eastern Influences

European potters did not only imitate classical styles but also tried to imitate Chinese pottery. In the Seventeenth Century the contact between the West and the East was increased by the trading activities of the Dutch East India Company. This contact had ill-effects on the pottery of both the West and the East. The late Ming wares of the Seventeenth Century were made in response to the demands of the export trade rather than in keeping with Chinese taste. They became more and more affected and ornate and in fact reflected China's cultural decline. 'By the time

stonewares and porcelain were being made in Europe, ceramic art was already decadent in China, after more than a thousand years of high achievement. Until quite recently, technical achievement in European ceramics meant learning to do what had already been done in the Orient. And it must be admitted that it was usually done better in the Orient.'⁽²⁵⁾ Attempts were made to imitate porcelain but the use of feldspar as a pottery material was unknown until the Eighteenth Century. Very little information came from China on porcelain-making and it was only in the Eighteenth Century that porcelain pieces were made in Europe for the aristocracy. Although the substance of porcelain could now be made the designs were intended to please the tastes of the nobility and wealthy aristocrats and this to a large extent accounted for the character of the ware which from the first tended to be complex, elaborate, pretentious and not very functional. As Rhodes points out, 'Court life in the eighteenth century was marked by elaborate pageantry and the ceramic pieces which graced the tables, sideboards and mantles of the aristocrats were intended to display if nothing else a lavish richness of form, decoration and colour.'⁽²⁴⁾ The artistic tradition of the time was quite unsuited

to the making of porcelain. In Europe in the Eighteenth Century the Baroque style of art was in full swing and the ornate elaborate character of Baroque silver was quite out of keeping with the tradition of Chinese porcelain. 'It is interesting to speculate on what would have happened if porcelain had been introduced into Europe during the Renaissance or during Gothic times. Perhaps an entirely different tradition would have taken root then, one not based to such an extent on ostentation, over-elaboration, and surface finish.'⁽²⁵⁾ The Western aristocracy had not previously valued clay pottery for its aesthetic quality, and they preferred pieces of gold and silver, which in both ecclesiastical and aristocratic circles were the main touchstones of wealth. Hence the new court pottery tended to be influenced by the style of these gold and silver pieces whose highly intricate and ornamented styles were foreign to the Chinese tradition and an abuse of their whole ideal of pottery.

The growing contact between West and East had an equally bad influence on Chinese pottery. Ironically, naive European imitations of Chinese wares filtered into China. The Chinese were fascinated by these

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designs which were novelties to them. For a time under Emperor Yung Ching Western styles became the fashion.

3. Mass Crockery and the Craftsman Potter

The Eighteenth Century saw not only the onset of the industrial and scientific revolutions but also the beginning of the rise of the bourgeoisie. With the scientific and industrial revolutions came a deterioration in the quality of pottery, and with the rise of the bourgeoisie came a corresponding degeneration of taste which patronized this inferior art. The making of pots became rationalized and intellectualized within the industrial framework of the factory system and mass production. Whereas in earlier times the artistic and scientific aspects of making pots had been inseparable, in the past three centuries the artistic aspect has not only become separated from the scientific but also been subordinated to it. There is no longer any room for the craftsman who cannot produce at the pace of the factory belt and whose final products are too expensive and generally do not meet the taste of the majority. But while the factory system of mass-production has brought about a

deterioration in artistic quality it has brought satisfaction to a people whose cultural ethos depends upon material comforts and gains.

Bernard Leach gives a clear statement of the problem. He shows how the homely workshop life has given way to specialization and mass-production. He goes on to say 'for that no individual can be praised or blamed; like many another institution it arose in response to a human need, moving parallel on the one hand with the slow progress of economic democracy and on the other with an unprecedented rise in the population. But although we have now reached a point where for the first time in history we are able to produce enough and more than enough for all, the trouble from the artist's or craftsman's, or for that matter any sane person's point of view, is not only that the problem of equitable distribution is unsolved, but that so many of the things we have contrived to make are inhuman.' (26) It is true there is scope for improvement in our industrial pottery and very recently a start has been made toward a design for mass-produced pottery which depends neither on the shape or character of hand made things nor on an outworn tradition of

elegance, gentility and refinement. As Daniel Rhodes says, 'what is needed in the design of factory-made goods is an understanding of both the potentials of machine production in terms of form, and of the realities of function in terms of present-day living.'⁽²⁷⁾ But while there is room for improvement mass-produced pottery will never be able to escape from the artistic limitations of the factory system. Wherever pots are produced by a system of specialized labour and where the maker is separated from his product by machines and where the form and design of the final product is rigidly determined by scientific formulae there is no possibility of a pot having that quality of individual strength and vitality which was common to the pottery of early cultures. Mass-produced pottery has not only brought a deterioration in the artistic quality of pottery but it has also had an undesirable influence upon the craftsman potter. As has been shown the craftsman potter was already being forced out of existence by economic circumstances. But some potters have continued to work in a quasi-craftsman 'tradition'. These are the artist potters of today. Theirs however is no real tradition. They are not producing pots for

a whole people. They are merely individuals satisfying their own personal artistic convictions.

Therefore there is a situation where pottery is dominated by a number of individual industrialists who are largely indifferent to aesthetic considerations. The old type of craftsman has given way not only to the factory but also to the artist-craftsman potters who, while they are concerned about aesthetic considerations, are influenced by all tastes, all designs, all techniques and all traditions. The strong traditions or local crafts of pottery are replaced by endless influences. Thus this new pottery cannot possess that strength which early pottery had by virtue of the fact that it represented a whole culture. But given the present cultural trends and the economic circumstances of our everyday life this quasi-craftsman's 'tradition' is the best to which the modern potter can aspire.

Bernard Leach is one Twentieth Century potter who belongs to this 'tradition'. In his work A Potter's Book he justifies his approach: 'in a machine age artist craftsmen, working primarily with their hands represent a natural reaction valid as individual

experience, and they should be the source of creative design for mass-production whether they work in conjunction with industry or not.' (28) Leach could see that the real secret of Oriental pottery lay in its integral tradition and the continuity of Oriental culture. But in Leach's eyes the fact that this tradition is lost and the continuity broken is no cause for despair. It is still possible to adapt the technical means of the old Chinese and Japanese potters who made a simple use of their natural materials and resources. The modern potter must work in the same spirit using the same kind of materials in a straightforward and natural way. Leach himself made a careful study of Oriental techniques. He was born in the Orient and returned there as a young artist in 1911. He studied the ancient wares of Japan and China, started his own pottery shop, experimented with oriental ways of forming, decorating and firing, and in his work tried to interpret the spirit of old methods in modern terms. After the First world War, Leach returned to England and started his pottery at St. Ives, where he used a wood-burning kiln modelled on the Japanese chamber kiln, and began making high-fired stonewares.

Leach is fully aware of the absence of a single tradition and the presence of a number of diverse influences with which the modern potter has to contend: 'we craftsmen, who have been called artist, have the whole world to draw upon for incentive beauty. It is difficult enough to keep one's head in this maelstrom, to live truly and work sanely without that sustaining or steadying power of tradition, which guided all applied art in the past. In my own particular case the problem has been conditioned by my having been born in China and educated in England. I have had for this reason two extremes of culture to draw upon, and it was this which caused me to return to Japan, where the synthesis of East and West has gone farthest.'⁽²⁹⁾ But whereas Leach is influenced by the Oriental tradition he rejects outright the blind imitation of Chinese pottery: 'influences from alier cultures,' he writes, 'either upon art or industry must pass through an organic assimilation before they can become part and parcel of our growth. This happens, moreover, only when they supply an inherent need, and is usually inaugurated by the enthusiasm and profound conviction

of men who have themselves succeeded in making the synthesis. The superficial imitation of early Chinese shapes, patterns, colours and techniques signify nothing unless new life emerges from the fresh combination. The temptation for the individual potter is to stand back with the paralysis of frustration in the face of such a sea of change, but we cannot afford to wait until the tide of a new culture rises. (30)

Daniel Rhodes sees the situation of the modern potter in the same terms as Bernard Leach. He discerns the break down of tradition and the trend towards individualism. 'The modern artist,' he writes, 'no matter in which country he works and no matter what medium he chooses to work in, is essentially without artistic roots, and his task is more to create a tradition, than to expend an existing one.' (31) He goes on to say that it is unreasonable to expect pottery today to conform to any single standard as it did in past eras and he even believes it advantageous to the modern potter that the present conditions make possible a maximum freedom for individuality and imagination: 'In many ways the craft of pottery has

been revitalized during the past generation by the creative work of individuals who found in it ways of saying new things.' (32)

Bernard Leach says that the potter today should try to follow the early oriental potters in making a simple use of natural materials and resources. A Twentieth Century American potter, Henry Varnum Poor, has tried to do just this. Reacting against the industrial pottery made with scientific certainty, Poor says that his own technical knowledge of pottery will 'always be on a rule of thumb, skill of hand, or primitive trial and error basis rather than on one proceeding from a knowledge of chemistry, or exact technical processes - which knowledge I do not have. Although I have often regretted this lack of knowledge, I have become more convinced through the years that this lack may have been an asset.' (33) He emphasises the importance of technical simplicity: 'of the accumulation of the art of all ages with which we live, the multiplicity of techniques and materials, you must be content to leave a great deal alone.' (34) And again he says, 'technical perfection cannot give life to dead forms and dry design. Only love can create

a living thing; knowledge is not enough.' (35) He urges potters to make use of the most natural materials in the way that the early potters did, and he emphasises that the most common may be the richest materials from which to make rare and beautiful objects. He delights in the mystery surrounding the art of pottery: 'the use of clay and the development and refinements of the whole art of pottery-making come from such remote antiquity, and so much precede any corresponding development of the exact sciences, which might codify and explain what went on in the fire and what caused these transformations, that the aura of mystery and of the unknown and miraculous has always enveloped pottery-making.' (36)

Like Leach and Rhodes, Varnum Poor understands the nature of our civilization and its implications for the potter. He sees how 'the forces of technique, of mass-production, of conformity in all that surrounds us physically determines our creative life.' (37) And he sees how in reaction against the growing uniformity and universality of our culture are tending towards an extreme and self-conscious individualism. This self-conscious search for originality he sees as a

curse of our time. But at the same time he realises, like Leach and Rhodes, that the potter must necessarily create his own tradition. Poor's own personal tradition involves a warmer and closer relationship with the potter's natural materials and greater technical simplicity.

Bernard Leach was the prime mover behind this new artist pottery. Many others have followed in his footsteps in the Twentieth Century. Amongst the most recent of these is Lucie Rie. Her pots have their roots in classical and oriental ceramics, but they are vibrantly modern and belong essentially to the present day. Another follower of this tradition is Hans Coper. Although his pottery shows no Oriental influence his philosophy of pottery does. He avoided experimental work for its own sake and valued the timeless quality of pottery. He believed pottery through the ages has likened man with his activities and environment and provides a continuous thread connecting the past and the future. Shoji-Hamada, a Japanese potter, is also linked with the Leach school. Early in his career he conducted scientific experiments into the composition of the glazes of early Chinese pottery.

But he uses this knowledge only as an aid to his high-fired stoneware, in which he works almost exclusively. His glazed surfaces are achieved simply and the power of his work comes not from any unusual or spectacular effects but from a relaxed and spontaneous yet masterful command of form, together with an ability to impart to each piece some accent and moment of rare insight.

4. Emerging Attitudes

All these potters tried to create their own individual tradition. They appreciate the fact that the conditions for an artistic tradition embracing the whole of our society have been destroyed by the increasing emphasis on materialism, science and industry. In contrast to this the manufacturers of mass-produced crockery and many potters have lost contact with the essential elements of pottery and have fallen out of understanding with the 'raw materials' of the art. The tradition that exists today is only a tradition of uniformity and superficiality. The potter wishing to create pots of an individual artistic quality must try to escape this so-called tradition rather than work within it in the way early potters did. Hence he has to work in isolation using his own personal techniques and pursuing his own convictions. Bernard

Leach and his followers, both the old and new groups, and the Americans, Daniel Rhodes and Henry Varnum Poor are all men who have a common attitude. Each in his own personal way is contributing towards this attitude. Varnum Poor says, 'Renewal of contact with our work is the most necessary of all motivations to fresh creation... Understanding for an artist should be mostly of the heart and the eyes and the hands rather than of the head.' (38) Only in this way can the modern potter escape the sterile uniformity of industrial pottery and succeed to a small degree in regaining that richness, vitality and artistic quality which were the hallmarks of most pottery in the pre-technological age. 'Today we must take what we find in good pottery and use it to the fullest extent. We must not be restrained by prejudice or precedent... It does not matter whether what we find has the sanction of either the past or the present. The growth of forms, the tooth of fired clay, its earthiness or its quartzlike quality, its burnt or rocky colours, the unctuous or icy glow of glaze... These qualities in pots are the raw materials of the art and are the colours and textures not only of pots but of the earth itself. Every good pot is a new landscape.' (39)

PART III

A PERSONAL APPROACH

1. Plan of Work

In the past year I have attempted in my own practical work to adopt the approach of the craftsman potters, towards the renewal of contact with the essential elements of pottery. I had a personal wish to make glazes out of vegetable and wood ash. I gathered the wood to be converted into ash from trees and bushes in the Eastern Cape - particularly in the areas around Grahamstown and Hogsback. I have much enthusiasm for, and have gained much pleasure from, using the common-place materials of the earth in the making of glazes. I made no close scientific analysis of either the ingredients of these glazes or the processes by which they are achieved. Hence my work was largely conducted on a basis of trial and error, experiment and experience.

By working in this way, I was not constricted by the chemical formulae of the glazes nor diverted into attempts to add much to the ash or calculate

glazes and fix results. I found it better to explore the possibilities of the ash by working directly with it in simple recipes, and making slight variations of these according to the different ashes. Not knowing what results these ashes would give, and knowing that this experimental method would take longer than a more scientific approach I felt that this was the best way to enable me to find the qualities of these glazes rather than to determine them. A closer analysis of the composition of individual ashes will be of value at a later time when only a few ashes can be concentrated on and the recipes improved and perfected.

To bring out the best qualities of these ashes I found that an electric kiln was inadequate. I burnt the various bushes and woods I had collected, sieved and washed the ashes, and tested them at a high temperature - 1280° centigrade, in an electric kiln. The results were very uniform, all the glazes being a rather transparent pale brown or tan. This was because the heat from an electric kiln is a static radiating heat. There is no movement of air or gas through the kiln. The atmosphere of the kiln is oxidizing and there are no carbon gases in the

chamber as with a wood-burning kiln. A reducing atmosphere - that is a cloudy, smoky atmosphere - containing a certain amount of carbon, and carbon-monoxide, and only a limited amount of oxygen, cannot be achieved in the electric kiln without damaging the elements. (To eliminate the oxygen in the electric kiln, charcoal or oil soaked cloth or damp wood-tapers are plunged into the kiln chamber during firing to produce flame.) In kilns burning oil, gas or wood a reduction atmosphere can be created easily. In this reduction-firing glazes melt and clays mature in this atmosphere of unburnt fuel in the form of carbon and carbon-monoxide, and causes the oxides of the metals which may be present in the glazes to 'reduce' to their pure state. Iron and copper for instance will be brown and green in oxidation and red and grey or blue in reduction. Other metals and minerals react in different ways. The clear fire of oxidation causes the oxides of the metals to give colour to the glazes, and the smoky or reducing flame causes the metal itself to give the colour - that is, the oxides of the metals in reduction leave the metals to unite with the floating particles of carbon in the atmosphere of the kiln.

Therefore I built my own downdraft wood-burning kiln. A good kiln cannot be built strictly "according to the book" as there are many variable factors, such as the climate and geographical environment, which have to be taken into account. It is by a close personal understanding of the kiln that a gradual progress towards a good firing performance can be achieved.

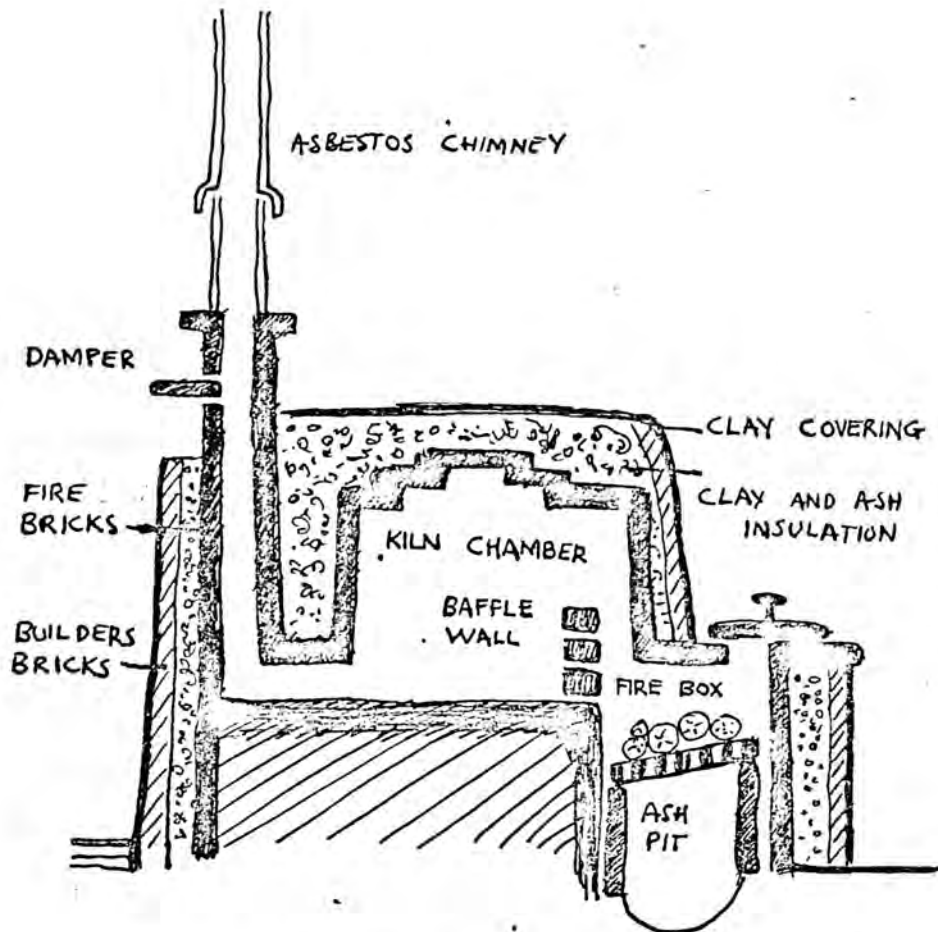
2. The Kiln

I designed and built a temporary kiln shell not using fire clay mortar. In this way I could make adjustments and alter the position of the bricks where necessary and make the final plan for the permanent construction of the kiln.

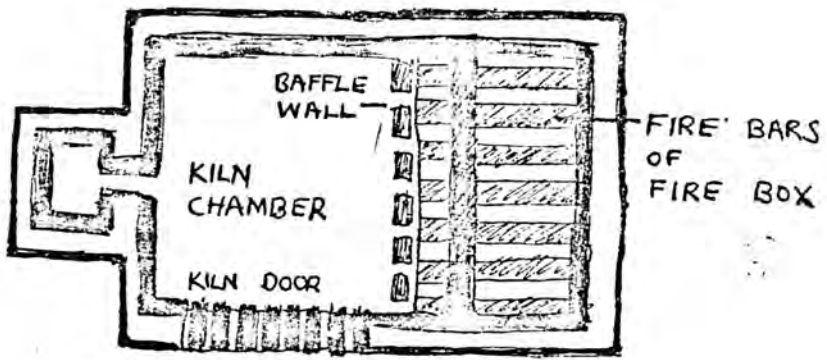
The high temperatures, 1250° - 1300° centigrade, required to melt ash glazes necessitated a downdraft kiln plan. With this type of kiln the flame and heat is drawn on a long path before it can escape up the tall chimney. Most of the heat is thus conserved and builds up in the kiln chamber where the pots are packed. The flame from the wood in the fire box passes up and over and through the baffle wall, between the pots and shelves and along the curve of the roof (my kiln has a stepped curve) and is then forced to collect in a

groove along the middle of the floor of the chamber. From there it passes out through the opening to the chimney at the opposite end to the baffle wall.

a) The Plan. The foundations - six layers of builders bricks - were laid on very hard sub-soil. The fire box, kiln chamber and chimney were made of special fireclay bricks which can withstand a high heat. Fire clay mortar was used to level them and to fill the cracks between the bricks. (After the first firing this mortar has no binding quality so the inner structure of fire-bricks must balance and hold together on its own.) The kiln chamber was 18" by 18" by 22" and the chimney 10' high with a damper 6' up. Two inches away from the inner structure of firebricks a wall was built up with builders bricks and the space between was packed with ash mixed with clay as an insulation. Some of the fireclay bricks jutted out through this insulating layer and some of the builders bricks jutted inwards. This was to form a link here and there between the two layers so that under the expansion caused by the great heat of the firing, the kiln walls could move together. On the top of the kiln vermiculite was packed and covered



SIDE PLAN OF KILN



GROUND PLAN OF KILN



with thick clay tiles. The whole kiln, excepting the chimney above the roof, was plastered over with a thick layer of ash and clay as a further insulation and weather-proofing. This layer had to be patched during the firing as the clay shrank and cracked. The arch of the roof had to be made by balancing bricks and could not be curved as there were no shaped bricks available at the time. The door of the kiln was built up after the kiln was packed with fire bricks and then a thick layer of clay was smeared over. A round spy hole was placed in a suitable place in the door, in between bricks, and had a fitting bung. The temperature cones could be seen through this spy hole when the bung was removed and it was large enough to allow test rings to be drawn out on a long rod during the firing. The chimney end of the kiln was exposed to the prevailing wind and the fire box side was protected by a high bank.

b) Improvements to the Kiln. After the first few firings I changed the fire box mouth which was low down and on the side. Instead of feeding in the wood piece by piece the door was changed to the roof of the fire box. (The door was made from the door of an old wood stove with a long wire handle attached to

enable easy opening and closing in the great heat.) Wood could then be dropped in in small loads from above and rolled on to the slightly sloping grate. The ash pit was deepened by a foot. This pit runs the whole length of the fire box, and has two openings, one on either side. When it was deepened more oxygen could be sucked in under the grate and the accumulation of hot ashes and coals heats this air before reaching the wood pieces.

Another 5' of asbestos tubing 6" in diameter was added to the chimney and this cuts the firing time down from 24 hours to between 15 to 18 hours, as this makes a stronger draft which burns the wood more quickly.

c) The firing process. The firing time varies considerably with the weather. The kiln fires well in clear windy weather, and very slowly, using a lot of wood, if the weather is misty, damp or still. The fire is started off slowly, gradually building up the heat. The fire is then stoked every 15 minutes or so. As the temperature and fire builds up in the kiln the steady roar of the fire gets deeper and the orange flame from the chimney becomes taller and whiter. This continues for 5 to 6 hours. By this time

the heat in the fire box is considerable and more wood is thrown in at each stoking. After several more hours of continuous rhythmic stoking the fire is very hot and the flames leaping through the kiln are white. The coals in the ash pit are also very hot. Each new bundle of wood thrown into the fire box ignites immediately. For the last 3 to 4 hours the stoking time is increased to every 5 minutes and then to every 3 minutes. It is then that the kiln suddenly takes on a deeper roar and booming sound and tall white flames shoot out of the chimney. When the temperature has been reached the kiln is kept stoked for half-an-hour to an hour and then the damper, the ash pit and the lid of the fire box are all plastered over with clay and the fire is left to die down and takes 3 days to cool down before it can be opened.

During the reduction stages of the firing, when the damper was closed and more wood was packed into the fire box the temperature rose very slowly. There is considerable difference of opinion as to when reduction occurs. It is generally thought that reduction takes place above 1000° or 1100° centigrade. However, on one occasion the weather turned very damp and still and I had to stop the firing when the kiln

had only reached 1000° centigrade. I refired these pots in an electric kiln and found that a reduction had already taken place and the results were good.

My experience with the firing process coincided with that of Daniel Rhodes who found that 'Really satisfactory firing usually comes only after considerable experience has been gained in managing the fire or burners, maintaining a satisfactory advance of temperature, maintaining the right atmosphere for the intended effects, and cooling the kiln properly. Each kiln will have its own individual peculiarities... Usually a new kiln will have to be adjusted over a period of several firings before it works well.' (40)

3. The Ash Glazes

Ash was used by the Oriental potters for their stoneware glazes mainly as a fluxing or melting agent. Vegetable ashes contain varying proportions of alkaline fluxes such as potash, lime and magnesia and stabilizers such as silica, alumina (silica and alumina form the basis of clay) and phosphoric acid and small quantities of iron and other such colouring matter. The proportion of fluxes to stabilizers gives the glaze its texture. Some ashes contain a higher

proportion of silica or alumina and thus are difficult to melt, while others have much soda or potash and fuse at a lower temperature. The proportions and ingredients vary considerably from ash to ash and give stoneware ash glazes a considerable range of colours and textures difficult to obtain in any other way.

Feldspar, a type of primary clay, also varies in type and texture according to its locality. Feldspar is nearly always added to stoneware clays to give it extra strength, and feldspar forms the base of all stoneware or high-fired glazes. The feldspar in the clay of the pot and the glaze forms a link between the two.

a) Preparation of ash. Each individual wood and vegetation was burnt on a clean slab. The resulting ash was sieved through a coarse sieve eliminating the bits of twig and charcoal. The ash was then slaked in buckets of water and passed through a fine 80 mesh sieve. This liquid of fine sieved ash was then left to stand and settle and the brackish water containing the greater part of the soluble alkalis was poured off. (Some potters add fresh water at this stage and continue pouring the water off until the water is clear and

tasteless but others fear that some trace elements may be lost with too much washing.) The resulting ash was dried in earthenware bowls. It was then ready to be broken up and stored as a fine powder in plastic bags.

b) Testing the ash glazes. The ashes prepared were tested in my kiln in the pure state. It appeared from this firing that all the ash glazes in their pure state (with no other ingredients added) were transparent and melted at 1250° centigrade. But they showed indications of interesting individual colours. In the next firing a basic recipe of two parts ash, two parts feldspar and one part china clay was used. From this firing the results were very interesting and exciting and the individual colours and textures of the ash in the glaze was markedly accentuated. In the next stage the clay from which the pots had been made replaced the china clay to give the glaze a better fit and to prevent some of the fine crazing.

I have been given much helpful advice and encouragement by Kathrine Fleydell-Bouverie. She worked with Bernard Leach and Shoji-Hamada at St. Ives in 1923. She later built her own wood-fired stoneware

kiln at Coleshill in Wiltshire. The variety of timber and vegetation in that area enabled her to carry out experiments using the ash of the plants and woods and she has continued to work with ash glazes for many years. I used one of the formulas given to me by Miss Fleydell-Bouverie in my next test. This was four parts ash, four parts feldspar, one part quartz, one part china clay, one part ball clay. The results were disappointing and have continued to be so in other firings.

Potters who are experienced in wood firing kilns continually stress the number of things that can affect the firings and the results. 'The glazes are apt to vary, not only according to temperature but as a result of fortuitous differences in the kiln atmosphere, such, for example, as may be caused by the use of different sorts of wood fuel, especially in finishing. As Miss Pleydell-Bouverie points out, one is very apt to take things for granted and to make up one's mind that some result is the effect of a given cause, and then after years even to obtain a totally different result, and finally realize that it was due after all to a factor that had hitherto been entirely unnoticed. Whether the

things that happen in one kiln would be repeated in any other kiln - how much damp fuel or kilns, humidity in the atmosphere, wind, length and diameter of chimneys packing, stoking, etc., have to do with results ascribed to variations in wood fuel, is also a question which can only be answered on the spot by an experienced potter. (41)

I experimented with the following ashes in the ways mentioned and varied the quantities at times to try to produce better results:

Bramble	Helicrysum
Oak	Wattle
Watsonia	Spanish Chestnut
Willow	Pussy Willow
Pine	Grasses
Kaffirboom	Lawson Pine
Blackwood	Jacaranda pods
Mimosa	Aloe
Yellowwood	Feach
Cotoneaster	Acacia
Bracken	

c) Results of the tests. Although the colour and quality did vary slightly from firing to firing, the ashes could be grouped according to the colour and

texture they produced. There seemed to be no similarity according to botanical family groups. A chemical analysis of the ashes might show why such seemingly different woods and vegetation can give similar surface textures and colours.

(i) Bramble, Grasses, Mimosa, Spanish Chestnut, Helicrysum: These ashes gave creamy-white to bluish-white colours and were all of a smooth, thick, 'fat' texture with no crackle or crazing.

(ii) Oak, Kaffirboom, Aloe, Mistletoe (from a Blackwood tree): These gave thin, glassy glazes with very fine crazing and the colours ranged from a pink to a purple and blue.

(iii) Pine, Blackwood, Lawson Pine, Peach: These glazes had a smooth, matt surface and were mostly grey and sometimes grey-black.

(iv) Wattle, Bracken, Fussy Willow: The resulting glazes were dark olive green or brown with a smooth, soft surface.

(v) Jacaranda, Acacia: These gave a very coarse texture and dense white colour.

(iv) Watsonia, Yellowwood, Willow, Cotoneaster: These ashes gave a smooth surface, coloured pale green to green-grey.

I used these ashes in my experiments with the basic formulas mentioned. I chose six of these which I thought gave the best results - Wattle, Pine, Grasses, Willow, Jacaranda - and varied the basic recipes slightly according to the texture of the glazes. In some cases I mixed ashes together. In this way some glazes turned out to be very successful and show that the wood and vegetable ashes of this area can make good glazes.

CONCLUSION

The experiments and work which I have done with wood and vegetable ash have shown that there are great possibilities for glazes made from these natural materials. Industrially prepared glazes cannot and do not have the beautiful qualities of some of these ash glazes, and these qualities cannot be imitated chemically.

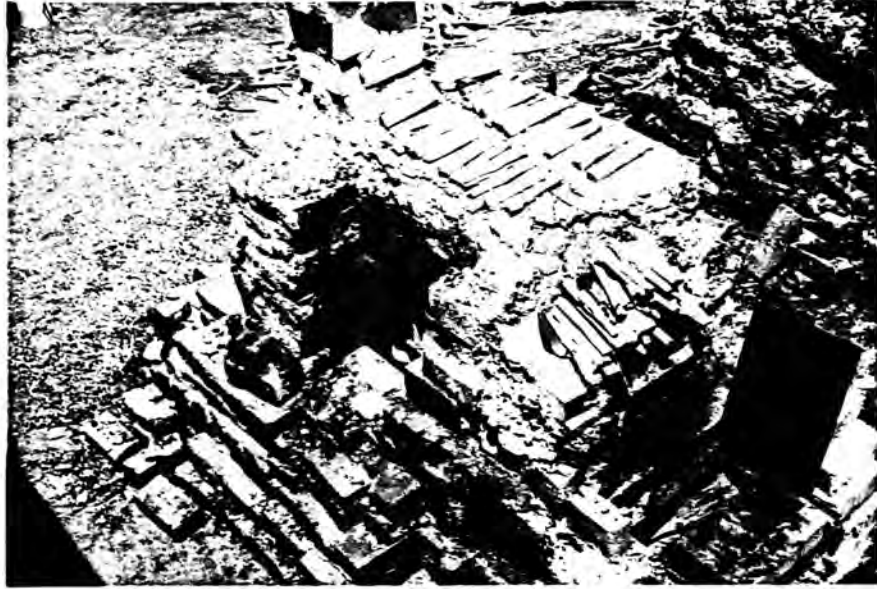
Although the preparation of ash glazes may appear a longer process and the outcome less calculable, the results are so much more superior than the predetermined and monotonous results obtained from the prepared chemical formulas. If large amounts of ash were gathered and large quantities of glaze were mixed at a time, this way of glazing, apart from being very cheap, could be a very practical method for an individual potter or group of potters.

The possibilities and potentials for beautiful glazes from ash are unlimited.

In this technological world there is a need to create a personal tradition in pottery. There is no reason for modern pottery to separate aesthetic and utilitarian - or to divorce itself entirely from traditional techniques. In the earliest times and in man's best periods, good traditions of pottery have maintained this balance between aesthetic and utilitarian values and also have kept alive a creative spirit.



FRONT VIEW OF KILN SHOWING
PART OF ASBESTOS CHIMNEY,
DAMPER, POTS PACKED IN KILN
CHAMBER, AND FRONT SIDE OF
ASH PIT.



VIEW OF KILN SHOWING KILN CHAMBER
OPENING AND DOOR TO FIRE-BOX OPEN.



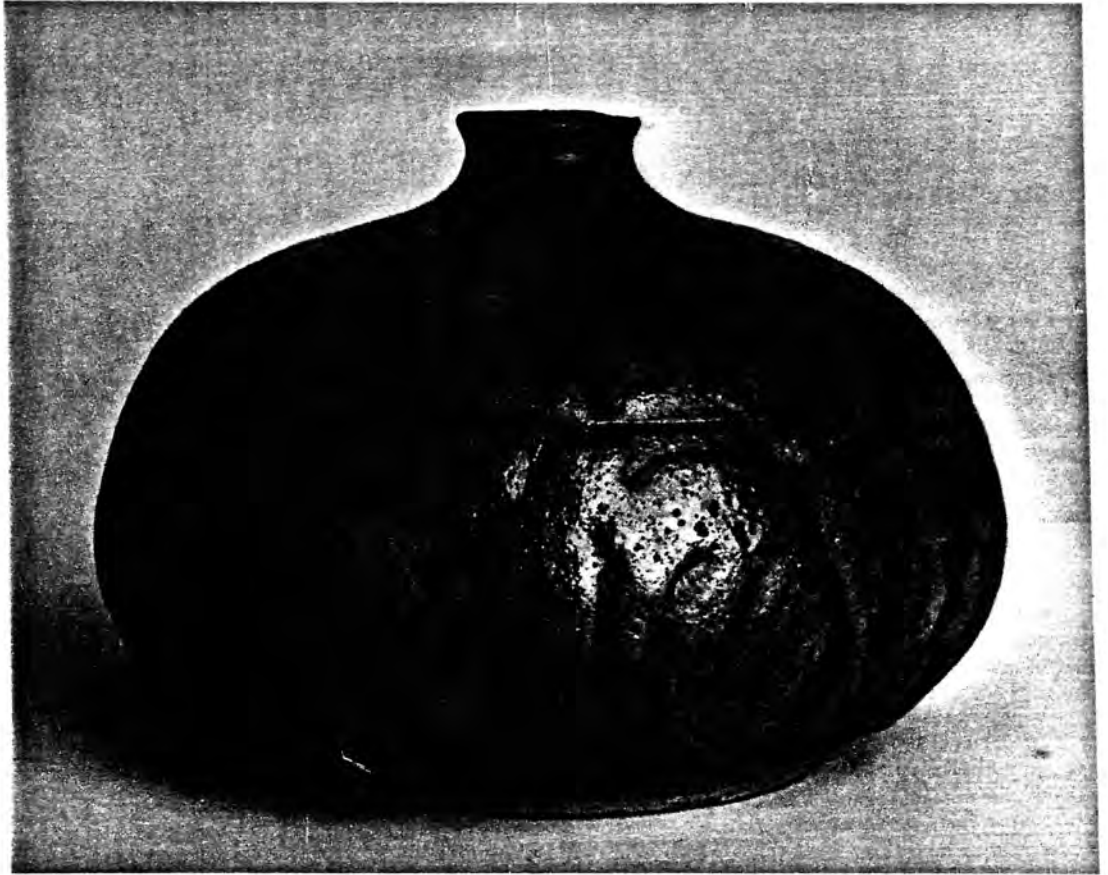
SIDE VIEW OF KILN TAKEN FROM
THE BANK ABOVE SHOWING FIRE-
BOX DOOR OPEN AND WOOD DRYING
ON KILN.



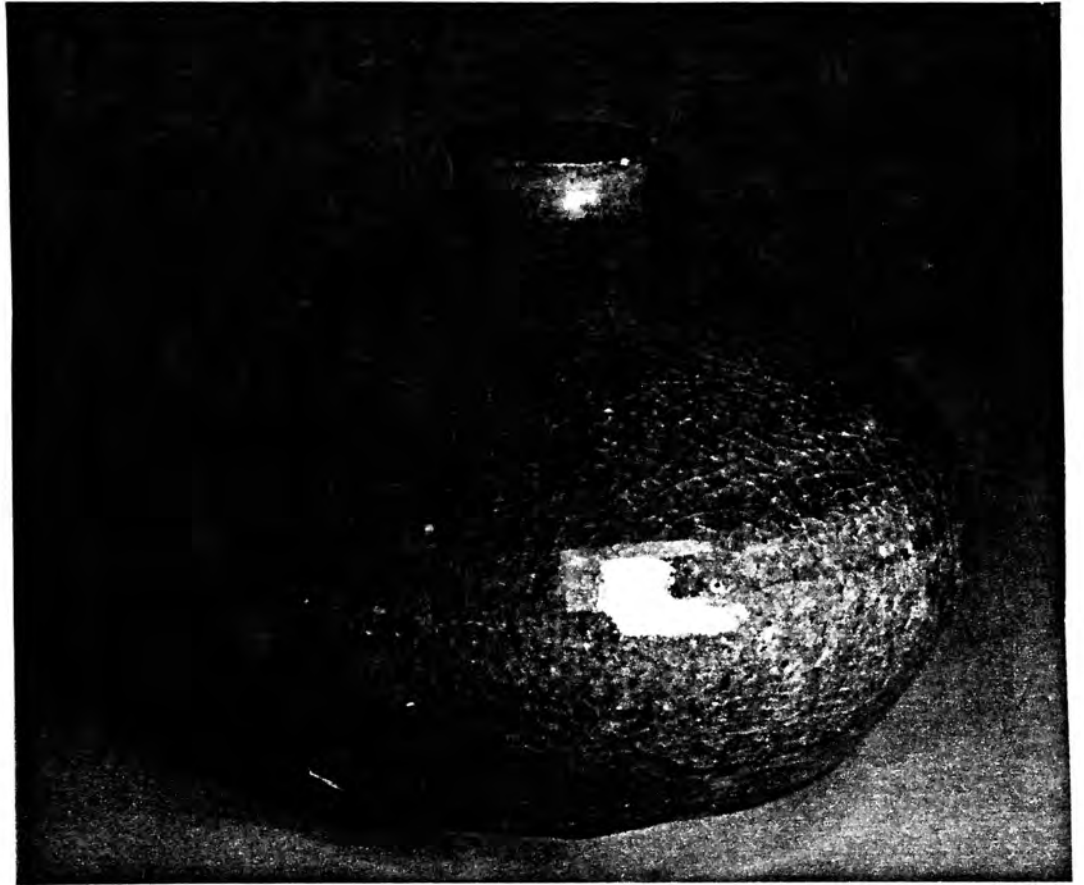
FRONT VIEW OF KILN SHOWING POTS
PACKED IN THE KILN CHAMBER.



FRONT VIEW OF KILN SHOWING DOOR TO
KILN CHAMBER OPEN. OPENING TO ASH
PIT IS ON LOWER RIGHT. THE DAMPER
CAN BE SEEN IN THE CHIMNEY.



WILLOW ASH GLAZE



ALOE ASH GLAZE



WATTLE ASH GLAZE



PINE ASH GLAZE



WATTLE, BRACKEN AND PUSSY WILLOW ASH GLAZES



WATSONIA, YELLOWWOOD, BRAMBLE AND JACARANDA
ASH GLAZES



HELYCRYSUM, GRASSES AND MIMOSA ASH GLAZES



BLACKWOOD, LAWSON FINE AND PEACH ASH GLAZES



PINE, GRASSES, SPANISH CHESTNUT ASH GLAZES



OAK, KAFFIRBROOM, ALGAE AND MISTLETOE ASH GLAZES

FOOTNOTES

1. Daniel Rhodes: "Stoneware and Porcelain", page 172.
2. Bernard Leach: "A Potter's Book", page 13.
3. Robert Redfield: "The Primitive World and its Transformations", page 103.
4. Robert Redfield: "The Primitive World and its Transformations", page 102.
5. Daniel Rhodes: "Stoneware and Porcelain", page 4
6. S.W. Bushell: "Chinese Art", page 6.
7. S. Giedion: "The Eternal Present", page 126.
8. John Solan: "Introduction to American Indian Art", page 31.
9. Bernard Leach: "A Potter's Book", page 20.
10. W.B. Honey: "The Ceramic Art of China", page 4.
11. W.B. Honey: "The Ceramic Art of China", page 5.
12. Bernard Leach: "A Potter's Book", page 14.
13. W.B. Honey: "The Ceramic Art of China", page 72.
14. Bernard Leach: "A Potter's Book", page 16.
15. Bernard Leach: "A Potter's Book", page 25.
16. Daniel Rhodes: "Stoneware and Porcelain", page 25.
17. W.B. Honey: "The Ceramic Art of China", page 179.
18. Bernard Leach: "A Potter's Book", page 18.
19. Oswald Spengler: "The Decline of the West", Vol. II, page 305.

20. Oswald Spengler: "The Decline of the West",
Vol. II, page 504.
21. Oswald Spengler: "The Decline of the West",
Vol. I, page 32.
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