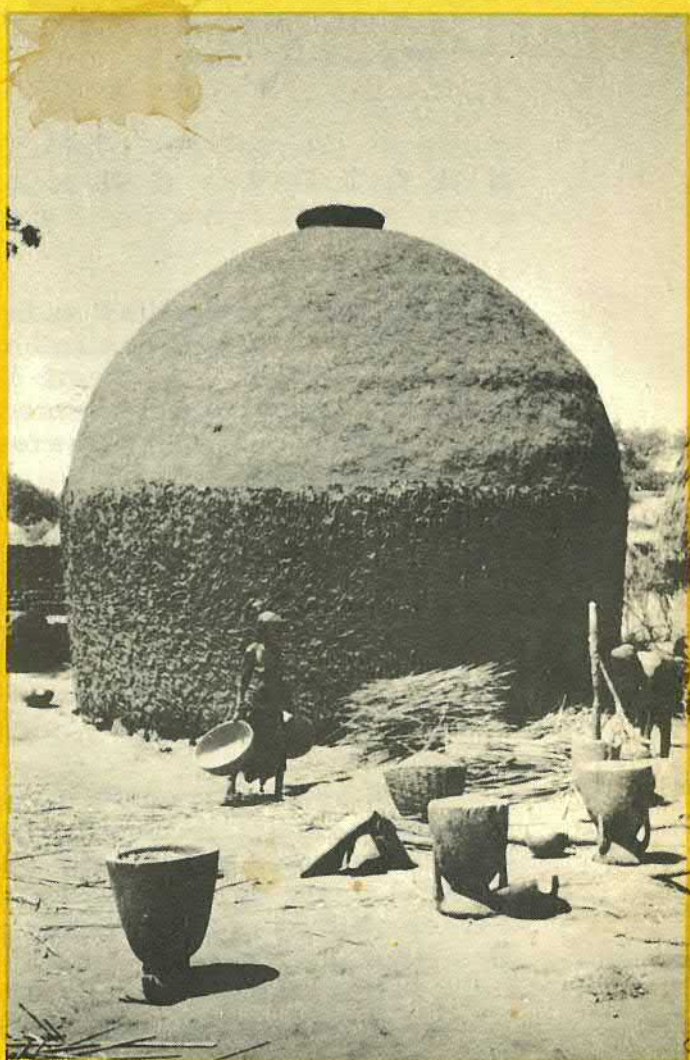


VOLUME 2

NUMBER 1

AUGUST 1959



NEW ZEALAND

POTTER

Stoneware, and an oil-fired kiln, appeal to the second type of potter, who makes pots as a form of artistic expression, and who rather glories in the unexpected result and the tribulations that invariably attend this type of firing. For him the one exciting pot cancels out the many that have to be discarded.

But whatever our differing points of view we all rejoice in the name of potter, and are looking forward to the Third New Zealand Potters' Exhibition at Napier in October with the hope that there will be on show pots with vigour and good craftsmanship.

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KILN EFFICIENCY

Peter Stichbury

The remarks made by a potter friend in New Zealand to the effect that high quality kiln furniture - shelves, props and so on, - are desperately needed, and the fact that there seem to be 'many bottom shelves and supports collapsing or melting away' makes me wonder if perhaps the kiln designs could be improved to make better use of the kiln furniture available, and if New Zealanders would not be better off making their own kiln furniture instead of waiting for expensive overseas equipment.

A well-designed kiln which is successful in operation is as essential to the potter as good chisels are to the carver. Without them no creative fulfilment can be possible for either. Problems of kiln design, building and firing, must take up a great proportion of the potter's time especially in the early stages when there is a great deal to learn.

Simplicity is the keynote in the building of any kiln; the complicated ones just don't seem to work. Simplicity, however, should not only mean obtaining the desired temperature easily; it should also include ease of obtaining good reducing conditions, economy of fuel, evenness of temperature, ease of stacking, best use of kiln furniture, and as little wear and tear on refractories as possible. To be replacing shelves, saggars, props, bagwalls and so on continuously is not right, especially as such things are so expensive and hard to obtain.

Which is the best type of kiln to build ? I would unhesitatingly say draught. When we build a kiln a little more expense in the initial stage is more than

justified later on. When we achieve a good kiln design, good materials should be used so that we do not have to repair or alter it continually. While writing this I am thinking in terms of high temperature work - 1200°C to 1300°C or higher. I also say down-draught because I had more success, interest, and fun, building downdraught kilns at Ardmore College than I ever had with updraught. I am quite certain, too, that they can be built to any required size, - from about two cubic feet upward. Downdraught kilns are used for high temperature work by all the potters I have seen overseas. It has been a grand experience to study the kilns of many leading potters in England, and of course the very exciting kiln of Michael Cardew here at Abuja. This one is a replica of the one at his home pottery at Wenford Bridge, Cornwall.

Most New Zealand potters are confirmed drip-oil-feeders. Oil is a severe fuel, and at high temperatures, in reducing conditions, refractories have to be of the highest quality. In an updraught kiln the bottom shelves and supports get the full force of this searing heat. It is important to realise that these supports at the bottom are under pressure from all the ware and kiln furniture above and this is very dangerous at high temperatures when everything is moving towards a fluid state.

In a downdraught kiln the reverse is the case. The bottom shelves and supports are in the safest and coolest place, relatively speaking, and are therefore not subject to the same gruelling conditions. Another point in favour of the downdraught is that the biscuit chamber - if there is a second chamber - can be so arranged that by a simple arrangement of flues it can be bypassed when the required biscuit temperature is obtained, thus obviating the problem of overfired biscuit.

For kiln furniture my suggestion is to make your own. Not shelves, props and tiles, but saggars. There is no

lack of refractory clays in New Zealand, and no lack of refractory additives to make the best possible saggars. The ones made by Michael Cardew at Abuja have opened my eyes to their possibilities and uses. His saggars ~~stand firing after firing up~~ to temperatures of 1280 - 1300°C or more, with little or no sign of wear and tear. Saggars when stacked in the kiln give easier access for the flames to move through the kiln and heat the ware, whereas shelves tend to stop the movement unless very carefully arranged and reasonably wide apart. Saggars also make kiln packing far easier - no awkward props to dodge, no awkward spaces to fill. I cannot include a detailed description of saggar making in this article but the saggar clay mixture used by Michael Cardew is as follows :

Large saggars:

China clay grog hard fired	9	parts	by	volume
Dry powdered china clay	9	"	"	"
Plastic clay (thick slip)	2	"	"	"

The thick clay gives a good bonding and a workable mixture. For smallish saggars zircon sand can be used in place of the china clay grog. Small saggars could also be made of refractory clays with plenty of grog.

Some of the points that I have tried to bring out in favour of the downdraught kiln and which I hope may be a help to some who are about to build or rebuild a kiln are as follows :

More even distribution of heat.
Greater fuel economy and thermal efficiency.
Better conditions for reducing atmospheres.
Less wear and tear on kiln furniture.

Control of second chamber conditions.

Abuja, Nigeria,
March 1959.

(For reasons of space we have had to omit from this article technical data on downdraught kilns quoted from A. B. Searle, Emile Bourry, and 'Ceramics' a Symposium edited by A. T. Green and G. H. Stewart. These may be borrowed from the Editor by anyone interested).

FROM A TRAVELLER'S NOTEBOOK

'In memory of William Cookworthy born at Kingsbridge 12th April, 1705. Died at Plymouth 17th October, 1780. Chemist and potter. The discoverer of English china clay and the first maker in England of true porcelain.'

(Inscription on a memorial tablet on the wall of the Church of Saint Andrew, Plymouth. This church dates from the 14th Century. Sir Francis Drake worshipped here; Sir Martin Frobisher and Admiral Blake are buried in it; the Pilgrim Fathers met in it to renew their Solemn League and Covenant before leaving in the Mayflower for the New World; and Bligh of the Bounty was christened in it. The church was gutted in the blitz of 22nd March, 1941, rebuilt and reconsecrated on St. Andrew's day 30th November, 1957. To honour the occasion a peal of 5040 Plain Bob Royal was rung on the church's ten bells, in 3 hours and 21 minutes).

THE ELECTRIC KILN

Jim Nelson

As an expedient method of firing, the electric kiln can in no way be compared to any other. It is compact, clean, and for ease of operation can be controlled to the finest degree. In many ways it is more versatile than all other types of kiln and contrary to many beliefs can be used in the same way as any other kiln.

So often one hears of the drawbacks of the non-reducing atmosphere, but really this is only a myth, for provided the kiln is either designed for reduction or alternatively the correct medium is used to produce reduction, then there is no difference in the chemical processes which are obtained within any kiln atmosphere.

First let us take the simplest and cheapest of kilns, say, firing to a temperature of 1100°C. These are mostly wired with a nickel-chrome alloy, generally Nichrome V. This particular alloy is very suitable for all glazes containing lead as the base, and as these are mostly in the enamel, raku, earthenware category, reduction is seldom used in any case. Oxidised firing is the normal atmosphere for lead glazed ware as the firing can very rarely if ever be completed while carbon or carbon dioxide is present in the glaze.

It might be interesting to note that reduction is a means of obtaining a change in chemical processes while under the influence of heat, and whilst this is not always the case, it is mostly obtained by introducing carbon in one form or other, most often by adding more fuel than can combust clearly with the amount of oxygen present.

As to the medium used in electric kilns where the elements are exposed, this has to be chosen very carefully. For instance, while wood chips from some

timber can be safely used, other timbers contain certain volatile substances which may have adverse effects on the element alloy. In this connection other alloys have been discovered which seem to resist the worst effects of reduction, the best example being the Swedish alloy Kanthal A I. This can very successfully be reduced by adding resin, and except where the element is nearly at its maximum temperature it appears to make little or no difference to it.

Again we have the Gload element which is sheathed in silicon carbide and this provides a very suitable protection for the inner alloy core. Here again is provided the idea which has now been incorporated in a well-known kiln design. The element is sheathed in a tube of sillimanite and thus you have a muffle where you can add any substance to get reduction and no harm is possible.

From all this one might deduce that I was a disciple of electric kilns. This is not the case, but we are in the twentieth century, and should recognise that science has after all progressed a little from the simple dugouts on hillsides of ancient China.

To conclude it might be worthwhile adding a few words of caution to all would-be electric kiln builders :

1. Never tinker with wiring unless you are a registered electrician (Maximum fine £75).
2. Never use moth balls to obtain reduction. Your kiln dislikes them as much as the moths !
3. Do not try to salt-glaze in your electric kiln. You may not come unstuck !

4. Remember that the kiln will not switch itself off at the maximum required temperature, as Kanthal A. I. does not melt until 1580°C. By then you may need the fire brigade !

5. If you have a bad firing, do not kick the kiln. The elements become brittle after firing and are liable to break with vibration.

6. Finally - and this is not advertising - if you must clean out the kiln, use a Hoover and not a brush, as you may unwittingly remove the oxide coating from your element and therefore reduce its lifetime.

ARTS AND CRAFTS TUTOR

New Adult Education Arts and Crafts Tutor for the Wellington District is Jack Laird, who, with his wife and three children, has recently arrived from Jersey, where he was head of the Art Department of the Jersey Grammar School. He learnt pottery alongside New Zealander William Newlands at the Central School of Arts, London, and has had a sound education in other crafts beside pottery. One of his achievements is contributing 1000 drawings to the glossary of English craft tools for the Cambridge University Press. He and his wife have actually worked in a pottery turning out handmade domestic ware for the London market, so he has had a good practical education in craftsmanship. We are glad to have him in our midst and look forward to the Schools he will be conducting.

USING LOCAL CLAYS

Elizabeth Matheson

If you are wanting to use a local clay, choose a deposit free from roots and other rubbish, and where you can get more of the same if it proves suitable.

As a test for plasticity take a small damp lump, roll it out like a pencil and bend it round. If it does not crack it will probably be suitable for the wheel.

Leave the clay outside to weather for some time in a barrel or box, the longer the better, as this improves texture. Dry it thoroughly and break it up small; an old grit mill or sausage machine is very good for this.

Soak for some days in a bucket of water, then pour off the extra water and brush through a sieve of about 40 wires to the inch, or even less for some clays. The sieve should be of brass or bronze to prevent rusting.

Pour out onto a plaster slab; this will suck out the extra moisture without making a crust. When dry enough knead and wedge till quite even in texture and free from air bubbles.

Store in an airtight tin or crock, or wooden box painted inside. A galvanised rubbish tin is excellent.

It is good but not necessary to store it for some time; but if you have wrapped it in cloth in the tin, be sure the cloth does not rot or stick to the clay.

DRAT THAT KILN

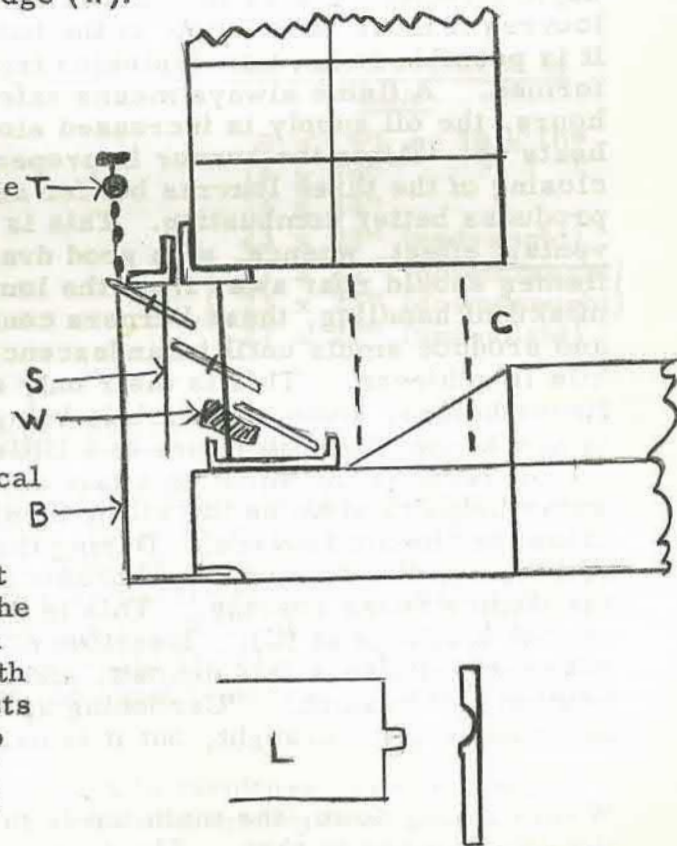
Barry Brickell

1. The Drip-Feed System.

With the remarkable increase in popularity of the oil drip-feed system for stoneware firing, a little dissertation might be of use. The old 'Stonehenge' type sump oil burner has now given place to the louvre system. This consists of three iron louvres, each about 3" wide, and staggered relative to one another. The upper two can swivel about a pivot each end, while the lower rests on the sides of an iron tray, and is itself adjustable, by inserting a clay wedge (W).

The two upper louvres are held in place by a U-shaped iron bracket (B) made by bending a piece T of $3\frac{1}{2}$ " $1/8$ " iron.

The pivot is shown (L), and stiffness is obtained by the springing force of the bracket against the louvres. A vertical slit (S) is cut in each end of the bracket for about 7", to equalise the pressure on both louvres. A length of angle iron rests on the bracket to prevent entry of cold air, and oil drips from a spreader tube;



containing a number of taps (T) spaced every $2\frac{1}{2}''$ - $3''$ apart across the width of the burner. This width depends on the size of the kiln, as given by the table. The spreader tube emerges directly from an oil storage drum via main stop tap. Steel screws forced into small holes (about $1/8''$ diam.) drilled through the copper tube make for ideal adjustment of the oil flow.

The burner is lit by throwing into the tray a small amount of sawdust and kerosene. The oil is turned on when the louvres are hot, and combustion should begin directly. Never turn oil or kerosene on to hot louvres if there is no flame in the burner, otherwise it is possible to have an explosion from the vapour formed. A flame always means safety. Over the hours, the oil supply is increased slowly as the kiln heats up. After the burner is properly started, closing of the three louvres but for about $1/4''$ each, produces better combustion. This is due to the venturi effect, whence, with good draught, the flames should roar away from the louvres. In spite of skilful handling, these burners continue to smoke and produce smuts until incandescence within the kiln is achieved. This is their only drawback. Nevertheless, some research is being done, and it is now known that admixture of a little water with the oil reduces the smoking a fair amount. The water helps to atomise the oil by turning quickly to steam on the hot louvres. During the latter stages of a firing, the draught may become sluggish and the flames cease roaring. This is due to soft carbon blockage at (C). Insertion of a long iron poker will dislodge this deposit, and normal combustion will resume. 'Carboning up' occurs with dirty oil or poor draught, but it is easily controlled.

When closing down, the main tap is turned off, then the kiln damper is shut. The burner must then be extracted from the firebox by a pair of tongs, and

the front of the firebox bricked up loosely. Removal of the burner prevents the iron from oxidising away, due to excessive heat when the draught is cut off.

Sump oil for combustion should be quite clean, like golden syrup in colour, never black. For this, it should be stored in a drum with open top. After settling, which may take from a few hours to a few days, oil for the burner tins should be dipped off the top. Dirty oil causes carboning up and clogging of the taps, calling for constant attention and distress. Firing with clean oil is a pleasure and relaxation.

<u>Burner width (approx.)</u>	<u>Internal floor area of kiln</u>
9'' (one)	9 x 9'' or 10 x 10''
9'' (two)	14 x 14''
$13\frac{1}{2}''$ (one)	14 x 14''
$13\frac{1}{2}''$ (two)	23 x 23'' (updraught)
$13\frac{1}{2}''$ (two)	{ 27 x 27'' (downdraught)
18'' (one)	{ 23 x 23'' (downdraught)
18'' (two)	27 x 27'' (updraught)

2. Updraught versus downdraught

This is a seemingly old argument. One is not inferior to the other, rather, the purposes vary. For salt-glazing, where the vapours must be retained in the chamber for as long as possible, the downdraught scores. For excellence of heat distribution, a two-opposed-firebox-updraught is hard to beat. Summing them up, here are the chief features of each, assuming oil firing:

Updraught. Tough on kiln furniture, second chamber easily added on top, more economical in bricks for same chamber size, acts more or less as its own stack, thus only a fairly short one is needed on top,

easier to start up, quicker to fire, more liable to burst raw pots through sudden heat.

Downdraught. Easier on kiln furniture, needs bagwall (except some), needs a very much taller stack to counteract downdraught, difficult to make draught when starting (overcome by lighting small fire in chimney base first), slower and more ponderous to fire, less likely to blow pots due to slower heating, far slower movement of gases in chamber, therefore good for vapour glazing.

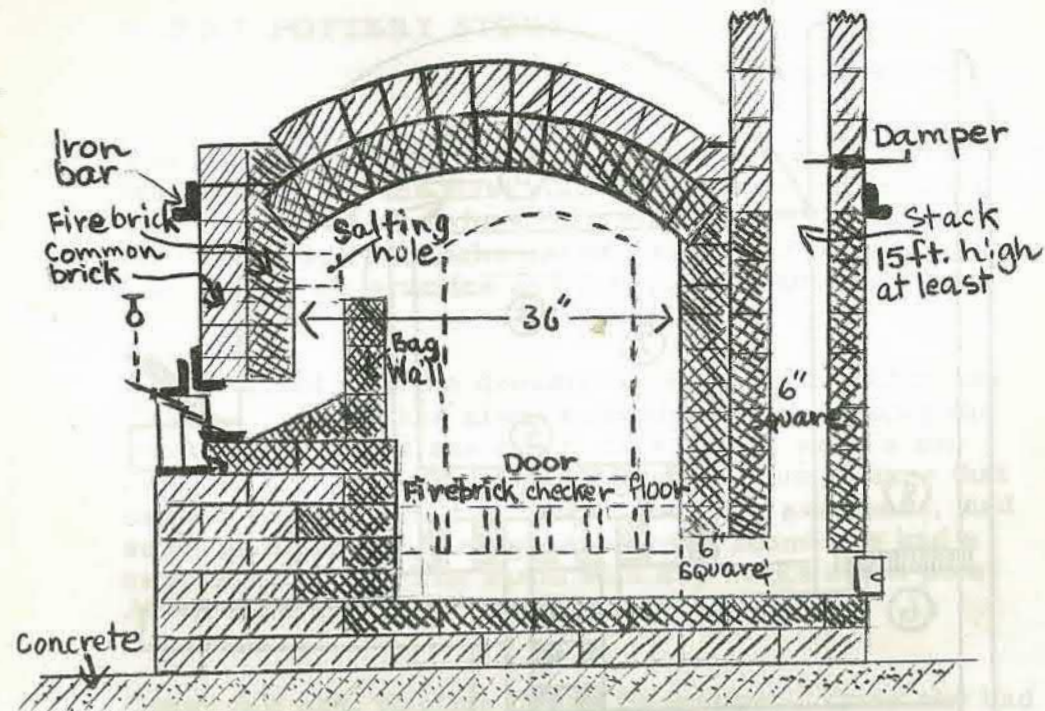
There may be other points of difference, of a minor nature, but it still remains that some kilns, up- or downdraught, are less predictable than the weather. It suffices to say that kiln designers on the whole, tend to make designs too strict or complex. They lose sight of the absolute fundamental principles by which a kiln works, by evolving all sorts of incredible theories.

CRAFT CENTRE INC.

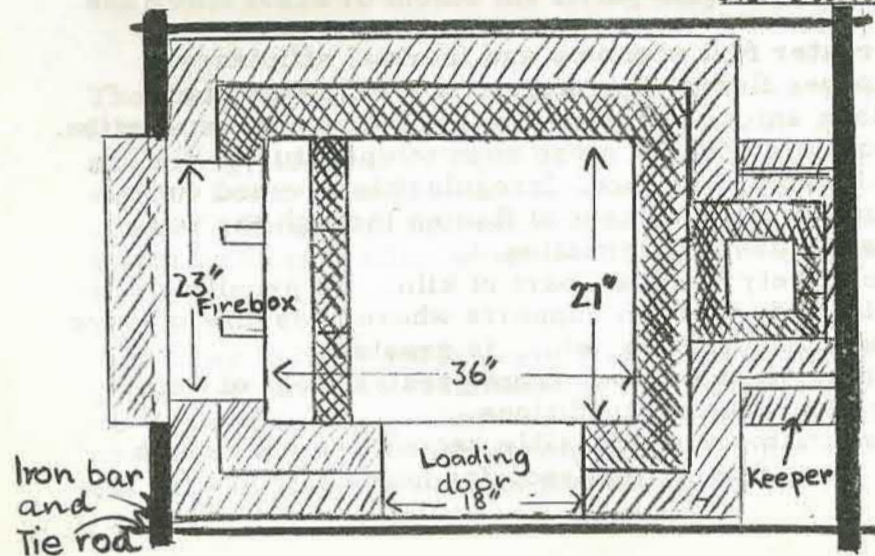
Kilns now available are a 6 KW with safety switch, Kanthal A. I. wiring - 1250°C - 14½ x 15½ x 16½ ins. £85 ex Craft Centre, Christchurch.

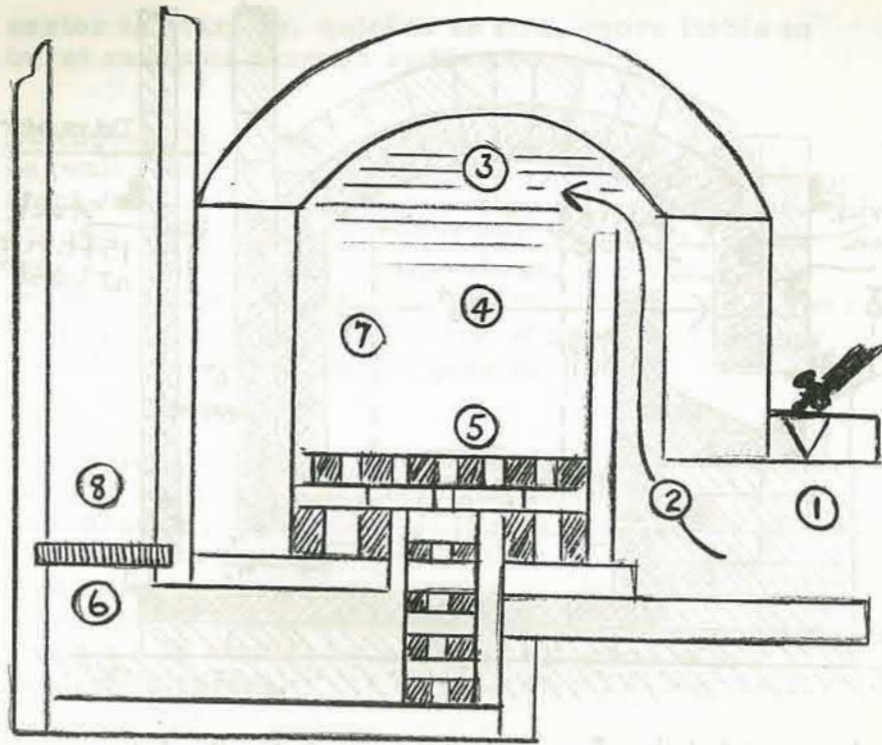
A small test kiln 12 x 6 x 4¼ ins. Kanthal A. I. wiring 1250°C - 2 KW - £24 ex Craft Centre.

A small enamel kiln - 12 x 6 x 4 ins. with either Kanthal or Nichrome V element £26. 10. 0 ex Craft Centre.



Downdraught kiln for salt glazing. Drip-feed burning old sumpoil;





DOWNDRAUGHT KILN

1. Greater fuel economy and thermal efficiency.
2. Longer flame, therefore more efficient. Less black smoke and products of incomplete combustion.
3. Downdraught has more even temperature. No "chimneys" formed. Irregularities evened out by downward movement of flames through the ware.
4. Better heat conservation.
5. Relatively 'coolest' part of kiln. No gruelling conditions for bottom supports where pressure of ware and kiln furniture, etc., is greatest.
6. Simple damper away from greatest heat of kiln.
7. Better reducing conditions.
8. Stack simple. Possible second chamber, with by-pass flue if required, for heat control.

NAPIER POTTERY STORY

Constance Erdbrink

The Napier Group have had many extra difficulties to contend with. In the first place there is no resident tutor. It is five years now since they started and in that time they have had four 'schools' of a couple of days to a week. The rest is all practice and just plain reading up.

It all started with the dreams of two people, Mitch and Conny. Mitch had always loved pots, especially the 'earthy' ones, and she didn't care if they were a bit crooked or warped. But they had to have to have that certain touch. She had bought one here and there, had some given to her, and gradually she found she had a cupboard full. The same with any books about pots. All at once she found she had a library!

Conny felt pots tingling in her fingertips. Once she had been to a pottery in Holland and had seen the pots come into being on the wheel, and she had wished and wished she could learn to mould the living clay.

They met in Napier; and then there was the third factor, a Director of an Art Gallery, whose understanding and energy touched off sparks. Then, during a casual visit of Dutch friends, who were returning to the old country, there was the mention of parts of a wheel and a small electric kiln, which would have to be sold.

The three factors made contact, and there was a pottery group, set up in an old annexe to the Art Gallery, a condemned building where one had to be careful exactly where to hang the rough drying shelves - made out of old packing cases - as rain poured down some walls.

Mitch found a teacher, for a week, who taught press moulding and coiling, and gave each member a 'turn' on her own wheel. The group's wheel wasn't finished until some time later. But there were instructions left and pictures. And weren't there many books to study, and to have lying beside the wheel, to see step by step how it was done? Firing - after one demonstration - could be learned out of a book too. And there was the packet of glazes, thrown in with the sale of wheelhead and kiln, and test fired by the patient teacher.

A year passed, there was a second wheel, donated by a grateful guest. Home-made but adequate. The teacher was back and found some improvement. Then a shift to new quarters, larger and dryer, but in the same building. Once again instruction, and new heart put into struggling potters.

Now the building was to be pulled down and nowhere was there a garage, with light and water, to be had. Then Mitch got busy again. She found a fairy godmother of 84, living in an ancient, beautiful house, with an ancient, beautiful garden, and in the garden a 'chalet', empty and a bit forlorn. It turned out that the fairy godmother had a soft spot for potters, as she had always wanted to make pots herself. But in her young days that was not considered very suitable for young ladies. So she had learned to weave beautifully instead. Now she could at last be there when pots were made.

And that is where the potters of Napier are now, busy and happy, with two new groups started off last year, taught the rudiments by Hilary, who has been lucky enough to be able to attend Summer School for several years. More are meaning to go this summer and another tutor has been asked to come and give the group another little shove on the way.

Will this story end as it should ?

Will one (or more ?) be found to have that certain touch that in the end will make a good potter ?

CORRECTION

In our last issue Miss Katherine Pleydell-Bouverie in her kindness permitted us to quote from a letter written by her to a New Zealander on the subject of wood ash glazes. In taking the extract from its context, however, we inadvertently made it appear as if Miss Bouverie were querying all the wood ash glazes in "A Potter's Book" by Bernard Leach. This, of course, was far from her mind - she was referring only to her own ash experiments as quoted in that potter's standard handbook. We apologise for any misunderstanding we may have caused.

EARTHENWARE SLIP GLAZES

Hilary Thurston

Before I begin to jot down these notes I must make it clear that they are mainly the result of my own experiments, and I willingly lay myself open to correction on any point whatsoever! But, belonging as I do to a small group which has had only sporadic instruction, I hope that some of these hints and methods may be of help to other potters working as we are, with a minimum of instruction and equipment.

Most novice potters have access to at least one suitable local earthenware clay, but find that nearly all the published recipes mature at higher temperatures than those obtainable in small electric kilns. Our local clay matures about 900°C and so has been difficult to use with prepared glazes that generally need 1050° - 1150°C before they mature properly. The most encouraging thing one finds with low-fired lead slip glazes is that they are usually a good fit, containing as they do such a high proportion of the body clay of the pot.

Several points about these slip glazes must be thoroughly understood. Firstly, they are almost without exception glossy. This is a characteristic of lead glazes, and though this glossiness can be reduced somewhat by the addition of tin oxide or titanium, it is much better to accept it as an inescapable fact and work within its limits. English slipware uses these glazes and in its own field nothing could be more attractive and satisfying both to the eye and the touch. Earthenware pots should always be simple, unassuming and 'earthy', even when elaborately trailed in the Toft tradition.

Next, their firing range. This will depend in the main on the firing range of your clay. They will mature from as low as 850°C and be a perfect fit if your clay fires well at this temperature, and yet will stand 1100°C or a little more equally successfully, as long as your clay does likewise. They are also easy to apply, adhere excellently, and are eminently suitable for raw glazing. This means that you get your finished pot after just one firing. This can be of advantage, apart from the potter's natural impatience, when there is a lot of work to be fired. In once-fired work I find the glaze to be more an integral part of the pot, as a certain amount of the glaze will fuse with the raw clay surface. Accordingly, in raw glazing, apply the glaze more thickly than usual to allow for a percentage of it soaking into the body.

The following two simple slip glazes will form a base for many interesting variations :

Red Lead Slip Glaze No. 1.

Red Lead	6 parts
Body Clay	2 parts
Flint	3 parts

Red Lead Slip Glaze No. 2.

Red Lead	100 parts
Body Clay	45 parts
Flint	30 parts

(Editor's Note: Red lead is highly poisonous)

Both of these have proved excellent glazes though the proportions of clay and flint in each are different. It is worth trying both and finding out which makes the better glaze with your particular clay. These are transparent glazes, glossy, but deep and rich, and when made with our local red-burning clay give a

warm honey-gold tone over a white body. The same recipe, with McClure's W.E. clay replacing the red clay, gives an almost colourless glaze, though still with depth. W.E. clay is a pure white clay, and this makes the difference in the colour. A yellow, pink, or greyish burning clay will make similar and perhaps even more interesting variations, so it is well worth trying any clays available.

The actual mixing of these glazes is quite simple. The dry ingredients are ground finely together, using a pestle and mortar if available. All constituents should be as finely powdered as possible, then mixed to a thick cream with water, and sieved. A fine gauge nylon stocking makes an excellent sieve. Let the newly mixed glaze stand at least 24 hours before using to allow for complete combination of all ingredients. Keep it well stirred whilst in use, too, as the clay in these glazes tends to settle rather rapidly. When made the glaze is better to be a bit on the thin side, as any excess water can be poured off before the glaze is stirred and then added again if needed. Always keep this excess water, and return it to the glaze before storing away.

Labelling is also important, as red lead glazes are a hectic orange colour, and it is not easy to remember which of the slightly less hectic ones had copper or cobalt added to it! Ordinary sticking plaster makes an ideal label, with a dark lead pencil the best medium for marking.

To be continued.





STONEWARE JAR in the style of COLONIAL AMERICA - Ht. 12" Grey with cobalt decoration. Found at a bay in the Chatham Islands by Mr. John Moore.



EGYPTIAN WATER COOLER Earthenware



CHINESE STONEWARE JAR Ht. 7" Probably for ginger or similar product. Modern



ENGLISH SLIPWARE DISH probably early 19th century - Diameter 11 inches

SMALL PLATE - MODERN JAPANESE with iron dip and brushwork



PORCELAIN DISH - PEASANT CHINA With cobalt fish design



MICHAEL CARDEW Examples of early Winchcombe Pottery slipware Jug 8" : Teapot 4 1/2" x 9"

FROM THE COLLECTION OF MRS. MAY MITCHELL, NAPIER

THE BIGGEST POTS IN THE WORLD ?

Peter Stichbury



While in Sokoto in the far north of Nigeria, we decided to make a short trip to a village a few miles further north, called Gwadabawa. In this village are huge granaries, in which millet, one of the staple foods of the Hausa people, is stored. These granaries are in fact huge 'pots', but more of that later.

We were told that this visit was a 'must', for the granaries were really worth seeing. Accordingly we asked which road we should take, and how far it was, to be told 'ba nisa' ('not far - only nine miles') and had the way pointed out to us. The road to start with was fair, it led through part of the back area of Sokoto but seemed to be heading for a very dry sandy area. A huge lorry roared past us in typical African style, so we thought there must be a road. After being pushed, and almost lifted bodily out of the deep sand into which we had stuck very firmly (twice, once going and once returning) by a gang of willing and shouting Hausa men, we left them fighting happily over a 'dash' of five shillings and turned our small car on to the road which we should have taken in the first place, ignoring all our 'directions'. The road on which we had ventured probably did lead to Gwadabawa and was probably only nine miles. The road we now took, however, was twentyfive miles, and it seemed a long way in the midday heat, after the first promise of 'ba nisa'.

It was an interesting trip, for many people were coming in from outside villages to the huge market at Sokoto. It was a picturesque sight to see the women with loads

on their heads. Fulani women with large decorated calabashes of milk. Hausa women carrying food in baskets, calabashes, and cane trays. The majority of women wore the locally dyed indigo blue cloth. We saw dye pits at Gwadabawa. Men were leading goats and sheep, or carrying huge bundles of mats or leather and hides, or huge nets packed with empty gourds or calabashes, or cloth, blankets, or bags of onions. Some were riding bicycles, some leading donkeys with loads strapped to their sides. We stopped one man, for we had seen bundles of 'fefes' - small grass mats, circular in shape, in his baskets. These mats are very good for table mats, and are used here to cover pots, or by the Fulani women to cover their calabashes of milk. He had to chase his donkey for about 200 yards and try to turn it back, eventually succeeding, and the purchases were made.

Gwadabawa is on the bank of a large river, the sides of which were miraculously green, for it was the middle of the dry season when everything was very barren. We went to the Native Authority in the village, told them what we had come to see, and were given a guide. This man proceeded to lead us at a great pace through the very pleasant village, and showed us about eight of these granaries in different parts. The heat was almost overpowering.

(cover)

The first photograph with this article/shows a granary in one of the compounds, with Hausa women pounding millet in the big wooden mortars. These are common all over the region, and one often hears the rhythmic thud of the pestles in the compounds, as the women prepare the food. The second photograph shows a granary with thatch in place, for all are thatched to protect them from the severe rains of the wet season. The woman standing just next to the granary will give an idea of the size and height of these 'pots'.

How are they built? Unfortunately we didn't see any being built, but a description of the process as given to us is substantially as follows.

The ground is well cleared and a circle the size of the base of the 'pot' is inscribed, using string and stick. This circular area is then evenly studded with large stones of the same size, about one foot in height. The space left between each is about fifteen inches. The stones are set firmly on the ground, then the whole lot are bridged with a layer of clay about four inches thick. This means that underneath, the 'pot' is open, thus keeping it and the contents dry during the wet season. The damp cannot seep up from the ground, and the wind blowing underneath keeps the base dry. The whole storehouse is then built up with heavy coils of clay, or rather laterite mud, which has mixed into it a special soft grass which has been previously pounded up. The walls are about six inches thick, although we saw a broken one, slightly smaller in size, the walls of which were three inches thick at the most. Each coil or layer is left to harden for a time before the next is added. The coils are smoothed to each other in similar fashion to building a coiled pot. The outside is plastered with more clay when complete, the bottom half being textured, as seen in the photograph. This laterite dries extremely hard in the heat of the tropical sun. The builder works inside the 'pot' until it reaches his own height. He then works from the outside, using a ladder placed against the wall. From the shoulder over to the neck is very carefully and very slowly built, only one coil being added each day. The whole process of building takes approximately six weeks.

The top half of the granary is then thatched, except for the opening which has its own little Chinese-hat-shaped thatch lid. The millet is left on the stalk when stored in the granaries. Our imagination faltered at the thought of loose grain being stored in these, for then

the pressure on the walls from many tons of grain would be tremendous. The fact that the millet is left on the stalk means that the weight is carried by the floor. The stalks hold the pile of grain together, thus little pressure would be exerted outwards.

The opening is big enough to let a man enter with ease. We were told that when a man enters, he is lowered in with two people holding his hands. Once in he ties bundles of millet to a rope, the rope is pulled out, then handed back to him for more. To get out he grasps the rim with his hands and pulls himself feet first through the opening. How he reaches the rim when there is only a small quantity of grain left, we weren't told; probably a ladder is handed down to him.

There are many and varied types of storehouses all over the region, delightful little 'pots' with peaked thatched roofs, some with openings in the side, and all built up on stones. Hens are kept under some, to eat the ants which might raid the store. Some in the north have a central 'pot' with three or four added to the sides - most amusing constructions, but the biggest we have ever seen are the huge 'pots' of Gwadabawa.

NEWS

The Craft Centre Inc., Christchurch, goes enthusiastically on. A group of members recently spent a weekend in Dunedin where they studied the pot collection in the Otago Museum and took countless colour slides. Next they plan a trip to the glaciers and West Coast of the South Island for eight days fossicking during the August holidays. The field study group has already found a large deposit of very pure china clay. The Centre also has plans for a Summer Camp at Akaroa to enable whole families to live and pot on the site.

There is a growing interest in pottery in Nelson and Mirek Smisek is kept busy testing samples of clay and other minerals that are sent to him from all over the district. Nelson Technical College now has an electric kiln and at Waimea College they have built an oil-fired drip-feed kiln.

New Plymouth Boys' High School holds evening classes for potters. They now have five wheels and a Cromartie LT3 kiln. Mr. Tett tells us that the maximum number they can cope with in one class is sixteen, and although a trifle crowded they are very happy in their work (without being slap-happy). They follow the general policy of combining the traditional disciplines of the craft with a creative, experimental approach.

Doug Sellman of Gisborne, and much-respected member of every Auckland Summer School, has received some specially plastic clay from England for making flowers. He says: 'Well, the clay has come up to expectations and it will be possible to make Meissen roses with it. It was so plastic that at first it went where it wanted and not where I

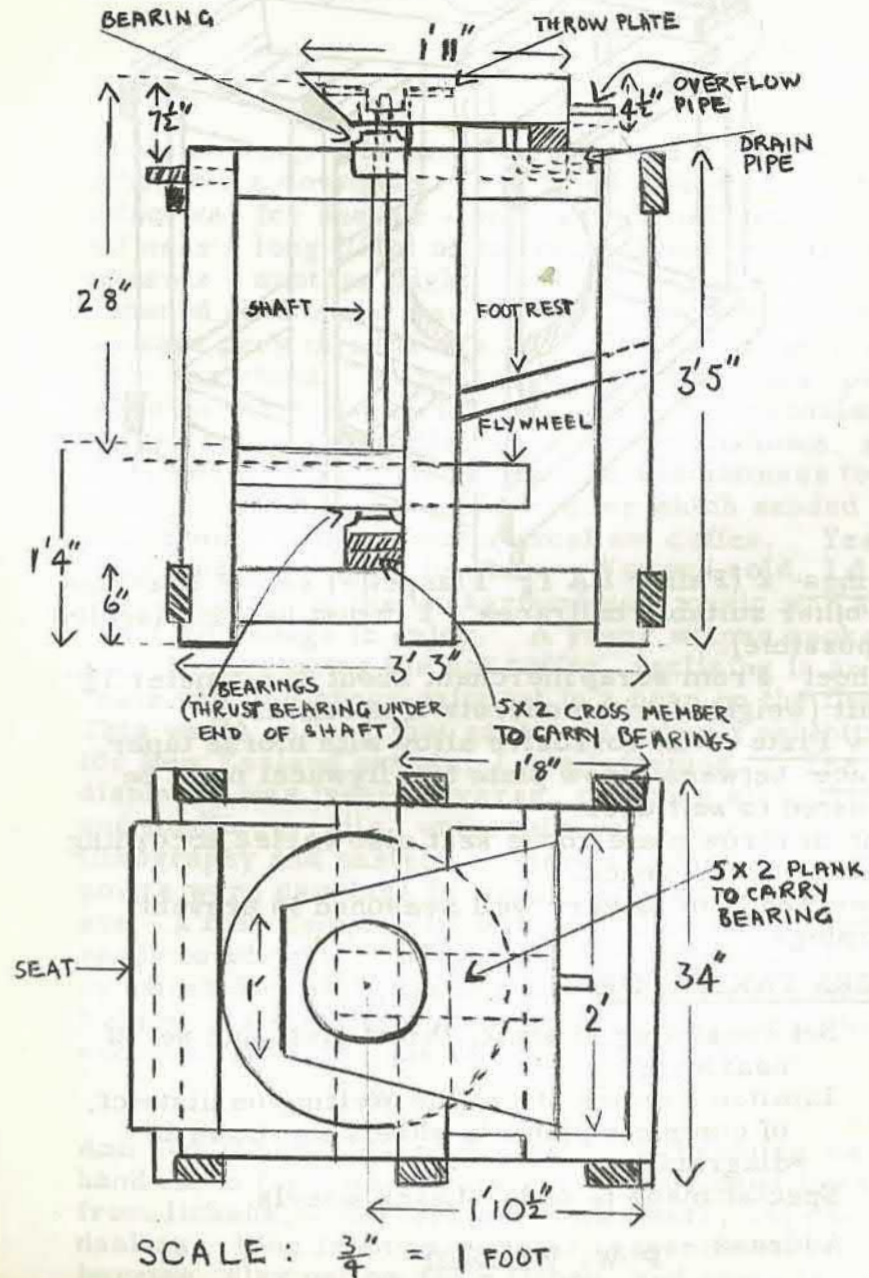
wanted it to go. Like all clay, you must persuade it and not try to force it otherwise it is worse than the proverbial Army mule!

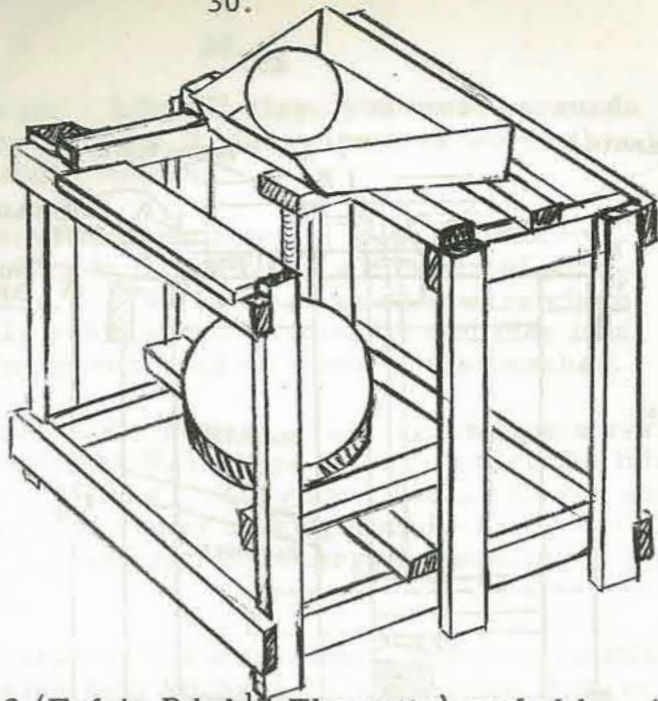
Grete Graetzer tells us there is a lot of pottery activity starting in Dunedin and a number of people now have kilns. The common earthenware clay is practically everywhere in Dunedin and they find an interesting green sand on some of the beaches.

Masterton now has a pottery group which meets every Tuesday evening at Wairarapa College under the tutorship of Mr. C. Gibbs. They have had a kiln for some time and have been busy making pots by hand, but now a wheel has arrived and the energy consumed on this is terrific.

Peter Stichbury and his wife Diane, after ten fruitful months working with Michael Cardew at the Pottery Training Centre, Abuja, Northern Nigeria, hope to return to New Zealand by September. Adult Education, 192 Tinakori Road, Wellington, plan to arrange a weekend school to be taken by Peter as soon as possible after his arrival. Get in touch with them if you wish to attend. We are also hoping that an Exhibition can be arranged of some of the work that Peter has done in Nigeria.

Roy Blake and his wife (North Shore potters: he is in the Navy and built his own stoneware kiln) return to England this month and will be missed in Auckland. But another naval type, Henry Luton and his wife Chris, are to be transferred from Wellington to Devonport in September. Inveterate kiln builders, they are well grounded in the Fishley Holland tradition of potting.





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Flywheel From scrap merchant about 2' diameter $1\frac{1}{4}$ " shaft (weighted with concrete if necessary).

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Height of throw plate above seat also varies according to user's preference.

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GALLERY 91 CHRISTCHURCH

Winifred Hunt

It was raining. In darkness I turned my wheel for home. It became a downpour. I stopped, wheeled my cycle into a doorway for shelter - and saw a small board: 'Gallery 91' near a long flight of stairs. Soon curiosity sent me upwards - another flight, then another, four flights in all. I opened a door and was inside. A spacious interior of delicate grey met the eye, and a host of objects waiting to be examined. Paintings hung on the walls, pottery stood on the shelves, fabric printing lay on tables - and in the centre was a pile of handwoven cushions, stoles, mats and cloths, giving a warmth and softness to the scene. At one end was a counter which exuded - could it be true? - an aroma of excellent coffee. Yes, some cups stood invitingly for use. Wet and cold, I drifted near them. In the background soft music was audible, just loud enough to enjoy. A young woman spoke and soon I was sipping the hot coffee, reclining in an easy chair with the soggy raincoat in a heap on the floor. This was a gallery that gave a permanent exhibition for New Zealand artists, I was informed. The work displayed was indeed diverse, covering all techniques and mediums: oils, watercolours, charcoal, woodcuts, lithography and pastels. Here and there at vantage points were carvings in wood. One especially took my eye - a cat, completely without detail, but poised and ready to advance. There were big stoneware bowls by Mirek Smisek, jugs and beakers and tall pots by Jim Nelson, abstract sculpture in stone by Russell Clark and delightful pots and bowls by Juliet Peter.

And now for the centre display. Everything here was handwoven from homespun wool, plant-dyed in colours from lichens, elderberries, dock, bark, coprosma and dahlias. Blue from barberries, green from privet berries, clay yellow from lichen, and some from

Canterbury natural fleeces.

At last I looked up. The place had been a gymnasium and when taken over by Mr. and Mrs. Brooke was in a sorry mess. Lofty as a barn, it had plenty of skylights overhead - and plenty of ugliness with rafters and beams. Now all this had been hidden by drapings of soft, misty folds of grey nylon from Japan. And for those who wished to read, art books and magazines were handy. In a discreet corner, leaning against the wall, were framed reproductions of paintings for sale.

Well, that was last March. Since then there has been one event after another, arranged and organised with impeccable taste by Mr. and Mrs. Brooke. There was a one man show, by Mr. M. T. Woollaston of Greymouth, who surely has the happiest disposition of any artist alive, with his 'It doesn't worry me a scrap whether people like my work or not, I enjoy doing it' attitude. And then a panel discussion by local artists, including Olivia Spencer-Bower, who when asked to give an opinion on Mr. Woollaston's paintings, replied truthfully 'Artists don't discuss each other's works. All they say is M-M-m-m-mmm. One knows instantly what the opinion is, by the intonation used. It's far more descriptive than words'. Then there was an open exhibition for amateur painters in which the Craft Centre was well represented, thanks to the enthusiasm and effort of Yvonne Rust. All these affairs have a Members' Private View evening, with sherry and a very cordial atmosphere and the chance of meeting the artists concerned and everybody else. Interspersed with these events are meetings of the Christchurch Poetry Club, Slide Evenings given by the Museum, and lectures on sculpture and painting. On Saturday mornings there is an Art Class for children from 8 to 14. Earnest and absorbed in their work, these artists of tomorrow

express themselves vigorously, without fumbling or hesitation, and the result, if somewhat messy, is a joy to all. A class for adults occupies the afternoon.

Gallery 91 was first opened on 24th January, 1959, by André Brooke and his wife, with the aim of stimulating interest in art, and of providing a place where the public could view and buy the work of New Zealand artists. So if you are interested in having a one-man show, or you have any pots to spare, contact Gallery 91, 91a Cashel Street, Christchurch.

SPECIAL LEACH ISSUE

In honour of Mr. Bernard Leach a Special Issue of the New Zealand Potter, edited by Dr. T. Barrow, will be brought out in October of this year. Mr. Leach has sent us an article and an Open Letter to New Zealand potters. The issue will include an extensive bibliography, and articles and photographs contributed from New Zealand and overseas.

This will be a limited edition, therefore readers who wish to make sure of their copy should forward Five Shillings to The Editor, New Zealand Potter, 29 Everest Street, Wellington, marking their contributions 'Leach Issue'.

THIRD NEW ZEALAND POTTERS' EXHIBITION

Napier 1959

This will be held at the Napier Centennial Industries and Wool Festival, McLean Park, Latham Street, Napier.

The Exhibition will be open to the public from Thursday 1st October to Saturday 10th October inclusive.

Hours: Monday to Friday 2 - 10 p. m., Saturday 10 a. m. - 10 p. m. Sunday closed all day.

Admission 1/6d.

All subscribers of Ten Shillings to the New Zealand Potter are entitled to submit Eight pots to the Selection Committee. Each pot **MUST** be labelled on the bottom with a sticker giving the name of the potter, the price, and the number listed on the Entry Form. Please put the completed Entry Form on top of the case before affixing the lid.

All pots **MUST** be in Napier by Tuesday, 22nd September. There can be no extension.

Send pots to: New Zealand Potters' Exhibition
N. H. S. O. B. Gymnasium
McLean Park, Latham Street
N A P I E R

The Selection Committee is: Mrs. May Mitchell,
Messrs. Len Castle and J. S. B. Munro.

Four types of pottery may be submitted: earthenware, stoneware, porcelain, ceramic sculpture. Each piece will be judged solely on its merits. Freight will be paid on all pots rejected or unsold at the end of the Exhibition. Potters to pay own freight to Napier. 10 per cent. commission will be deducted from sales. The pots will be covered by insurance during the Exhibition. We would like all pots to be for sale if possible.

A STUDIO POTTER'S POINT OF VIEW

Mavis Jack

The attitude of the studio potter is bound to be different from that of the hobbyist but I hope in this article to show that potters who practically give their work away by undervaluing it are doing themselves a disservice. It is a sad reflection on the general public's sense of values that unless a good price is paid for an article it is often not appreciated. There are discerning people about who will see the beauty and appreciate the craftsmanship in a hand-made pot and be prepared to pay for it, but there are not enough of these people. Too many expect to buy hand-made pots at the cost of mass-produced articles, and as long as the hobbyist is satisfied with merely covering the cost of her materials, just as long will the majority of New Zealanders expect to buy handwork at factory prices.

William Staite Murray regarding pottery as a fine art, and there were collectors in England with sufficient insight and appreciation to buy his pots. The Dean Milner-White, former Dean of King's College, Cambridge, has probably the finest collection of Staite Murray pots, and he paid £100 for one of them - a tall pot 'Cadence', 14" high with the most wonderful line. We cannot all make collector's pieces, and cannot expect to reach these heights, but there are a number of hobby potters making very beautiful pots in New Zealand, and I would urge them not to undervalue their work. So long as they practically give them away the public will not appreciate them.

In an earlier article in this journal (Vol. I No. 1 Page 3) I read that to use a commercially prepared clay body was 'to let machines and men come between

you and your work'. This, I feel, is carrying purism too far. The writer of that article was not being practical. He did not stop to consider that artists do not weave their own canvases before beginning to paint their pictures - nor does a dress designer spin his own silks. He chooses the best quality materials available with which to make his own product.

When I first returned to New Zealand from pottery school in England, I was fired with the desire to make something "all New Zealand" and asked the D.S.I.R. Ceramics Section to put me on to a good source of clay. I was told that if I wished to sell my work I would be well advised to import my clay. There is good clay in this country, but so often it is inaccessible. If one can afford to go on a voyage of discovery, it must be very exciting and satisfying to dig one's own clay and follow it through. Myself, I cannot afford the time for all the disappointments and failures along this path, and must depend on the chemists of an overseas laboratory for a thoroughly satisfactory clay body, even though I make up some of my own glazes to recipes they have given me. With labour costs and local freights so high it is cheaper to import good English clay which one can depend on for uniform composition. I use a strong, low-firing body which matures at 950°C, though I often take it to 980°C. This clay is vitreous at 1100°C and many studio potters in England are using it to get stoneware effects at that temperature. When used for earthenware at 960°C - 980°C, though the initial cost is a little more than for some higher firing bodies, the actual firing costs are so much less, as the electricity used between 1000°C and 1100°C becomes expensive.

There seems to be prevalent in New Zealand an awful snobbery about stoneware. I am the first to admire the subdued and subtle colour and interesting texture

one can get in stoneware, but I do feel there is a place for both stoneware and earthenware, and having met a number of aspiring potters who loftily announced that they would bother only with stoneware, I have wanted so much to say - 'Learn to throw first, my friends'.

In my opinion too many potters in this country try to emulate Bernard Leach. I would be the first to salute him for his wonderful work in reviving an interest in hand-made pottery, for his interesting books and for some of his own pots, but there are other fine potters working in England today. For those fortunate potters who are likely to go to London, visits to the Craft Centre of Great Britain, in Hay Hill, just off Berkeley Square, are a 'must'. You will find continuous exhibitions there, as well as at the smaller galleries, and hours spent looking at the English pottery of today are very rewarding. They spur one on to have another go, for there is certainly a magic in potting.

BILLETING

THIRD NEW ZEALAND POTTERS' EXHIBITION,
NAPIER

1-10 October, 1959.

A limited number of billets are available for visiting potters, or accommodation can be arranged at hotels or boarding houses. If you wish to take advantage of this generous offer write to the Napier Potters' Group, P.O. Box 429, Napier, marking your envelope 'Billets'.

ANOTHER SLICE FROM A POTTER'S DIARY

Professor C.L. Bailey

Our good friend the Turk, having decided to give himself over to showing us the sights, did it in earnest, leaving nothing unseen. We repaired to the Topkapi Palace Museum - the old palace of the Sultans where they lived and had their harem, the whole thing now a fantastic museum, or series of museums. In all my life I have not seen so much accumulated aesthetic horror, so much fabulous wealth, so completely devoid of the slightest taint of artistry. I had so very much looked forward to seeing the porcelain collection, the largest collection in the world. Largest, yes, so large that pots were lining the walls right up to the ceiling, as well as crowding the endless cases. The greatest, the largest collection of porcelain in the world, and immeasurably the worst. All periods from Sung to Tang on, but I doubt if there were two pots, of the hundreds of thousands, that one would covet, and want in an intimate way. They were all grand, huge, monstrous, regal, and I could not help thinking of the sense of humour that must have caused the Chinese emperors to send them as gifts to the Sultans. To see a Sung celadon dish five feet across is a shocking experience. To see hundreds, maybe thousands of them, from three to five feet across, is an experience I hope never to live through again. So with all the other forms, the vases, the beakers, the watervessels. Nothing at all of the size that an ordinary human would live with. But these were all for Sultans with hundreds of wives, with thousands of executions to their record, who drank from vessels encrusted with rubies and emeralds (we saw hundreds of such horrors) and who slept on golden beds (we saw them too), in bedclothes of woven gold.

The worst section was the Seraglio, the old harem, claimed to be left as it was fifty years ago. Words fail me in describing the tawdriness, the unattractiveness of the buildings and the furnishings. The building itself is in a gimcrack style of architecture, both inside and as seen from the Golden Horn, over which it commands a truly magnificent view. Only Osbert Lancaster could draw it in pen and words well enough to reveal its petty quality. Some of the rooms are lined with tiles, but somehow, though the colours are in themselves sharp and striking (mostly greens and blues and whites) their very cleanness only adds a dimension to the squalor of the rest. We could only feel sorry for the poor wretches who had to live in utter confined boredom, punctuated only by sporadic visits down the Golden Walk (hence gold-digger?) to the Sultan's apartment. Outside his suite was a square bathing pool in which the chosen had to bathe, in view of the master, before entering the presence (and his bed).

Istanbul, 28th May, 1958.



LEACH POT
Illustrated in...THE POTTERY BOOK by BAKER

THUMPING BIG POTS

Barry Brickell

Many of us are realising that the wheel is not the only method of making pots. Most of us certainly cannot throw big pots. Big pots are great fun, and in making them you learn a lot about clay. So here are some methods you might try. Even if they don't fit in your kiln, still make the odd whopper, for it is worth hunting for some other kiln to get them fired. Most of them will not need glazing; a biscuiting in a brick kiln is just right.

The biggest of pots may be coiled. The base is allowed to dry as the walls are built up, over a period of days for really large ones. Very rough, quick coiling followed by beating with a wood block is another excellent method. The beating helps to join the coils. From experience, I find many people very clumsy-handed with clay, notably adults. Even coiling is beyond many, so perhaps the following will suit all round.

Core-modelled pots are little known but very fascinating to make. I find drain pipes, lengths of 4 x 3 timber and such things make good cores. Wrap the core in cloth, stand it upright on a slab of clay, then throw or apply plenty more clay to the outside. The pot, with base, is thus built up to any height one wishes. I find a slight taper is pleasing and adds stability; therefore make the walls goodly thick at the lower levels. Finally the clay is beaten to compress and strengthen it, and to bring out the form. If the clay used is rich in sawdust or grog, a knife scraped over the surface produces very suitable "crunchy" textures.

For these 'K-class' pots, you need a very open body, tending to be short rather than plastic. This makes for safer firing and interesting textures. Plastic clays should have much coarse grog (say eighth inch sieve) added, or in addition, sawdust. This allows very thick walls to withstand firing. When firing any heavy pots, never stack them on pre-fired supports. Always rest them on an unfired clay slab, or any 'green' clay support. This prevents serious basal cracking due to firing shrinkage. The weight of heavy pots prevents them sliding a little as they shrink.

Try also pinching and squeezing, in a rhythmic fashion, from a small lump of clay. This makes bowls like water-worn river pebbles, with interesting variations. This method is also useful to make bases for larger coiled pots. In New Guinea, pot bases are press moulded in a suitable biscuit-fired dish or carved wood bowl. This is for gourd-shaped pots, the remaining two-thirds or so being built up later. There is a fat, rich magic about gourds, and with their infinite variations they provide excellent material for potters. There are some great gourd-shaped pots in the Auckland Museum, from Fiji. They are smoothed, and glazed with hot resin over a red biscuit body. The colour and entirety of the form is superb. As sculpture, they are magnificent.

Instead of building up with coils, there is no reason why scones should not be used too. This is simply squashing little balls of clay into flat, thin discs, then modelling these on to the top of each other, so building up a pot. A great method indeed. The surface can be beaten afterwards if desired.

Big pots should be simple shapes. Each method gives its own feeling and with hand-built pots there are many

similarities to natural forms. It is an eye-opener to visit Elwyn Richardson's little country school in the Far North at Oruaiti. Here, under his supervision in a truly lively, creative atmosphere, little kids make whopping pots and masks from plain local clay. They can teach us a great deal as well. The greatest lesson is removing from our adult, rigid minds limiting concepts with use of clay. Anything can be done with clay - there is no limit. Let yourselves go - mad if possible!

I could ramble on about pot aesthetics for a long time. But most of it may be summed up as follows: the truly interesting pots are interpretations from one's own heart, of external influences or experiences. They are not achieved by copying, or by technical mastery alone. I feel that it does not matter what raw materials one uses, or from where they come, or what kind of kiln they are fired in. It is the spirit of the work that counts. It is always of great interest for pots to be related to their environment. Our native environment is so rich, full, deep in mood and vigorous in texture, that our pots should show at least some of these characteristics. Rough, crude but vigorous, solid pots, mean so much more than carefully contrived, slick shapes. Then let's have more of these made. Just don't get scared of your clay but tackle it with positive intentions. You will have indeed some thumping great fun. We can enjoy it too by looking at the results.



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