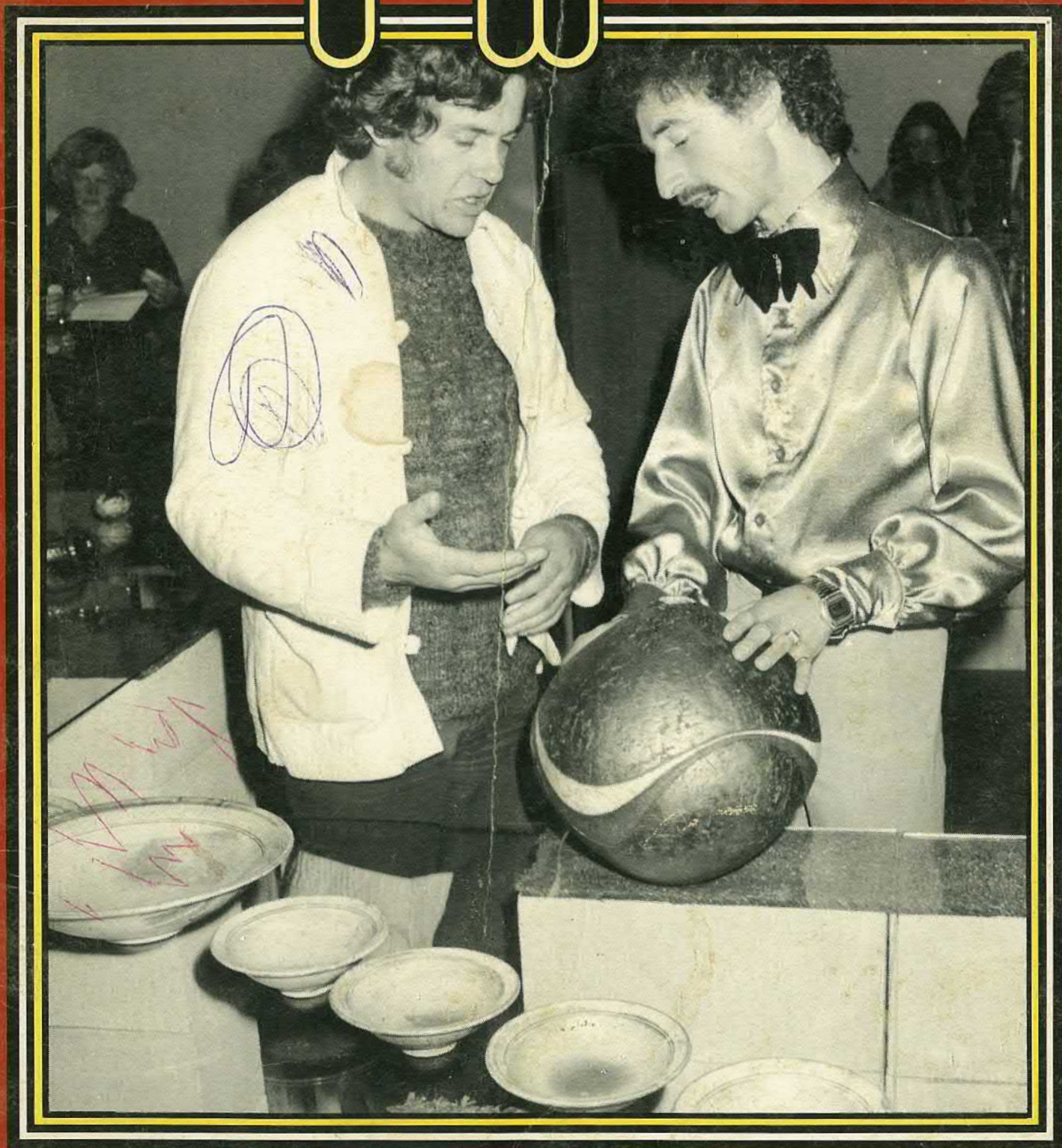


Potter





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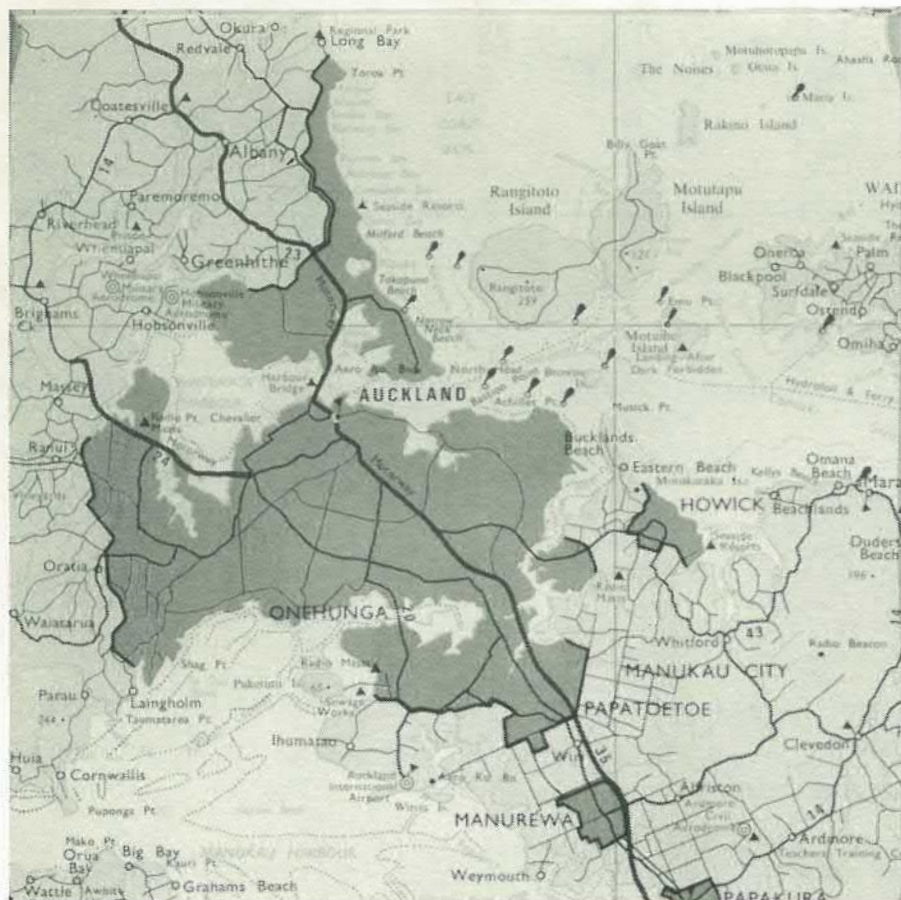
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Two young Auckland potters whose work shows different approaches to their craft. Right, Rick Rudd with his Raku bottle which took first place in this year's Fletcher Brownbuilt Pottery Award, makes individual pieces as art forms. Campbell Hegan, left, won a merit award for his set of Shino bowls made in the tradition of fine pots designed for use but with a liveliness which excites the spirit.

Some newer Auckland potters



Potting in Auckland

As the largest centre of population in New Zealand, Auckland has expectedly the largest number of potters. This situation has been reinforced by the early availability of tuition. R.N. Field conducted classes in potting at Avondale College from 1954, at which a number of now prominent Auckland potters first gained some capability in the craft. At around this time Tina Hos, sympathetic to the awakening interest in crafts, opened a shop and gallery — New Vision — providing the necessary outlet for exhibiting and selling.

So from the beginning Auckland was a centre of potting with most people producing domestic stoneware of the Leach school, but with well grogged clay bodies and brown or green earth coloured glazes which gave the pottery recognizable New Zealand character. Only a few potters worked outside this school.

Successive waves of newcomers have joined the Auckland band. It is noticeable how potter has taught pot-

ter, usually at night school classes, making a new generation every few years. Now there are so many full-time professionals, part-time professionals, and serious hobby potters that the Auckland Studio Potters Group has five hundred active members, and not all potters belong to a group. With the output from all these kilns being bought by an eager public, the pottery scene over this past ten years could be called a bonanza. There are ordinary householders who now use craft pottery exclusively and regularly buy their replacements at the local craft shop. To keep up their supplies, shop owners have been driving their station wagons up country to the kilns to buy a complete firing on spec.

There are signs however that the halcyon days of the seller's market are over for the time being. In the present economic climate competition for sales among Auckland potters — where prices have always been lower than in the rest of the country — pre-

vents prices increasing in pace with the extra cost of production. Potters are not making the income they did, and are having to look at ways of holding costs and improving management.

Over the last few years there has been new life in Auckland's potting. Auckland Studio Potters provide excellent tuition at their centre at Onehunga, (open to non-members), a group of North Shore potters have a flourishing retail co-operative at Albany, additional opportunities for exhibiting have been provided with characteristic zest by Peter Sinclair at his Alicat Gallery in town, and Country Arts at Muriwai Beach.

All this activity has encouraged potters to experiment with handbuilt porcelain, traditional Shino Glaze, ceramic sculptural forms — far removed from the original New Zealand grey/green stoneware pot.

The work of long established potters have been recorded in earlier issues, so the purpose of our recent visit to Auckland was to report on some of the many who might be called a newer generation.

Margaret Harris

AUCKLAND STUDIO POTTERS CENTRE, Captain Springs Road, Onehunga. For information about classes, (not restricted to members), write to Box 13-195, Onehunga, Auckland.

AUCKLAND WAR MEMORIAL MUSEUM, Parnell, has the most extensive ceramics collection in the country including the work of contemporary New Zealand potters. The museum shop sells books and local and Pacific Island crafts.

GALLERIES AND CRAFT SHOPS WITH GOOD POTTERY STOCKS:

*Alicat Gallery, 52 Jervois Road, Ponsonby

*Topfers Gallery, Melanesia Road, Kohimarama

*Ian Firth's Pottery Shop, Hinemoa Street, Birkenhead

New Vision, His Majesty's Arcade, Queen Street

*Albany Village Pottery, Albany (over the bridge, up the motorway)

*Country Arts, Muriwai Beach Carls, 3 St Heliers Bay Road

*Twelve Potters' Shop, Mt Albert Road

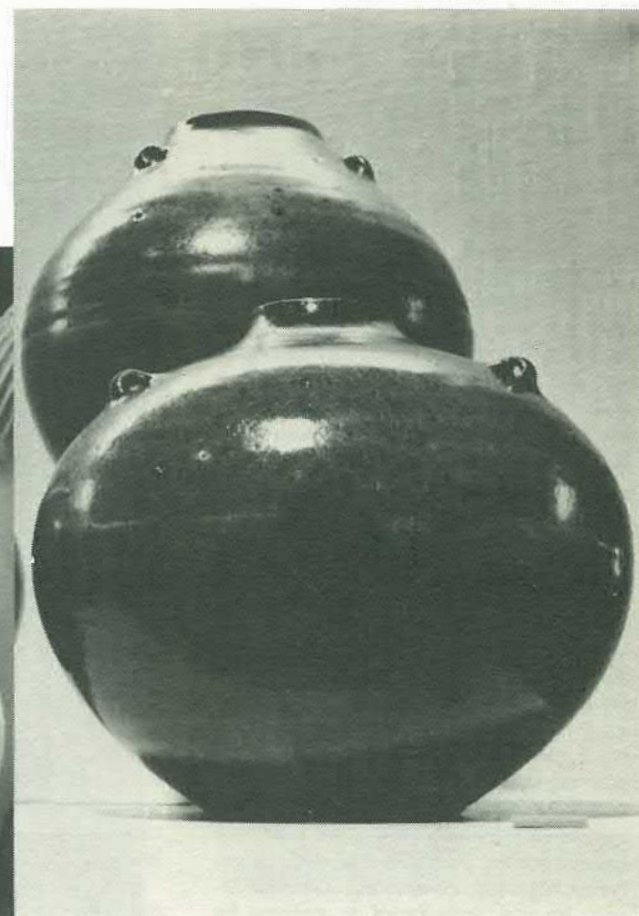
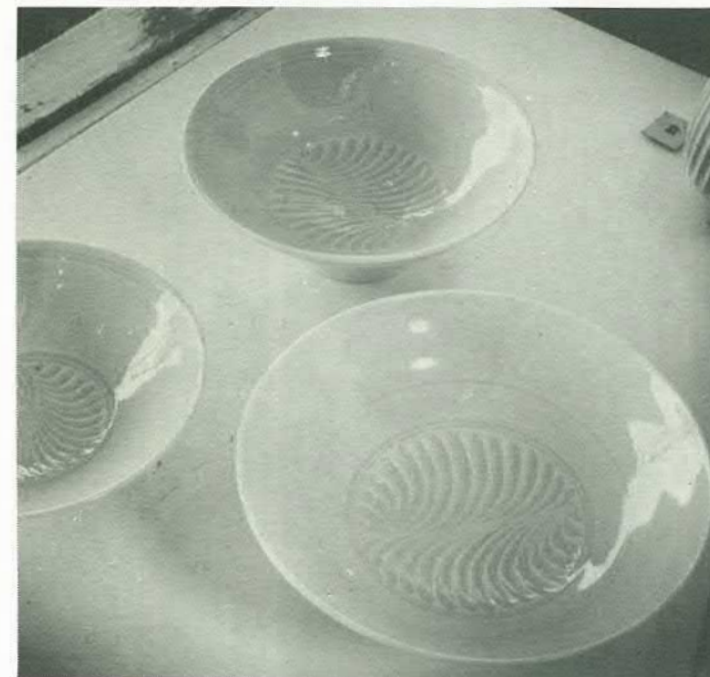
The Kiln, Parnell Road

The Mill, Durham Lane

Some of these shops are open on Saturday and Sunday.

*Sell pottery exclusively.

Lindsay Bedogni



When Lindsay Bedogni exchanged his life in the country (Potter Vol 17/1), for that of a semi-urban potter at Whenuapai, he was able to extend the range of his work. Working with Doris Dutch in Auckland gave him a chance to develop techniques for mak-

ing porcelain and the demands of this medium has given him his most compelling challenge. He fires a 12 cubic foot two chamber modified Cowan type kiln operating with a cross draught with one pot burner and two jets. Lindsay has recently taken

his family to Australia where he is going to work for a time.

Left: porcelain bowls incised decoration, celadon glazed. Right: lugged stoneware, dark grey felspathic glaze.

Grant Campbell



Handbuilding in porcelain attracts Grant Campbell because of the fineness of the material and the suitability of the method for showing organic forms. He started potting in Christchurch with Margaret Higgs and her belief that it is important initially to work clay with the hands before using the wheel, generated his interest in thrown and hand work. He makes simple, useful domestic ware, but finds he can gain a more spontaneous expression outside the over-riding limits imposed by wheel throwing by using pinched ware techniques. He has been living in the Waitakere Hills firing a 70 cubic foot catenary arch oil-fired kiln (on a shared basis with Campbell Hegan), but has a wood fired salt kiln near completion. He is a member of Auckland Studio Potters.

Waybe Farm Pottery

A return to the country workshop is the objective of Ann Ambler and Nigel Woodroffe who have established a pottery near Wellsford 80 kms north of Auckland. Ann had built and fired several kilns previously but Nigel designed and built their wood fired kiln with two chambers and a total of 85 cubic feet stacking space. Ann makes mainly domestic ware — some salt glazed, Nigel press moulded and handbuilt pots.

Twelve years ago while looking in a country library for something interesting to read Ann discovered the works of Bernard Leach, and her path to a potting career was set. With a book in one hand and clay in the other, with little formal tuition but a day here and there she acquired the techniques. A most important period of development was spent working for Ian Firth in his workshop, throwing a range of domestic ware to his requirements. He showed her that there was more to being a potter than a "skilled manipulator of clay". For five years she taught pottery at Glenfield College. While Nigel was completing a science degree he was introduced to pottery by Peter Gibbs. He has a wide interest in all aspects of clays and firing techniques. Both Ann and Nigel are members of Auckland Studio Potters.



A day in the life of a country potter in which the potters discuss the viability of running a country pottery.

"Ours is an idyllic life. We live in a rural area on a small farm for which we assume a responsibility as part of our right to live here. This means rotating stock, fencing, maintaining an adequate water supply and sundry other duties. For ourselves we rear chickens, milk a house cow, feed out hay in winter and tend a large garden in summer. There are horses, dogs, pigs and a sheep to care for and health giving food mostly of our own growing to prepare. We plan our days according to the number of daylight hours and of course, the weather.

However the real work is in the pottery beginning with first chores when the pots from the previous day are

completed. Then the rhythm of the new day's throwing begins. We set the number of pots to make for the day's work. We list the type of pots to be fired, the glazes to be mixed and estimate a date for firing.

Our kiln has two chambers, is wood fired, and we side stoke and salt in the second chamber. We fire once or twice a month depending on the type of pots being made, either planters or domestic ware. Firing takes around 20 hours as we go very slowly to start with and use little wood until around 1200°C but from this temperature to 1300°C the wood stacks soon diminish.

In summer we try to buy a year's supply of wood so that it will be sap dry and ready for cutting and stacking in the kiln shed as soon as the previ-



Salt glazed stoneware. Ann Ambler
photos: N. Harris

ous lot is depleted. Wood is cheap and readily available but it is labour intensive and many hours go into cutting, stacking and moving stacks and re-stacking again. We must allow for maintenance of an efficient chain saw. It is ecologically sound to fire with wood as it is a regenerating source of energy, but it takes a lot of space and effort and there is no bonus by way of extra money in these beautifully flashed pots.

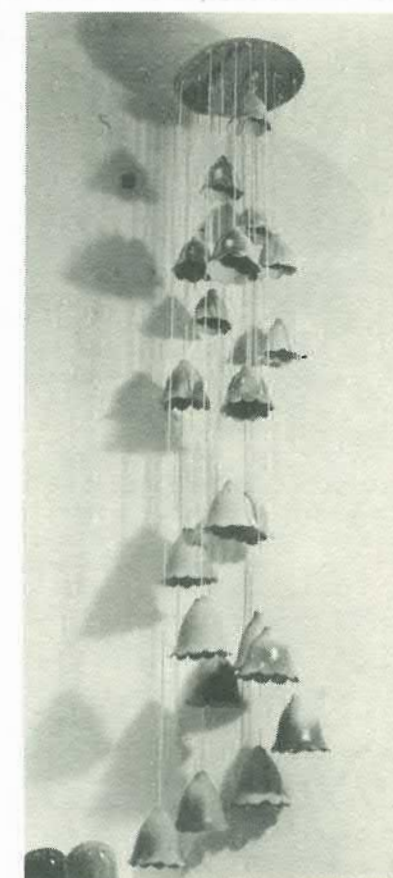
On this particular day the accounts have to be looked at. Our accountant — and we need one — has trained us in a system which keeps all the facts and figures clear and up to date. Somehow the casual observer seems

to think that we country potters don't need very much money because the life style compensates, but we need to make an average living, otherwise we might as well go on the dole and keep it all as a hobby. The rising costs of raw materials combined with cartage and the marketing of pots necessitates keeping kiln losses to a minimum and overall careful management.

No longer do we have a romantic image of the idyllic life — we can't afford it."

Nigel Woodroffe and Ann Ambler
Waybe Farm Pottery
Waybe R.D. 6 Wellsford

*pronounced "Waybee"



Nigel Woodroffe's unglazed wood fired porcelain, flashed with orange. Some are bells others lights, displayed in Alicat Gallery. Below: The workshop and unusually big kiln shed for a New Zealand pottery.



John & Diane Anderson

John and Diane have a pottery at Tauhoa, near Wellsford. Both have academic backgrounds. John with a science based degree in psychology is largely self taught, Diane had some training with Chester Neale at Teachers' college. John has been potting fulltime for three years and started off making planters as a production run. Diane joined him and took over the plant container side of the work freeing John to develop his salt glazed domestic ware. Both are members of Auckland Studio Potters.

After potting in Auckland for a year we moved to Wharehine where we built a workshop and kiln and began salt glazing exclusively. We have recently shifted onto a small piece of land at Tauhoa, bordering the Kaipara Harbour where we have built another workshop and kiln.

Our new kiln is a single chamber 1.9 cubic metre sprung arch cross-draught, fired with two pairs of opposing burners. We have used Kamo Green Unifrax bricks which appear to withstand the corrosive effects of the salting satisfactorily. This time we are also testing Kamo's Supalume bricks around the burner ports where the corrosion is most severe. These bricks have a 38-42% alumina content as opposed to the 22-24% contained in the

Unifrax, so time will tell how well the triple cost of these bricks will help prolong the kiln's life.

We have used many clays and salted at various temperatures, but as yet no one clay has proved particularly satisfactory in terms of handling properties, salt-glazed surface characteristics, and cost. Presently we are using Nelson Clay's G.B.2, which in our kiln conditions does not produce a very satisfactory surface, the main problem we feel being the extremely high iron content (2.8%). This characteristic which is common to most New Zealand clays readily obtainable, renders them, in our opinion, useable only with slips to alter the effects of the high iron content. In effect this is what we do, like most other people using salt to glaze. Instead of finding the elusive body to give the effects, we have at this point compromised by using various slips to mask the clay. However through having had to face this problem we have probably learnt much more about the chemistry and the effects of the raw materials we now use.

All pots are raw glazed. By spraying glazes we sometimes overlap up to five slips producing lustrous effects impossible to obtain by dipping or pouring. We have fired in both oxidis-

ing and reducing conditions in order to investigate the effect they have on both the slips and the body. Obviously the heavier the reduction the greater the effect of the iron in the clay on the body.

Our interest in salt-glazing was stimulated originally by collecting old bottles both glass and salted, the latter mainly ink wells and household containers. We frequently return to these utilitarian mass-produced objects, which possess a directness and yet a subtlety seldom found in contemporary studio pottery. In an attempt to reproduce these effects we need to mask our body with slips which is disappointing and eventually we hope we will be able to produce at a reasonable cost, a clay which is more appealing in this respect and therefore suitable to our needs.

We are interested to try salting at lower temperatures in an attempt to prolong kiln life. We would like to test the buyer's response to traditional type stacking where shelves are not used. Pots are stacked on top of each other using clay wads to prevent wares sticking together. Smallest pots are placed on top and largest pots on the kiln floor. Clearly this type of packing encourages flashing and minimal salting on parts of the pots which we particularly like. Because vapour glaze "comes on" to a pot by degrees as one progressively introduces more



photo: Walton

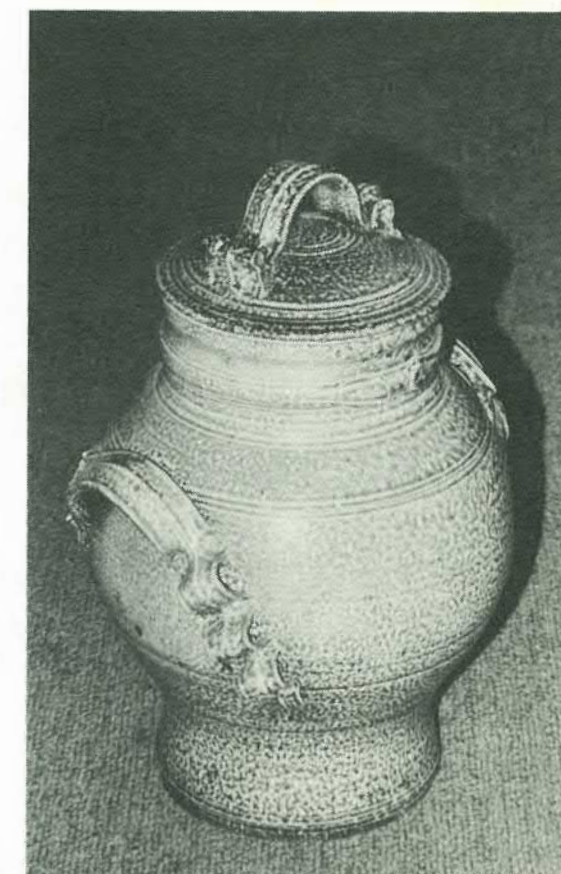


photo: N. Harris

John Anderson's salt glazed stoneware storage jars left, were shown at Alicat's exhibition of salt glazed ware in May. Right, a jar in use by the Andersons.

salt, the change from unglazed to glazed areas on a pot is just a development of the process. This gives glazed and unglazed or flashed areas a much greater unity with the pot and the process, than the usual methods of glazing where the glaze is applied and the areas of glaze and non-glaze are clearly defined.

At the other end of the scale pots may be heavily glazed with great, fruity rivulets forming. It becomes evident that when one thinks of salt-glazing solely as the process of systematically building up a surface on

the pots in the kiln, the range of glaze surface is quite large. It begins at the flashed pot and terminates in the extremes of fruitiness. Throughout this range one begins with form dominating the glaze (as in unglazed ware), and ends up in glaze dominating the form. One attempts to adjust the glaze strength to enhance the strength of ones form. It is too easy to overglaze and lose all the subtlety inherent in the process. It is therefore not just a "glaze or no glaze" process used when glazing with traditional glazing methods; it is control of the density of

glaze accumulation, it is variables of clays, slips, glazes and kiln atmosphere, and more. The possibilities within this field are enormous.

Very little technical information has been written on salt-glazing compared to other types of glazes so there is the chance of joining in the development of this field which we find appealing.

Potters' G.B.2. from Nelson

From an article reprinted in "Ceramic Review", July 1975 Number 34 page 8.

"The amount of iron in the clay body is also important to the final colour. Iron content of 3.8% fired at 1145°C will give a good dark brown while 1-3% iron fired at 1285°C, will give the same colour. Selecting a clay lower in iron content will improve the salt glazing. A 1% reduction in iron content of the clay body is equivalent to the addition of 7% silica to a clay maturing at 1150°C or 12% silica to a clay body maturing at 1210°C."

Potter's Clay G.B.2 from Nelson, with its high iron content of 2.8% and

fairly high alumina/silica ratio (63.3% silica, 22.3% alumina) responds in our kiln in the way predicted by most articles written on the subject: i.e. distinct orange peel surface from the high alumina/silica ratio and dark glaze surface from the high iron content. Peter Starkey in his book "Saltglaze" goes into the relationships of the three factors of silica, alumina and iron content in some detail, as naturally they do not act in isolation and are dependent on temperature and kiln atmosphere.

G.B.2 fired and salted in a wood kiln at Waybe Farm Pottery has produced a

saltglaze without any brown colouration but still with a heavy orange peel surface. A visitor from Oregon University said that in experiments carried out there in saltglazing, they found that several pots of stoneware clay with a normal iron composition were found to cause the rest of the pots of very low iron composition to turn brown in the kiln when firing. This did not occur when these pots were absent with a similar firing schedule.

John and Diane Anderson
R.D. 3 Wellsford
Northland

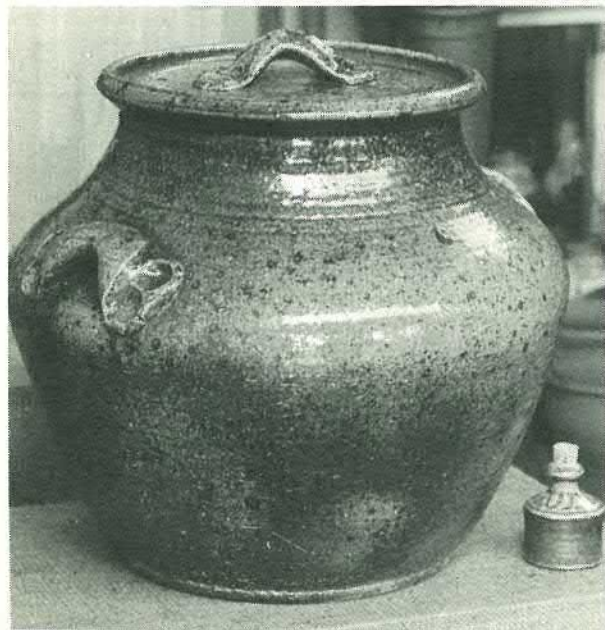


photos: Topfers Gallery

Nicholas Stather

Robust and vigorous forms of great vitality mark Nick Stather's work. Some of his decorative treatments such as finger wipe designs in slip on plates are reminiscent of English pottery. Nick in fact worked for John Leach in Somerset before returning to New Zealand. He has been potting

at Driving Creek, Coromandel for a number of years where he has developed glazes from local materials. These photos show the last of his work made before he went again to England. It is to be hoped that this young potter who could make a strong contribution to New Zealand potting will be back soon.



Andrew & Gennie Van der Putten

Two years ago we left the Waitakere Hills near Auckland where we had been potting for eight years and came to Coromandel, where we had bought some land.

I built a double chambered wood fired kiln measuring 60 cubic feet in the glost chamber, with a Dutch oven firebox in the front and what I thought was a big chimney on top of the biscuit chamber. The first three firings were tedious and the results underfired; after some alterations to the firebox grate and lengthening the stack to twenty two feet, the kiln started to come right and firings up to cone 10 were brought down to a reasonable 14 to 15 hours.

I soon realised my insufficient knowledge of glazing when it came to readjusting nearly all my glazes, which had worked so well before when fired with diesel, to new wood-firing conditions. Some were clearly better suited to wood-firing than others. Some I discarded which made me experiment to find glazes to take their place. All in all these past two years have given a balanced mixture of frustration and reward.

Starting again has forced us to look closely at some aspects of potting again; problems we thought were far behind us came up in different forms and in so many ways we had to start from scratch. However, after eight years of relatively safe clay bodies, glazes and fuels which made us feel superconfident about our work, we don't regret the need for changes.

on firing

When I was building my kiln I found that what helped me most was looking at a kiln in action either before or after firing and then going to another kiln and doing the same. In the end I built something which I hoped would collate the best of everything I had seen. I can write about my way of wood-firing which will sometimes be similar and sometimes be totally opposed to someone else's way, and yet it all works.

For instance I could say that I closed up my grate to achieve reduction because I read it somewhere or someone told me to. My next firing could be oxidised because of opening up an extra stoking hole, thereby cancelling out the alterations in the grate. The only thing I know about my kiln is that it is a matter of balance between grate, size of stoking holes, size

of wood, stacking, and chimney height and fireman. The interaction between these components I find fascinating but too complicated to write about confidently. With experience the procedure becomes instinctive. If anyone wants to know about my wood kiln they are welcome to watch it work and we'll talk about it.

None of the articles on wood kilns — how to build them and how to fire them have proved to be much use to me. Wood kilns need close contact with the user, and only seeing one can tell you how to build one or how to alter a badly behaved one. When I think back three years I know now that the problems of re-establishing in Coromandel were basically kiln problems, and although I still don't take anything for granted, I feel that with every firing I am getting closer to understanding a little more about it.

some glaze notes

Our present glazes consist of a number of **barium/feldspar based copper glazes** which depending on the atmosphere when fired, range in colour from red to green. We found that a copper glaze when refired in a different atmosphere will change colour. For instance, a copper red pot refired in an electric kiln with oxidising atmosphere will turn green or vice versa (a copper green pot when refired reduced to red).

We have a number of **celadons** for porcelain pots, derived mainly from



books and articles or from generous potter friends, and always modified to suit the kilns. (I now really and truly believe that all kilns behave differently).

A standard **Shino** produces good colours provided there is a reasonable amount of reduction at least up to cone 7 to 9. I usually try to have an oxidised fire from then on to brighten up the copper glazes.

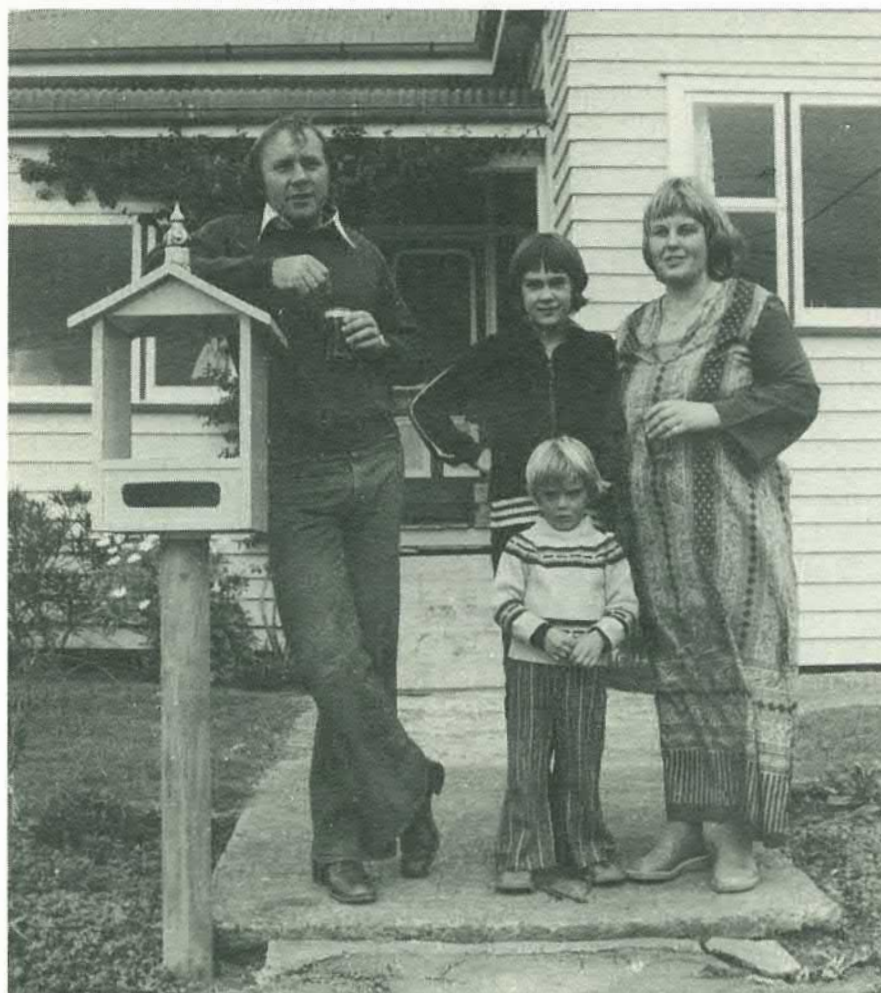
Ash glazes. In spite of their dwindling popularity with dealers and the buying public, we keep putting them in because they seem so well suited to wood firing. Some of the nicest are the simplest, like ash/red burning clay in equal parts which is suitable for raw firing and salting.

Salting. Some glazes respond to salt more than others. Shino tends to lose its characteristic orange colour. On the other hand copper colours are enhanced by a light salting. Ash and salt are very compatible. I salt every second firing in the stoneware kiln and so far salt contamination hasn't bothered the glazes which don't like the salt. I salt very lightly, about 1/4 to 1/3 lb of rock salt to one cubic foot of kiln space. The salt, more than anything, tones up the body which is a mixture of Maramarua fireclay, Coromandel Silica sand and New Zealand ball clay, china clay and feldspar and salts to a warm dark colour.

Andrew Van Der Putten
Albert Street,
Coromandel



Hand built porcelain form by Gennie Van der Putten. Bottles by Andrew.



Sally Vinson

A wretched metaphor perhaps, but I seem to be cast in a different mould from other New Zealand potters. I have come to studio pottery through art and design colleges in Britain. European tradition is the pivot of my career. Nor do I reject industrial society totally. Most of my life has been spent in Birmingham or London and the big industrial and urban complexes have had a deep effect.

New Zealand pioneer traditions, and some of the myths, are incarnate in the pottery scene here. Man alone, the bronzed worker out there in the bush has a certain rural virtue linked to the purity of work, and antagonism to city corruption. I don't want to set up stereotypes, but that sort of idea is around, and here I come, living suburban, with an electric kiln, even joining hands with industry occasionally. A firm which does slip-cast ware recently asked me to design a range of their tableware; I'm delighted to do

that. I like design, and that includes industrial designing.

I'm a domestic ware production potter producing a range of tableware which is designed to fit its use. I've been accused of being too industrial looking. Well, I do feel that much design in studio pottery leaves a lot to be desired. Ergonomics — how the things function, whether the cup pulls at your fingers when filled, is as important to me as its aesthetics. My pots are thought out — often they go through a paper design phase first.

I think in sets and matching shapes over the range of domestic ware. I'm interested in profiles. I turn the surface of pots when they are leather hard, finishing the surface with a metal kidney. I like a clean line, and symmetry. I'm a tidy person. Is it all 'industrial'? I don't think so. Not in technique, nor particularly in form though I like the description 'functional' — and not in glaze. Yet there

have been industrial influences; some I have rejected, others have lingered. In Birmingham, I'd say it might be hard to keep such ideas out.

At 16, I was off to Birmingham College of Art, and the idea I might become a studio potter became an ambition there. Industrial influences were strong, for the head of the pottery department — Reginald Lewis — had done his training in industrial ceramics. Stoke-on-Trent, centre of the British ceramics industry, was close by. We were taught the pottery techniques of the past — slip trailing with reference to the Toft brothers, and lathe turned terra cotta with sprig decoration in memory of Elers. We were also taught techniques of a semi-industrial tradition. I remember extruding handles through a Dodd box and forming them to the time-honoured characteristic shape. Museum studies were a 'must.'

The British renaissance in studio pottery was just beginning. Bernard Leach hovered as a mentor in students' minds. At that time too, Harry and May Davis had just left Britain. They'd gone to avoid the rise of the nuclear technology, so it was reported to me, to New Zealand, a vague idyll for me as my parents had thought of coming here. But we students were more likely to be grist of the industrial mills of Stoke-on-Trent.

My first job, however, was in a studio pottery — Briglin, in London. I vacuumed the floor, made the coffee. After a while they let me make handles, and I learned how a five-man team could make and market a wide range of domestic earthenware pottery. Then I discovered stoneware and wanted to know more about it.



I went on to the Central School of Art and Design in London: three years where the whole subject of ceramics was laid out for us. Here, Leach took an honoured but not dominant place in a pantheon of European names, and strong European tradition. And again, the industrial influence was there. We made trips to Stoke-on-Trent. I was there one day right after television had shown a film on Leach. "Imagine," said the foreman at Shelley's, standing at the head of a long table filled with bone china, and with the righteousness of an industrial savant, "if we were to put our cups into a kiln and not know what shape or colour they were going to be when they came out."

He is right. His customers want their bone china straight. The reject-



A range of Sally Vinson's work which she produces from a newly built pottery in suburban Devonport. Photos: Marti Friedlander



tion of the industrial revolution, its effect on pottery, is already there in William de Morgan, one of the pre-Raphaelite movement. Leach was influenced by de Morgan. Yet industrial pottery defines what we studio potters do. Its shapes may be conventional and middle class. Or it may be delightfully functional, and provide its challenge in that way. And always, it tends to be cheaper because of mass production methods. I'm obviously doing the sort of work where I control the process from beginning to end, and I love it. It doesn't make me a hypocrite to acknowledge the value both of work-in-itself, and the mass production process. I hope for automation to release labour from the more boring mass production work.

I now live in Devonport which has the feel, for me, of Hampstead and Blackheath, the outlook is not suburban and you don't have to live by others' mores. With an electric kiln, I can work in a suburban area without any fallout from the neighbours. Besides, I

have previously mastered the technique of oxidised fixing. Electric kilns are common in Britain.

When I was first producing here, I loved shapes to the point of eschewing decoration completely. But Peter Sinclair encouraged me. I was enjoying it, and he was appreciative. The retailers are marvellous. I make pots, I don't like selling them. Peter, like Jan and Alastair at Spectrum Arts, and others, have been of immense help to me.

I was decorating oxidised stoneware at first, then, in view of my past learning, I decided to go further into colour and started tin glazing. I've been doing it now for 18 months. It's been a struggle because people have been slow to understand.

Tin glaze — majolica — began in Europe in the ninth century, reaching Britain in the 17th century. The bisque is dipped in a white tin glaze and decoration painted on-glaze, the colours all being obtained from the metallic oxides — manganese brown, cobalt

blue, copper carbonate and copper oxide greens, iron oxide yellow. I have at last discovered a lovely rich yellow.

Down through the last millenium, that yellow has been strong. European tradition might be expected to stir memory, perhaps a certain ancient sympathy, after all Europeans evolved the style and they are the ancestors of most New Zealanders.

From the East too come distinctive styles. New Zealand potters should absorb that influence also, but as an influence, not as a template! Pottery is suited to its culture, and evolves from phase to phase. It is my belief that the Leach-Hamada influence has got to be good for this country: but not as a monopoly. There is no reason to expect that pottery styles taken from a 5000-year-old culture will sit perfectly in New Zealand's 200-year European, and 1,000-year Maori past. Pottery styles here are still in the process of formation. My contribution, I hope, will be allowed by the arbiters of taste.

Glenn Beattie notes on raw glazing

With another potter, I have been working on problems associated with raw glazing. Working with someone is helpful, providing twice the opportunities for tests and combined analyses of results. It's a good way to pot.

The main problems are
(a) wares cracking when being glazed
(b) glazes not fitting

The first problem has been overcome by applying the glazes when the pots are leather hard. They only soften a little after glazing. The second problem, resulting from the solution of the first, i.e. glazes falling off the pots as they shrink from leather hard, is overcome by increasing the glaze shrinkage so that pot and glaze shrink together.

Our own problems were intensified as we were both applying slip under the glazes. Slipping, decorating and then glazing (all at leather hard stage) without any of it leaving the pot has sometimes been exasperatingly difficult to achieve. I have been taking two approaches to adjust the glazes:—

First, taking a basic glaze and increasing the clay content and fluxes accordingly (to maintain roughly the same glaze maturing temperature), and adding bentonite. A total clay content of 25%—30% and about 5% bentonite in addition I have found

adequate to get glazes fitting our body.

As a second approach replacing all or some of the china clay with ball clay. This has the effect of lowering the glaze maturing point and changing the surface somewhat. The first method raises the firing range of a glaze and the second lowers it, so a logical move is to increase the clay content, replace some of it with ball clay and add bentonite and stand back and see what happens. I think that increasing the quantity of plastics (eg bentonite and ball clay), makes the glaze stretchable so any shrinkage dif-



ferences between glaze and pot are accommodated by the glaze's plasticity. It's just a theory.

My techniques for application vary according to the type of pot I'm making, but generally I glaze all the pots on the inside with the same glaze when they are at the leather hard stage. This softens them a bit, so I leave them awhile to dry again back to leather hard before glazing the outside. Because pots do not soak up the glaze water quickly it is necessary to have the glaze creamier (less water), to get an adequate thickness. Attitudes towards glazing must be flexible leaving oneself open to different techniques, for example glazing the insides of teapots before they are assembled. It does work. Allowing time to ponder these things is important.

Firing is much the same as for twice fired ware. I have been firing to colour in about six hours and finishing to cone 10 in another six using wood. Something to watch is the damp pot hiding under that glaze. My last two firings have been totally raw glazed pots with no more than average losses, caused by other factors.

Correspondence welcomed by
Glenn Beattie
Driving Creek Potteries
Coromandel

—Ed

Beverly Luxton working with lustres

Four years ago Beverley Luxton discovered that porcelain provided the scale for working that she finds most satisfying. At the time she'd just completed a 96 cubic foot oil-fired down-draught kiln so she keeps on with domestic stoneware and earthenware planters to fill it. The porcelain lustres are fired in an electric kiln, but with an eye to the future she thinks that a small L.P.G. kiln would be more suitable. The basic glaze firing is reduction fired in the oil kiln. Glazes are her special interest. Beverley lives in a new A-frame beyond Auckland's south eastern suburbia, in the country near Whitford. She is a member of the New Zealand Society of Potters and Auckland Studio Potters.



While there are many different types of pottery I admire, perhaps the exquisite porcelain of the Sung Dynasty has a special appeal, hence I gain most pleasure from making small porcelain pots. There is little doubt that a potter's physical abilities, and probably personality, are reflected in his work, so I suppose this is evident in my own pots. However I admire and envy the potters who make large exuberant, spontaneous pots. I enjoy turning, and thrown porcelain requires much more turning than stoneware and earthenware.

I begin by trying to picture in my mind and then sketching, how a shape should be. Sometimes when the pot is finished it looks as I had imagined it. Very rarely though! I particularly like making pots with lids because it's always a challenge to make a lid that fits well.

When I became interested in lustres it was difficult to find anyone who

could give me any information on application and firing and it was almost impossible to obtain commercial lustres in Auckland. Eventually a china painter gave me the details I needed. Much testing followed to find suitable glazes, because the base glaze influences the final appearance of the fired lustre. I had the use of a small laboratory test kiln capable of reaching 1000°C in an hour so I could have three test firings a day.

My procedure is as follows:

Choose a clean area to work, as freshly applied lustre is sticky and picks up dust which remains as a gritty surface after firing

Wipe the pot with methylated spirits to remove any grease or dust

After cleaning the pots place them in a warm oven until they are slightly warmer than room temperature

Wipe the pots with oil of lavender, obtained from the chemist, being careful to avoid finger marks on the

surface to be lustred

Apply the lustre with a brush as evenly as possible and put the pots back in the oven to dry. The pots are slid on and off the trays with a spatula to avoid finger marks

Finally fire them in an electric kiln to 750°C leaving the door ajar one inch until the temperature reaches 300°C when the fumes have been driven off

Sometimes I give a second coat which must be fired again, and if I'm using gold a second firing is required. In all there could be five firings.

It is important to keep a different brush for each different lustre and they should be thoroughly cleaned with methylated spirits after use. Lustres will never conceal faulty glaze so only those pieces whose surface is as perfect as possible are worth the time and effort.

I hope to experiment with reduced lustres when I've perfected the procedures I'm working with now.

For other Auckland potters see pages 20-25
editor

Who wants to buy a pottery?

Bethels Valley: delightful timber house, 4 bedrooms: pottery and kilns: on 6 acres of bush. \$10,000 deposit and finance available to approved purchaser. Contact John Sweden, Centrepoint, Mills Lane, Albany. Phone 4159-468.

Paraparaumu: complete privacy in 1¼ acres of parklike grounds. 3000 sq ft house, 5 bedrooms, workshop, out-buildings. Efficient 72 cubic ft oil fired trolley kiln in own housing. Enquiries to 160 Arawhata Rd, Paraparaumu, phone 87081.

Elizabeth Matheson 1889-1978

One of the first New Zealand studio potters who gave unsparing help to many beginners in ceramics, died in Christchurch in June after a brief illness. Elizabeth was an active potter from 1930 to 1973 after some initial training at the London Central School of Art and a time in Marlborough with Elizabeth Lissaman. Awarded the B.E.M. in 1973 Elizabeth was an Honorary Life Member of the New Zealand Society of Potters.

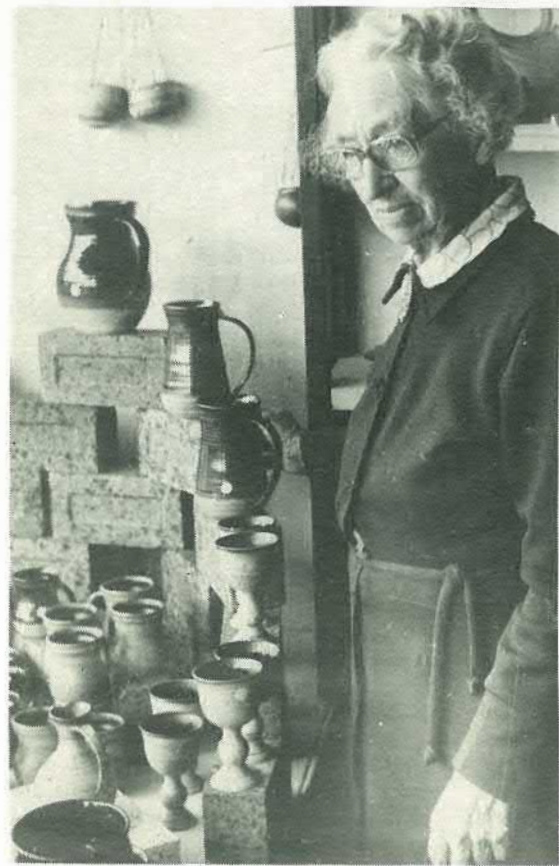


photo: Suburban Newspapers

Olive Jones pioneer potter

Forty-three years ago Olive Jones started on her pottery career making her one of the first studio potters in the country. At eighty-four she still does a daily stint to keep stocked her section of a co-operative potters' shop in Auckland.

While on a visit to England in the early thirties I enrolled at the London County Council School of Arts and Crafts doing three days potting and some modelling and spinning and weaving to fill up the week. Later I took evening classes at Camberwell, also an L.C.C. school. I had never heard of Bernard Leach or Michael Cardew, or any other studio potters or I might have taken a different approach.

Towards the end of my second year in London I made enquiries about wheels and kilns and the best type of fuel for use in New Zealand. I decided to spend my last term in Stoke-on-Trent learning how to make pots more quickly. In the Burslem School of Art I found teachers who worked in the potteries by day and taught school in the evenings. All the students were preparing for pottery jobs.

On the way north I stopped off at Birmingham and ordered from an engineering firm a plan and various parts for an oil burning kiln. I re-

member as we approached Stoke it began to grow dark with a yellow mixture of fog and smoke. All lights were on about 2 pm in mid-April and supposedly springtime. I toured several of the three hundred potteries, and was fortunate to find a Boulton reconditioned cone drive wheel which had done service in some factory and is still serving me well. I ordered from Wengers a quantity of glaze materials and oxides and found their large catalogue chapter headings almost as informative as a textbook.

Back in New Zealand in 1934, with my father's help, the cart shed and garage at home in Onehunga became the pottery and the family Ford was relegated to the lean-to at the rear. The kiln was built inside a four hundred gallon iron tank using insulating bricks from a disused iron works and keisulghur (diatomaceous earth) dug from a large deposit on the far side of Onehunga known as The Grotto.

Then I began to make pots, although my ignorance was still colossal. I made many mistakes. I knew nothing of down draughts — I just followed my plan and wasted much heat straight up the chimney. There were tons of clay beneath our feet — the common yellow stuff seen around

Auckland, good for bricks and tiles, but not for pots — good for throwing but not for glazing. I found pockets of a fatty blue clay in the papa cliffs. This was better but I carefully scraped it clean of all the papa, which was probably a mistake. Eventually I found the right mixture and stopped losing so many pots.

I showed a few pots at the Auckland Society of Arts Exhibition and was accepted as a member, and within a year held my first one-man show. Small shops began to ask for pots. I also sold from the workshop.

Then in 1939 Elizabeth Matheson of Havelock North, who had also been a student at L.C.C. Central School in London, asked if I would join with her in a selling and demonstration stall at the New Zealand Centennial Exhibition in Wellington. We thoroughly enjoyed this experience although the hours of work were long and tiring. We were the only potters there. I wonder how many such a show would draw today.

The shortage of imports created by the war caused a greater demand for locally made goods including pottery of all kinds, so I built a larger kiln of similar design but twice the size which I kept filled partly with student work. Power cuts were a plague when they occurred in the middle of a firing. I would rush out and shut everything off and bung up all vents — a cut of half an hour would take two hours to pick up. On one occasion I had just pumped up forty gallons of fuel oil to the supply tank on the roof (fuel was delivered in drums in those days — no tanker with a long hose), I ran up the ladder to check the filling, dropped a dip stick which went straight through the bottom and my precious, rationed forty gallons flooded down the roof. I rushed around collecting all possible containers and managed to save most of it to pump back into the lower drum. Each year or two I ordered a further supply of goods from Wengers which they always dispatched promptly.

It was not until November 1957 when Oswald Stephens organised the first New Zealand Studio Potters Exhibition in Otago Museum where 110 pots were presented by 15 potters that a cohesive pottery movement got underway.

In 1962, before the craft markets started a small group in Auckland opened the 12 Potter's Shop in Mt Albert Road, manned voluntarily with each potter receiving a percentage of sales, and that has provided the main outlet for my work since.

Olive Jones lives in the family house in Seacliff Road, Onehunga.

Native gardens

Our potters have always drawn inspiration from the natural surroundings in the search for form, design and texture. Some of the most distinctive pots have been the large pieces — branch pots for interiors or garden pots as plant containers for outdoors.

An interesting exhibition of pottery and plants transformed Wellington Settlement Gallery to a bush walk with a pathway of terra cotta. There was even native bird song — recorded. You could buy a big stoneware pot already planted with a delicate flowering native plant, a hanging pot with fern, a simple earthenware planter with grasses or herbs, a bird feeder or a fountain.

The exhibition was mounted by Bryan McDonald, a landscape designer who is keen to encourage planting our native flora and using natural informal materials to recreate the feeling of the New Zealand bush in our gardens as an alternative to the European implant of paths and lawns and flower borders. He says that with correct planting the native bird population will be attracted back to our urban areas. A growing appreciation of our native flora, over three quarters of which is endemic to this country, is making the garden centres extend their still limited ranges.

The potters* who had work in this display showed that they are in tune with this approach to gardens.

Going hand in hand with planting native flora in urban gardens, is the desire to regenerate or conserve our threatened native forests. An opportunity was provided here for the Native Forest Action Council to display and distribute literature to a sympathetic audience. Headquarters of the Action Council is at Crewenna, Box 756, Nelson. Gwenny Davis, young daughter of Harry and May Davis is National chairman and there are branch organisations in all centres.

*Juliet Peter, Doreen Blumhardt, Mirek Smisek, Judith White, Liz Stuke, Maureen Woollcombe, Benjamin Woollcombe, Neville Porteous.

M.M.H.

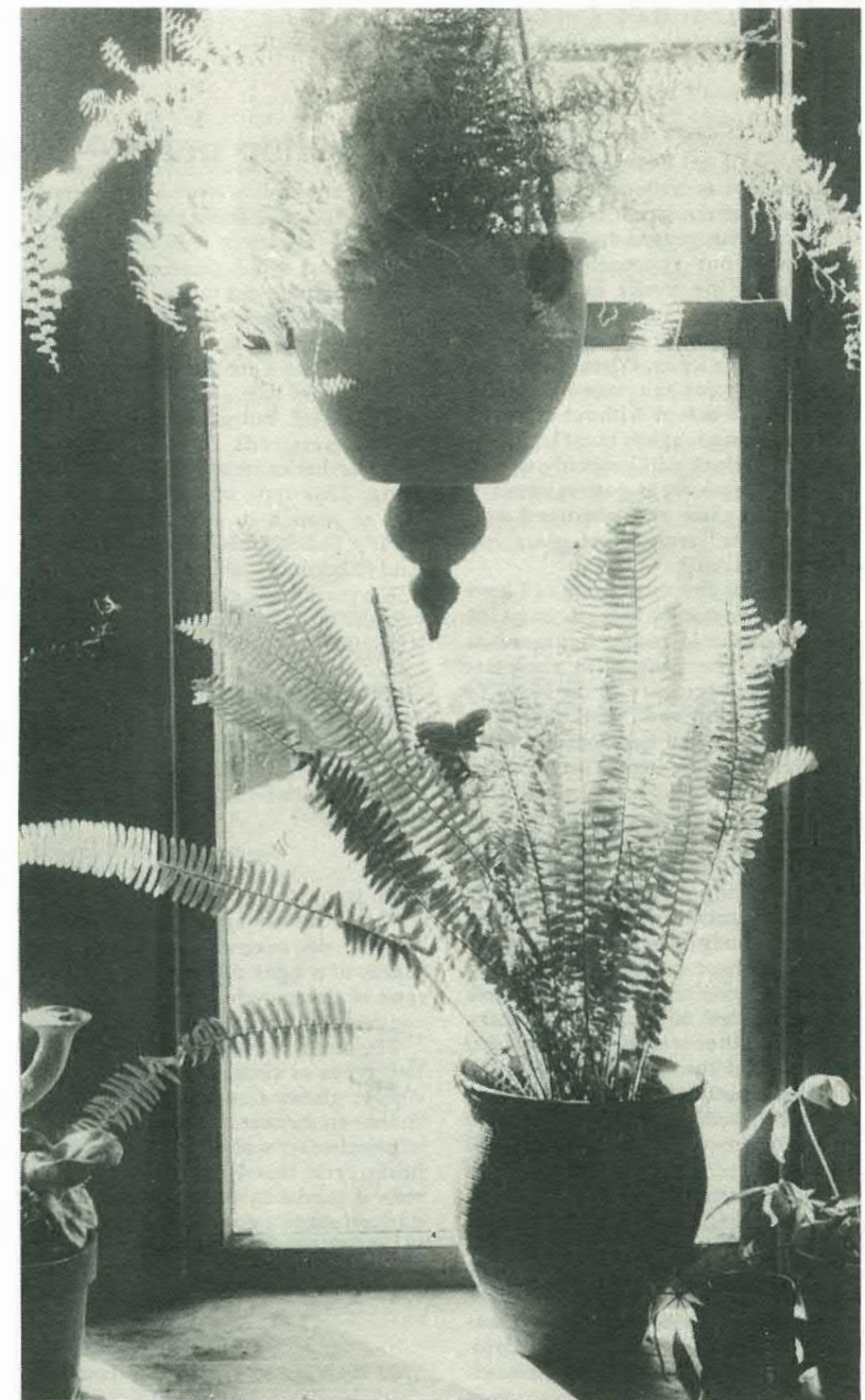


photo: Larry Jordan

GLAZES — improving predictability

Dear Margaret,

When I saw Paul Davis at the Caulfield Institute of Technology near Melbourne he showed me the work being done in their magnificently equipped ceramics department and especially his own very extensive research into glazes. He has offered to make some of his research available to us through the Potter.

regards
Jack Laird

The craftsman's hangover

Recently it has been brought home to me that we as craftsmen suffer from the school of the Leach tradition; not so much with regard to design but more with our approach to understanding of the media in which we work. We have, in the past, accepted with blind hope the ever-changing results from our kilns. When, for example, the ash for our favourite glaze runs out, we accept without question that a new batch of ash must be found and a new glaze will probably ensue. How often have we as potters admired a particular glaze and wondered with what "magic" recipe that glaze has been formulated?

In the past couple of months I have had the opportunity to work in an industrial ceramic research organisation. After working with chemists who demand accuracy as the norm in such establishments, one begins to realise that all that has formerly been a mystery need no longer be a burden of the potter's life. I have learned that through using particular methods of calculating glazes, bodies, and firing cycles, that the same result can be achieved using different raw materials with far greater predictability than was previously expected of a potter. How often have potters taken a Seger ("RO") glaze formula from a book and attempted to recreate the glaze using the theoretical formulas for feldspar and the like rather than the actual chemical analysis of the materials to be used? Have you ever asked yourself the question: "Why do I bisque fire to 980°C instead of 1000°C?" Often it may only require an extra 10°C to eliminate the quartz anomaly in the body.

These are the kinds of questions and situations which present-day professional potters could begin to understand as ceramists as well as potters. It seems to me that understanding and accuracy are no longer areas which need to be considered "filthy industrial". There is no reason why understanding should inhibit creativeness in the craftsman.

by Paul Davis

Workshop notes — recipes — firing schedules

It is important to realise that there is no one particular firing to suit all types of glazes. Therefore it is necessary to understand what firing cycles suit which of your glaze types.

Iron glazes respond best to an atmosphere that is not too severe in reduction. (There are three major exceptions to this rule — celadons, chuns and teadust). But glazes such as tenmoku, iron reds, crystalline reds react far better in a lighter reduction firing. This type of cycle allows the iron to remain in a rich state of red (Fe^{2+}). But in a heavy reduction they tend to become a little muddy (FeO).

A typical firing cycle might be:

0-1000°C	Oxidize
1000-1020	Slight reduction for body colouration
1020-1200	Oxidize
1200-1300	Slight reduction at intervals (10 minutes in each half hour)
1300-Soak	A period of kiln soaking in a strictly oxidizing atmosphere

The above example suits glazes such as eggshells, magnesia, and in general glazes of a light colouration. But this type of firing cycle is not suitable for copper reds, chuns and celadons.

The main difference between the two types of cycles is in the fact that copper glazes should not be given a chance to oxidize, otherwise the real oxblood effect will be lost. The type of firing cycle that I use for my copper reds is markedly different. Firstly reduction starts a good deal sooner than in the other firing cycle.

0-750	Oxidize
750-1020	Light reduction, just a wisp of blue flame from the spyhole
1020-1060	Heavy reduction, yellowish flame of about 8-10 inches from the spyhole. (Some people claim that reduction to

this extent is both wasteful of fuel and no more effective.)

I have tried lighter reduction and only achieved less satisfactory results. (After all early Chinese firings experienced heavy reduction from the mere nature of the fuel.)

1060-1260	Only slight reduction
1260-1280	Heavy reduction prior to glazes melting completely
1280-1300	A lighter reduction
1300-	At this point oxidation is optional and depends entirely on the nature of the glaze, e.g. a fluid copper red could be oxidized providing the glaze seals in the red. However the following points should be noted:

1. The previous statement is one of the main requirements of a good copper red.
2. I have discovered with my reds that they take on a slight bluish appearance (neutral fired copper) when oxidized at the end of a firing.
3. I seal my copper red firings off with wood in the firebox.

KHAKI CONE 10 REDUCTION

Potash Feldspar	42.5
Whiting	10.0
Magnesium Carbonate	2.5
Kaolin	15.0
Silica	30.0
Iron Oxide	7.5

In between iron red glaze and tenmoku. Use this glaze as a base to build white and light coloured glazes on top.

CHUN GLAZE CONE 10-11 REDUCTION

Potash Feldspar	65.0
Ash	25.0
Whiting	5.0
Kaolin	5.0

Use this glaze over the top of a tenmoku for a blue Chun effect. Apply thickly and reduce heavily.

KORYO GLAZE CONE 8-9

Potash Feldspar	60.5
Whiting	13.8
Talc TS	7.0
Silica	18.7
Bone Ash	1.5
Fe_2O_3	0.5

Excellent deep blue Chun type celadon.

AUTUMN BROWN AND BLUE MOTTLE CONE 9-10 REDUCTION

Potash Feldspar	51.8
Whiting	13.6
Kaolin	6.4
Flint	19.1
Iron	3.0
Rutile	3.0

An interesting glaze suitable for both production and individual pieces. Varying the thickness produces different effects.

CLAY BODIES

PORCELAIN CLAY BODIES CONE 10

K38 Kaolin	45.0
Potash Feldspar	30.0
Calcium Carbonate	1.0
Bentonite	0.5
Silica	24.0

Translucent but difficult to throw.

TRANSLUCENT PORCELAIN CONE 10

Soda Feldspar	12.0
Potash Feldspar	18.0
CIX Clay	40.0
Silica	15.0
Pyrophyllite	15.0

I would not recommend that the body be used by beginners, patience would be needed for professional potters, results are excellent.

STONEWARE CLAY BODIES CONE 10 BUFF STONEWARE

Axedale	45.0
Rowsley	15.0
K38 Kaolin	15.0
Milled Hallam	20.0
Feldspar	5.0

Excellent tight body for glazes. Light bodies suit most glazes as they make a great influence on the glaze itself.

BATWASH FOR STONEWARE CONE 12

Zircon Flour	78.0
Kaolin	20.0
Bentonite	2.0

Apply thinly.

GLAZES:

The following glazes were developed in an L.P. gas kiln and fired to 1300°C. They are designed to be modern proto-types of Chinese glazes: made famous through the tea ceremony.

CLEAR PORCELAIN GLAZE CONE 9-10

Potash Feldspar	24.0
Silica	20.0
Kaolin	10.0
Whiting	10.0

Oxidation or reduction, use medium thickness over porcelain. Snow-white glaze sometimes crackles.

BLUE GREEN CELADON CONE 9-10 (KINUTA TYPE)

Potash Feldspar	48.35
Whiting	14.50
Magnesium Carbonate	0.15
Soda Ash	0.50
Kaolin	8.50
Flint	28.0
Iron Oxide	0.5 chung type
Iron Oxide	1.0 green celadon
Iron Oxide	1.5 northern celadon

CHUN GLAZE 1300°-1320°C

Potash Feldspar	54.8
Kaolin	1.5
Dolomite	10.1
Flint	25.4
Whiting	8.1
Iron	1.8
Bone Ash	1.5

This glaze requires a heavy reduction and a clay body rich in iron. A rich lavender blue if applied thickly.

OXBLOOD RED 1300°C

.2493 Na_2O	} 3.324 SiO_2
.1385 K_2O	
.6121 CaO	
.34626 B_2O_3	
1% SnO_2	
3% CuO	

BATCH:

Potash Feldspar	34.91
Soda Feldspar	28.27
Whiting	9.89
K38 Kaolin	2.48
Colemanite	9.0
Silica	11.38
CuO^2	0.3
SnO^2	1.0

This glaze should be oxidized to 1015°C then heavily reduced for 50°C, then light reduction till 1300°C. The glaze should be used on porcelain or white stoneware body.

TEADUST GLAZE 1300°C REDUCTION

Potash Feldspar	43.0
Whiting	17.0
Ball Clay "C" (Steetley Minerals)	13.0

Talc	8.0
Flint	27.0
Red Iron Oxide	10.0

A black glaze rich with moss green coloured crystals, apply thickly over iron bearing clay. (Devon or NZ Ball Clay may be used.)

EGGSHELL MATT CONE 10 REDUCTION

Potash Feldspar	70.0
Whiting	5.2
K38 Kaolin	35.0
Dolomite	25.2

Use Bacchus Marsh coarse dolomite for best results. This glaze produces a cream mottle glaze tending towards a fawn, because of the coarse dolomite in the glaze.

(NZ Dolomite is applicable.)

JADE GREEN MATT GLAZE

Potash Feldspar	43.0
Whiting	17.0
Ball Clay C	13.0
Silica	27.0
Red Iron	4.0

Beautiful fat glaze Jade green in colour.

(For K38 or C18 use either Cornish China Clay or Georgia Kaolin. NZ Te Pene Clay may be substituted for glazes, but it will change the throwing quality for bodies.)

These notes were first published in the Victorian Ceramic Group newsletter.

Available now "Potters in New Zealand"

An illustrated directory of the members of the New Zealand Society of Potters, lists of names and addresses of potters. The potters themselves have provided details of their work, background and training, and the times when they can be visited. For travellers and tourists maps show the location of each potter, and there are sections listing art galleries and museums with ceramic collections, craft shops, and galleries selling New Zealand pottery.

With 120 black and white photographs the Directory costs \$3.00 NZ (overseas \$3.50 Aust., £1.90 Britain, \$4.00 U.S.A. and elsewhere) and is available from N.Z. Society of Potters Cl- Box 12-162, Wellington, NZ. Cheques, drafts etc should be made payable to "New Zealand Society of Potters", overseas buyers may use international money order. The edition is limited and early ordering is advisable.

Pottery in Australia

Published twice annually \$A7 from 48 Burton St, Darlinghurst, NSW 2010.

Also other publications.

In pursuit of a glaze

Beryl Jowett

The following quotation comes from an article on porcelain making by John Reeve in *Pottery Quarterly* Vol 11 No 44.

"There is no way to make one beautiful glaze or clay body by purely theoretical means. Whichever method we use, it can only (at best) tell us where to look. The exact quality of beauty evades analysis and calculations and is too subjective to show on a slide rule. In the end all methods are empirical (experiment and observation) and the choice is up to you and me.

At the same time to reject any useful tool (such as glaze calculation) because it is too limiting for an Artist, is to cut the nose and remain faceless. Tools may be extensions of human consciousness, or they may be amputations — the choice is ours not theirs. A knife as a tool is indifferent to whether it is used to cut Madeira cake or the throat of an enemy. The knife does not care, nor can it take over the soul of its operator . . ."

The wisdom of these words was brought home to me very forcibly in my search for a Shino type glaze successful in oxidation. I chose a formula which I would have expected to be grey-white in colour, to craze, to have little flow and to fire around 1260°C:

$$\left. \begin{matrix} K_2O \\ Na_2O \ 1.0 \\ CaO \end{matrix} \right\} A_2O_3 \ 0.6 \left\} SiO_2 \ 4.2$$

the recipe being:

potash Feldspar	80
Whiting	10
Flint	10

I used the glaze on my normal stoneware body and on firing, it turned out as expected, though with no blush over an iron wash which would have made it an acceptable Shino type. Also it had a rather large crackle which would have been much smaller without the 10% flint. However I put a small sample at the back of the shelf, where it got slightly hotter, and the result of this set me on the track of what turned out to be a glaze of the most subtle depth and mystery which gives me a feeling of utter peace and joy whenever I look at it, though of course, it may not please others.

This time there was quite a different crackle pattern — it seemed to be a

regular five sided shape, and in the following firing of about 1275°C where I had a thick run of glaze there were five sided shapes within each other. At this I became really excited and next time I put into the kiln a bowl glazed heavily ($\frac{1}{8}$ "– $\frac{1}{4}$ " thick, and removed it from the kiln at the stage when it left scorch marks on a teatowel, for I just could not wait to see what had happened. Of course it started to ping immediately and I began to stain it with Indian ink and the brush bristles fizzled up. I now use cotton wool instead of a brush. The staining showed up the five sided shapes alright and after an hour or two there was a beautiful crackle pattern with three or four five sided shapes within each other. This later crackling was beneath the surface of the glaze and would take no stain. The appearance of the glaze is a translucent misty grey of great depth.

I have been able to repeat the glaze pretty much at will, but it needs careful control at every stage and a total involvement to achieve its special

quality. Its main drawback is a tendency to pit, and the ecstasy of an infrequent perfect result is unbelievable. Also the glaze has to be applied so thickly that it makes the lightest bowl heavy.

If any potter cares to experiment with this glaze perhaps they would share the results in these pages. I am trying to achieve a subtle greenish-olive amber colour but so far any oxide addition has eliminated the crackle and the colours have been harsh.

Although a great admirer of the Shino glaze in its true form, by following a "hunch" from observation of the faults of my original theoretical glaze composition, a glaze of (to me) even greater beauty has evolved, and perhaps that is why I wanted to share John Reeve's words with other potters who may not have read them, for they struck a most sympathetic chord with me.

Correspondence welcomed by Beryl Jowett, R.D. 1 Dunedin. — Ed.

Shiga Shigeo visits

An enthusiastic gathering of some 100 members of the Wellington Potters Association greeted the Japanese potter, Shiga Shigeo at Education House, Wellington on 31st May.

He held the audience enthralled with his presentation of a fascinating film and a comprehensive series of slides.

The film showed the work and methods of production of the traditional Japanese potter, Toyozo Arakawa. Toyozo Arakawa has achieved the status of National Treasure in his homeland for his accomplishments as a potter and in particular for his remarkable Shino ware. The film showed the potter working on traditional tea ceremony bowls using techniques based on the revival of ancient Shino traditions following the discovery of old Shino shards. His semi-aboveground-type kilns built after painstaking research of ancient kiln sites, are the only kilns of their type in use in Japan today, and were perfected only after years of trial and catastrophe. Examples of Toyozo Arakawa's work, particularly the Tea Ceremony bowls are revered among Japanese ceramics.

(An article by Len Castle — "Japanese Shino Glaze" — *New Zealand Potter* Autumn 1976 Vol. 18/1 gives a great deal of information on

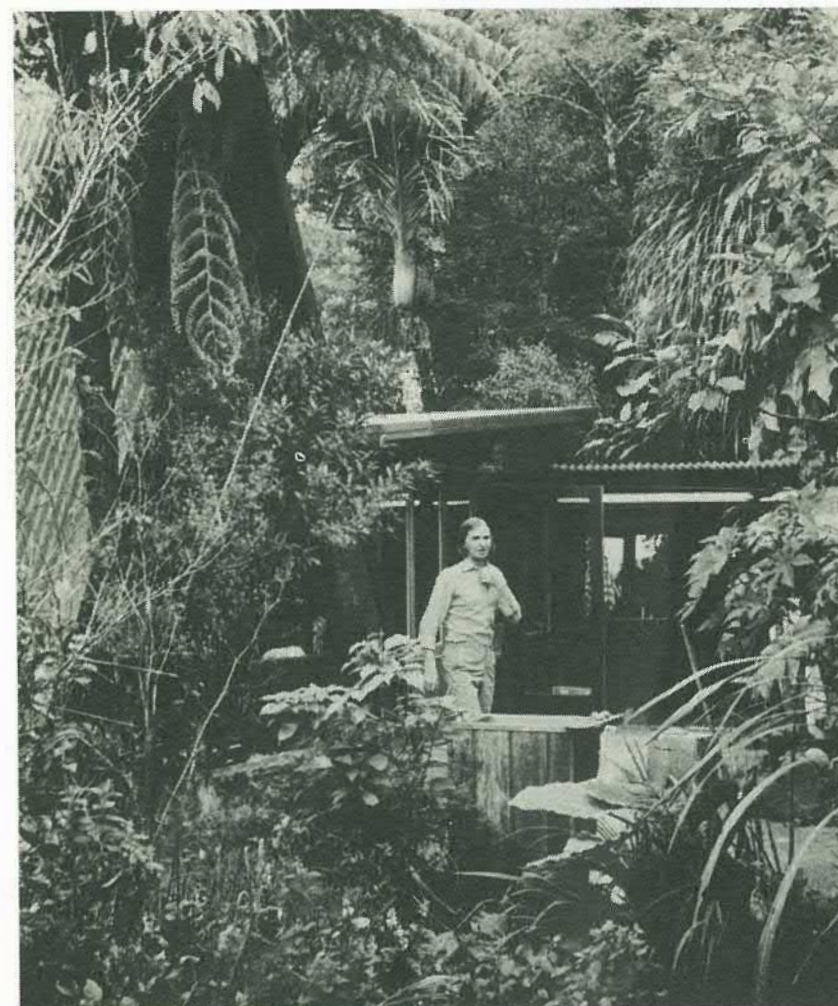
the art of Shino glazing and includes photographs of Toyozo Arakawa's kiln.)

The evening continued with a generous selection of slides illustrating the work of contemporary Japanese potters including examples of Shiga Shigeo's own work which is renowned for the glorious rich quality of glaze. Many of the examples shown were accompanied by descriptions of techniques used by the artist to obtain the outstanding effects. A touch of copper here, a little iron oxide there, a raw pot rolled in dry ash, can it really be that simple? We know it is not, but the charming Shiga Shigeo presented his examples and the manner of producing them in such a way as to surely stimulate many to have a go themselves, to experiment with new techniques, to take a chance.

It was a most successful evening, an experience rich enough to send potters back to their workshops alive with enthusiasm.

Shiga Shigeo is a Japanese born potter who has studied with Kunio Uchida, Kenkichi Tomimoto and Kiyoshi Nakajima and established his own workshop at Kyoto in 1957. Since 1968 he has been living and working in Australia.

Hilary Stirling



Levi Borgstrom Woodcarver

Levi uses exclusively New Zealand native timbers including Puriri, Rewa, Tanekaha, Putaputaweta, Kanuka, Manuka and Kowhai. Perhaps an interest inherited from his father led him to try "whittling" full-time. He carves with traditional hand tools and a spoon that sells for twenty dollars may have twelve to fifteen hours of patient work in its making. There is careful attention to balance in his work, and a sensitive handling of the grain. Pick up a spoon — use it. Warmth and integrity of craftsmanship is obvious. Many people call at Levi's Titirangi home, some bringing wood for carving, and others to buy his finished work, but most of his output is sold at Len and Ruth Castle's showroom in Titirangi or at Spectrum Gallery in Paraparaumu.

Cardew on Leach

One hates to use ready-made phrases; but in the early nineteen twenties he really was a voice crying in the wilderness, and his work was, to an extent distressing to him and discreditable to the British public, despised and rejected. That public was not yet ready for such deliberately 'unshowy' work.

Leach's potting life has been that of a great pioneer, and his influence has perhaps been greatest on those who from conviction or necessity or temperament (or all three) have the pioneer's approach to pottery. His principles, sometimes explicit and sometimes implied, may be said to have been these: Pottery is a fundamental craft and should be pursued in a fundamental way. Beware of all 'short cuts'. Begin at the beginning. The simplest materials and the simplest methods are often the best. The most primitive work is often the most refined. Potters must be artists, but they should make things that are useful as well as decorative, otherwise they are in danger of losing the common touch. Teapots, cups, dishes,



photo: Levi Borgstrom at home in the Titirangi bush.

casseroles, are just as interesting as pots for flowers, for 'Eternity is in love with the productions of Time'.

This extract, from the *NZ Potter* special issue published in 1960, is used in a book on *The Art of Bernard Leach*, published by Faber and Faber.

Potter back numbers

This is what you missed

Vol 19/1 plans for pugmill, clay blender, notes on single glaze firing and porcelain.

Vol 19/2 potters materials, porcelain, history of New Zealand potting

Vol 20/1 plans for pugmill, extruder, clay blender, saltglazing

The following six pages have been contributed by John Parker. He obtained the photographs and designed the layout. John Parker has been potting for ten years including a four year period at the Royal College of Art where he obtained an MA in ceramics. He is currently manager of Auckland Studio Potters Centre.

Eat your heart out Betty Crocker

Something is happening in Auckland.

Following the upheaval caused by Leach and Hamada in repopularising the slipware tradition and introducing the Oriental art of high-firing to Britain in the 1920's, the repercussions are still being felt in New Zealand, each time the wicket bricks are removed to reveal cone ten flattened amid the spotted hues of a few tired glaze cliches that date from 1937 and 1959.

Established potters are proliferating their previous successes and retaining the high standard of mediocrity that accompanies a static administrative approach which acknowledges that No Move is a good move, and that a timid safe success is more desirable than a grand slam failure.

A new wave of unconnected individuals has formed, who realistically

acknowledge the early influences of Leach and Hamada but who have safely enshrined them into perspective and gone on searching for new teachers and ideas.

The potters are of assorted ages and come from just as assorted backgrounds, firmly set in the 20th century with training and interests encompassing theatre, movies, nuclear physics, printmaking, art deco, television, car racing, pop music, photography and Walt Disney.

The group are all working separately within traditional techniques which predate the recent past and the lure of the mystique of the Orient, but which have fallen into disrepute in the intervening humourless hand-made years of parodying naturalism and primitivism, where a "truth to materials" philosophy was misinterpreted

and misunderstood by all but the very few, who in turn had their own work parodied.

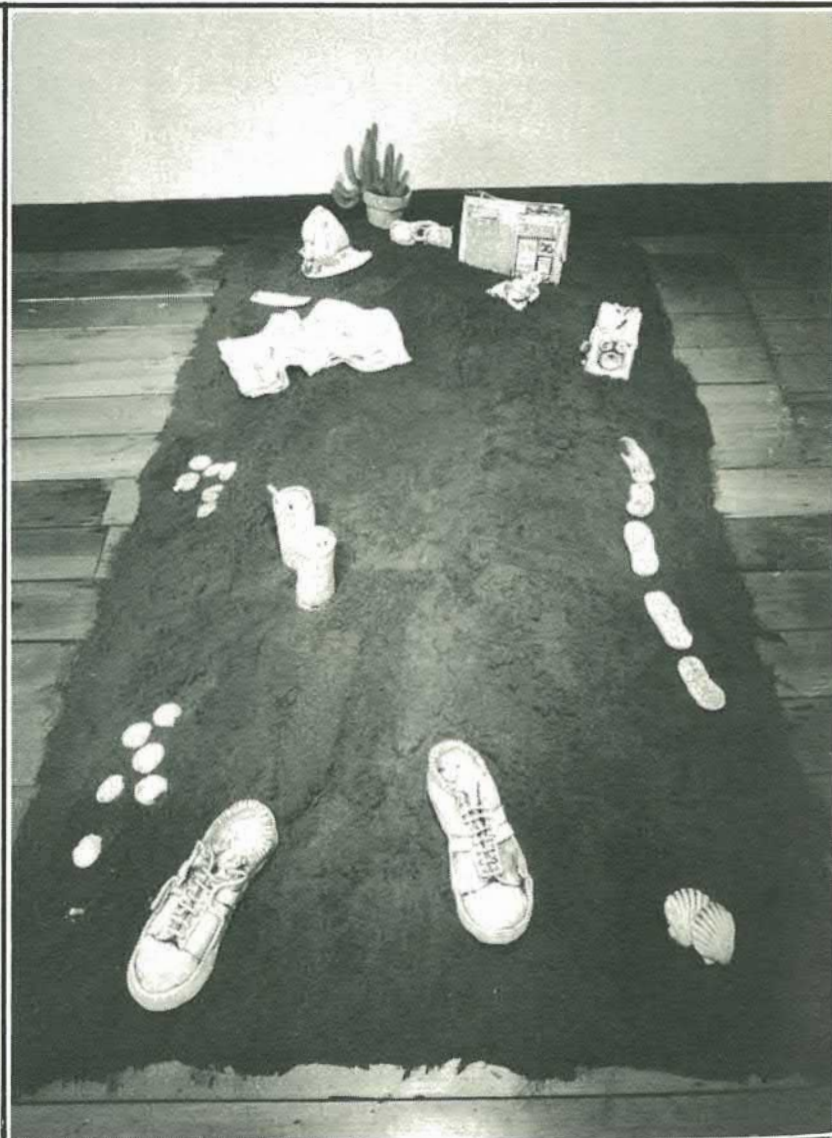
Now at last such terms as industrial, slip cast, commercially prepared, earthenware, low-fired, imported, china-painting, spray-booth, and electric kiln, may be removed from the list of unmentionables and may stand as legitimate areas for a potter to consider in a serious manner.

I have deliberately made a biased selection from within each potter's work to illustrate my point, and it does not mean that the selection represents the potters work as a whole, or more especially that this introduction conveys their opinion.

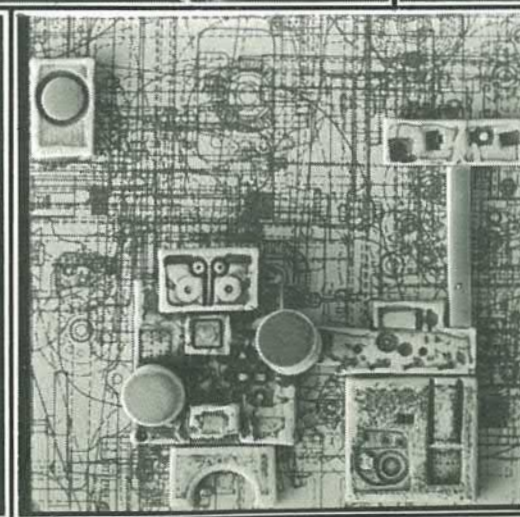
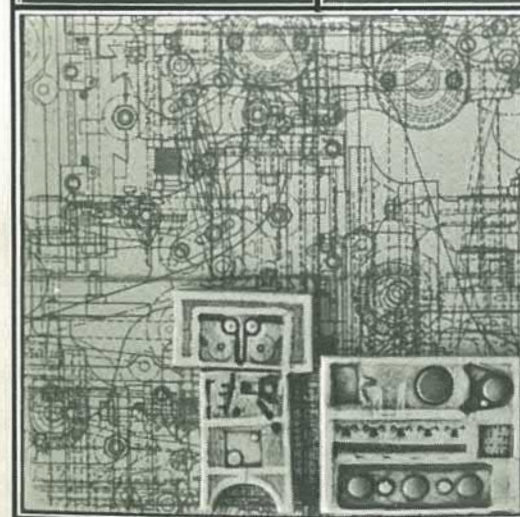
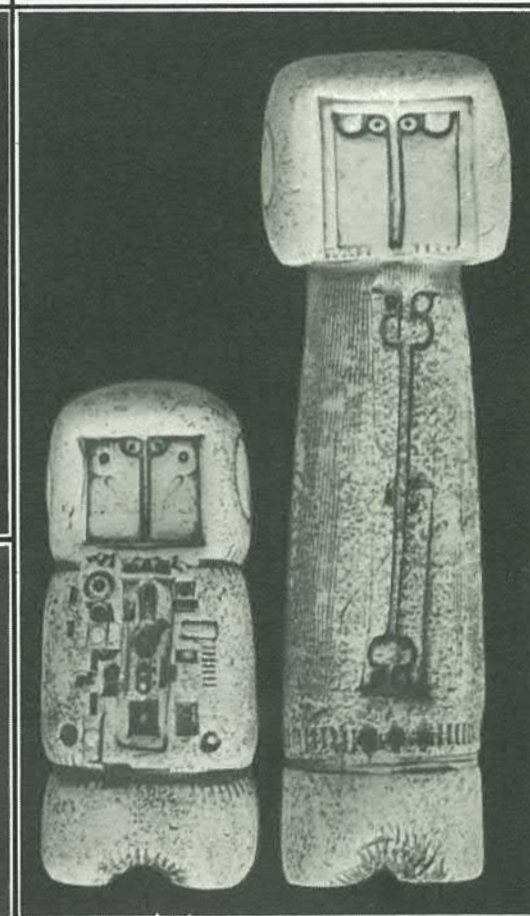
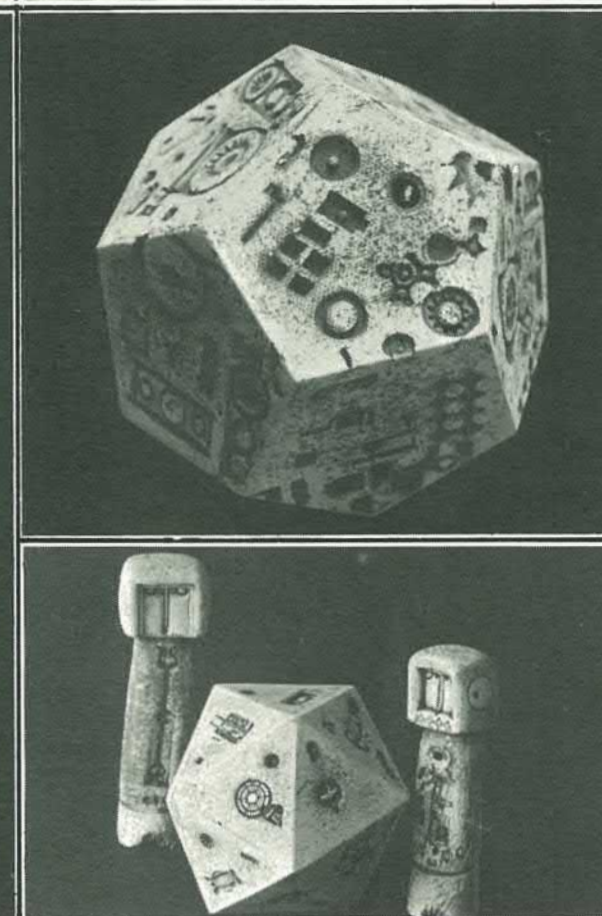
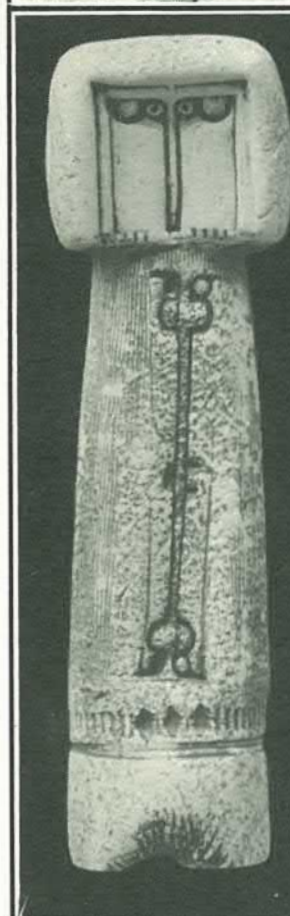
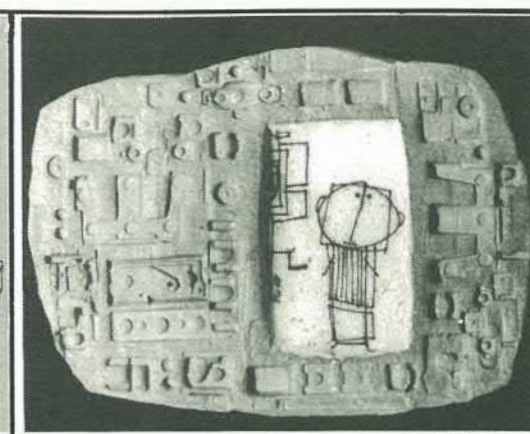
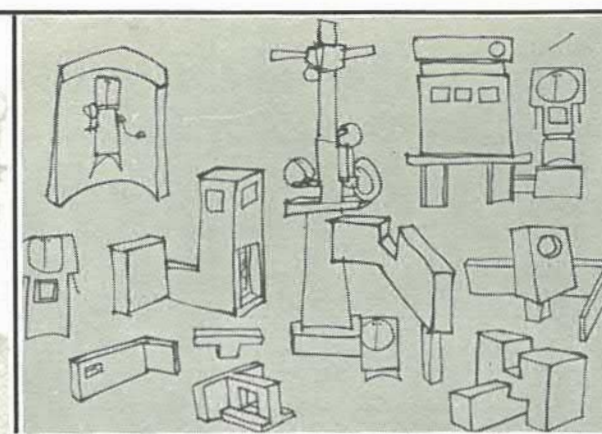
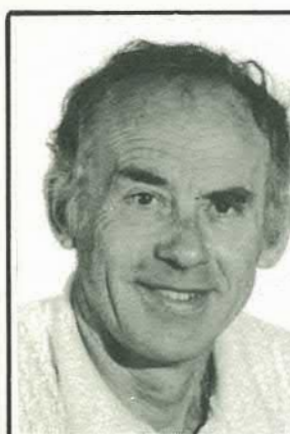
John Parker



Bronwynne Cornish



Cactus Beach.



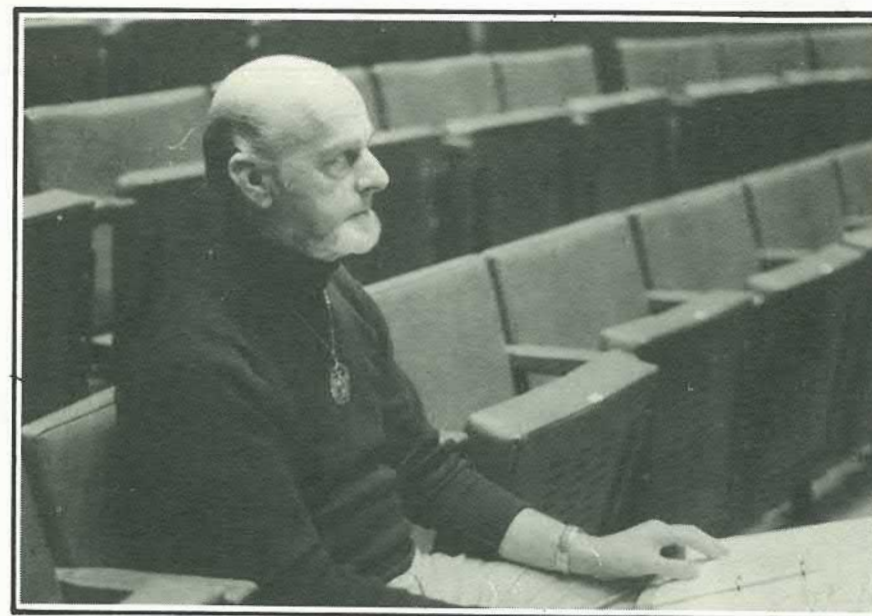
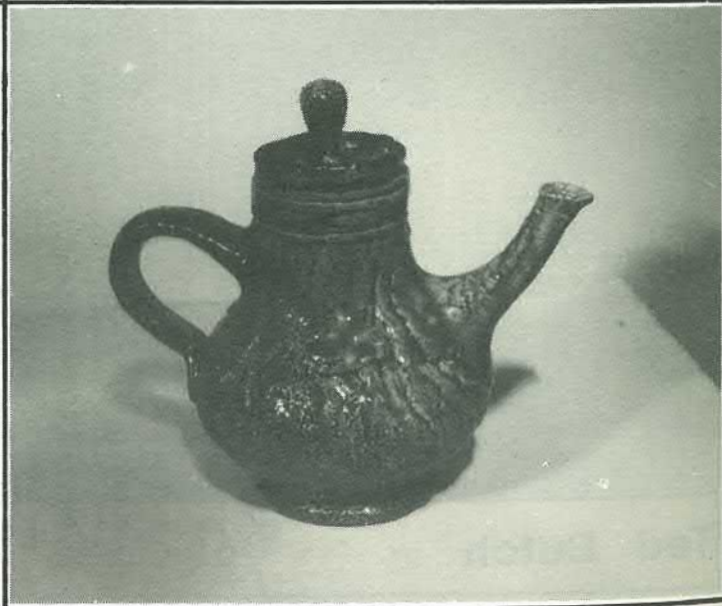
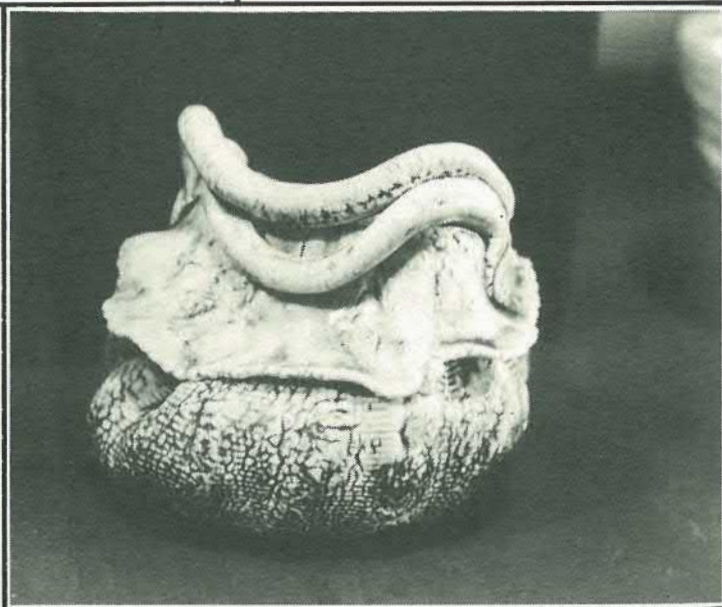
My ceramic work is an extension of my print-making, sort of 3D graphics based on 2D ideas.

I like impressing clay, the oldest printing material, with things from present day technology, such as, small electronic or computer parts and I try to create objects or figures that belong to no particular time.

Ted Dutch



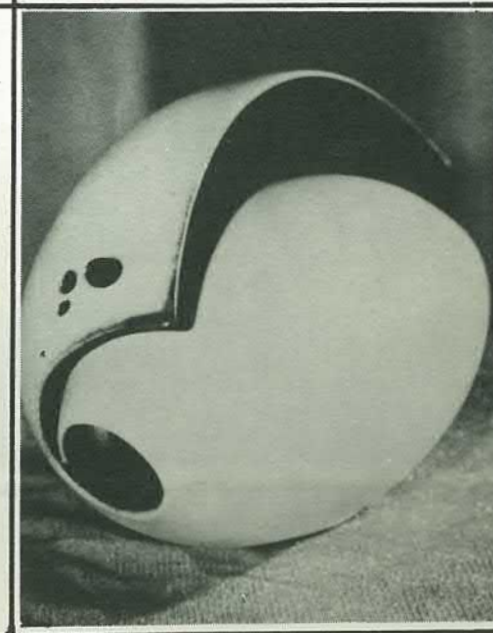
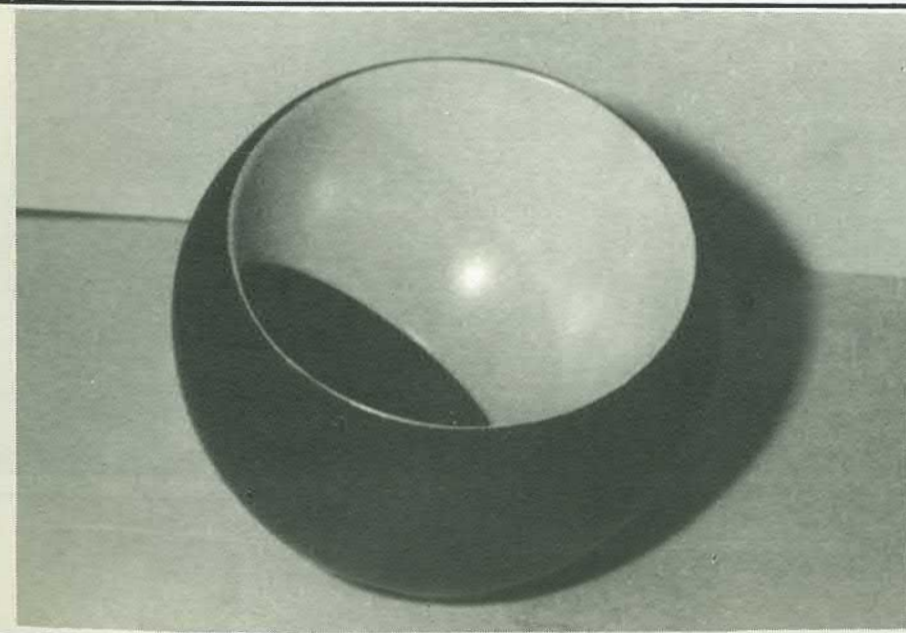
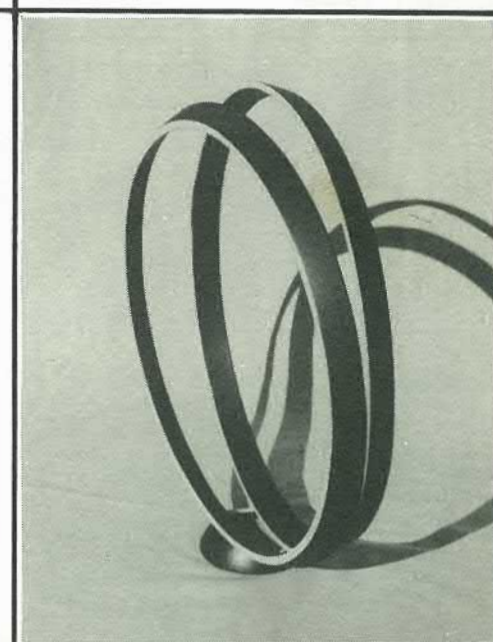
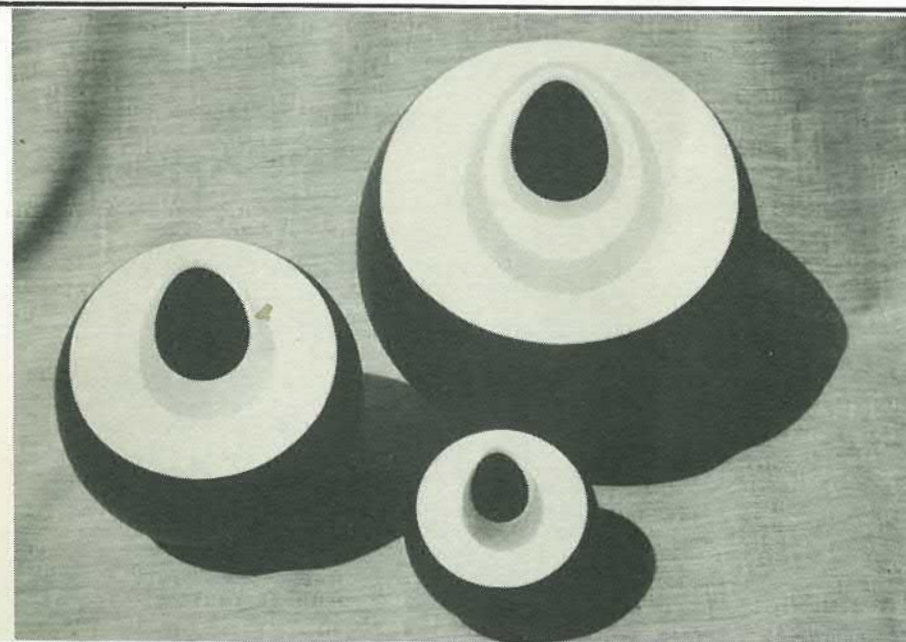
Barbara Hockenhull
c1956.



Leo King

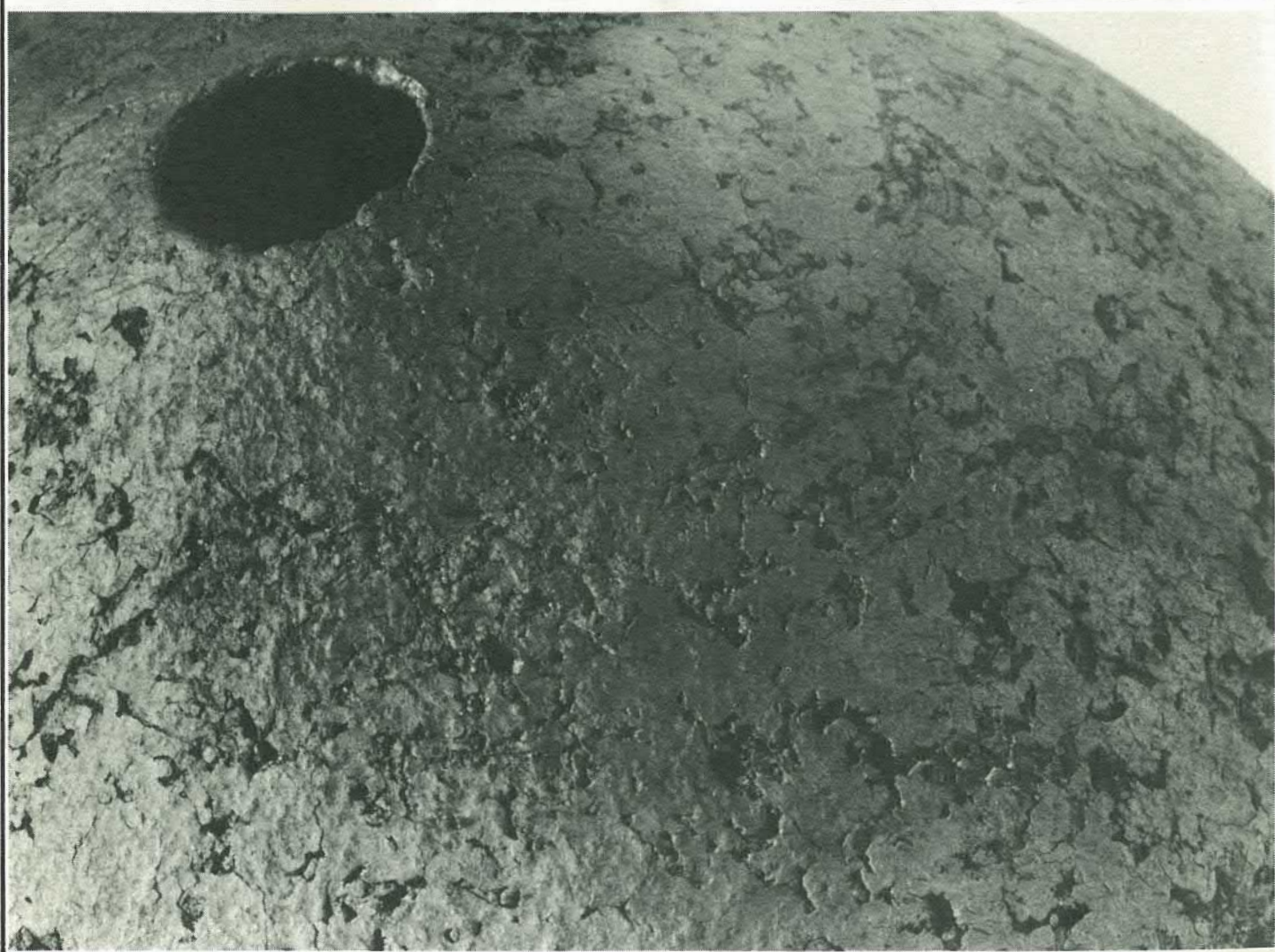
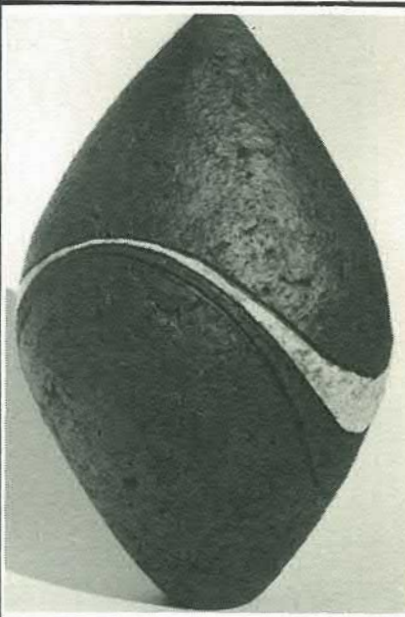
Over the last two or three years, my work has been concerned with exploring the design potential of the spherical form.

Most pieces are basically slip cast, hand formed or built and fired to 1160°C in an electric kiln.

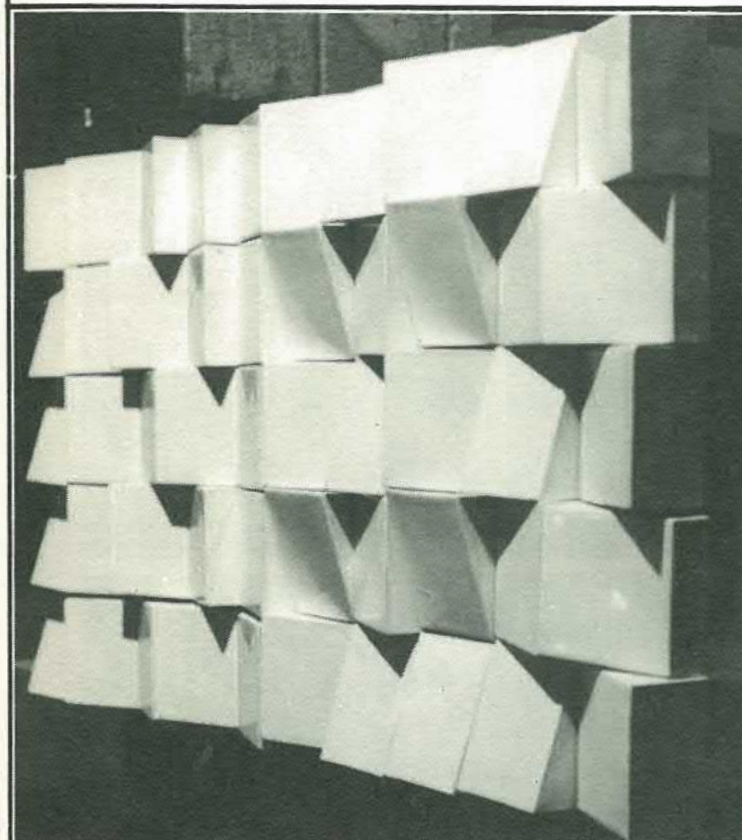




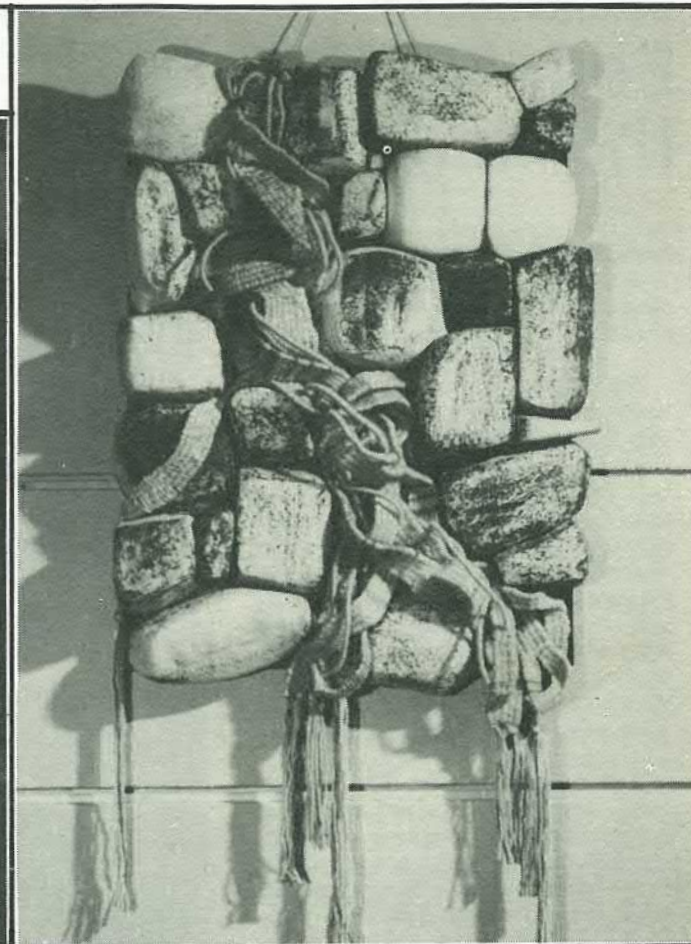
Rick Rudd



Howard Williams



Facet wall tiling, slip cast.



Waterfall. Wool by Monica Scaer.



Architectural freize.

Fear not the flame

Joan Campbell Raku potter extraordinary fired not only the pots but the souls of Christchurch potters — hear Ann Davie and after her Averil Mills —

Highlight of the Christchurch Arts Festival 1978 for potters in Canterbury was the two week period which Joan Campbell spent with us. Joan Campbell, M.B.E., self taught Raku potter from Perth, West Australia — the lists of awards, achievements and overseas distinctions which followed did not prepare us for the delight of Joan herself. We found her charming, wise, witty and perceptive with a talent for sharing her convictions that for the sanity of the world creative people with sensitivity must influence the decision makers.

Joan's opening of the CPA Festival Exhibition was bright and spontaneous "leave your divisions and criticisms aside and enjoy your wonderful craft — don't imitate other cultures, let your own country influence your work." She was guest exhibitor showing twelve Raku forms in the soft grey and pink colours of her West Australian landscape, and her three public lectures, illustrated with slides film and demonstrations reached a wide and appreciative audience.

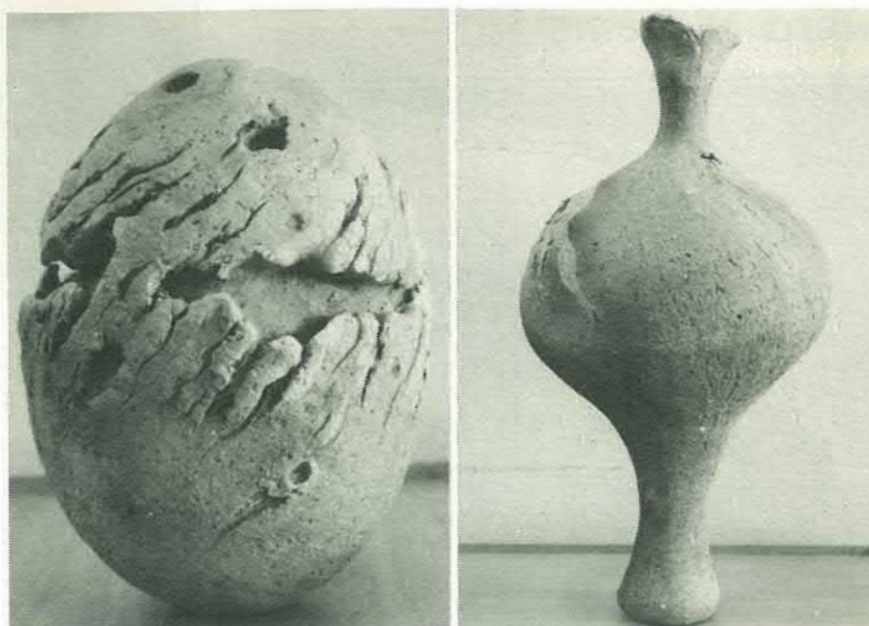
"Fear not the flame," with crossed Raku tongs, is the motto of Joan Campbell's Fremantle workshop and she and Janet Lennie, her young Australian assistant, wore the workshop's distinctive aprons during the five day school in Christchurch. It was in the school that we gained insight into the art of real Raku — of its fragility in contrast with the strength of the clay in the fire. We saw the immediacy of the method when after building and decorating the form with quiet and gentle preparation in a moment of quick decision the pot is taken from the fire.

Ann Davie

Above, Raku forms by Joan Campbell 23 cms high and 51 cms high

photos: John Connolly
Right, Joan Campbell and Janet Lennie directing operations

photo: Ewan Fordyce



On Tuesday, March 7th, Joan Campbell started working with 20 potters in the Craft Gallery in the Christchurch Arts Centre, assisted by Janet Lennie, a young potter who had just finished an eight month working session with her in Fremantle. Joan wanted the first working group to co-operate to produce a large mural on a unified theme based on circular forms, to be decorated in association with the other 18 potters who would join the school two days later. On the floor she drew a chalk silhouette, recognizably inspired by the Port Hills outline, and invited everyone to release the form by drawing circles where they wanted, after looking at the overall

pattern from various vantage points, including a step-ladder perch. The total pattern was then split into five parts and the members of each group set about producing circular forms with heavily grogged clay. Joan works with clay opened with a third of grog of various sizes.

On the second day, work on the mural continued as three separate entities because the groups had evolved into one working with emphasis on the circular outline, one stressing the curved planar faces on what were originally circular forms, and one developing circular forms flowing into each other like hills. The school was also encouraged to build large hand-built

pots, wheel-thrown or, as Joan herself often does, wheel-thrown with hand-built additions.

On Thursday the new group of eighteen potters joined the workshop. They were encouraged to make smaller raku pots and become involved with one or other of the three mural groups. Janet started organising the building of the three kilns; brick bases were made for the corbel-arch and suspension drum kilns and a two foot hole dug and brick base laid for the circular kiln.

Overnight many of the mural pieces had been biscuit fired to 850°C in the electric kilns and although many were still damp when put in and were unloaded when the kilns were extremely hot, very few broke during the firing. The three raku kilns were finished: the lower half of the round brick kiln was insulated by being recessed in the stony ground, and was top-loading with a plough disc lid; the corbel-arch kiln was front-loaded, with nine inch thick walls and refractory fibre strips for the wicket; and the suspension kiln was formed from a metal drum lined with refractory fibre which could be lowered onto the two courses of brick which formed the base. All the kilns were oil-fired.

On the last day all pots had been biscuit fired and were ready for decoration and raku firing. The kilns were brought to temperature in less than two hours — the thick corbel-arch kiln took longest but retained its heat well and fired very steadily — and were loaded and refired about every half hour continually throughout the day.

Conditions were not easy in the Arts Centre car park; but there were many tins around for reduction and straw, leaves and grasses for smoking the pots. In her concluding remarks Joan pointed out that smoking had been over-used as decoration and had been performed in a less natural way than she would have liked. She smokes her pots in a hole in the ground lined with soft, dry, pot-hugging gum leaves, sometimes applying a little pressure on the leaves against the pot, to achieve a pattern of stronger reduction. She felt too that the kilns were pushed up to temperatures too quickly.

Members of the school also learned a great deal more about raku pottery through contemplation of Joan's pots in the C.S.A. Gallery, through her slides and mainly through her daily philosophical talks, when she explained the need for wholesomeness and balance and the gradual passage back to freedom and childlike naturalness after the discipline of training.

Averil Mills

The lift off drum kiln is fired outside the Arts Centre Craft Gallery where the Canterbury potters have their rooms and workshop

photo: Ewan Fordyce



Pottery in Australia

FIRST NATIONAL CERAMIC
CONFERENCE — SYDNEY, MAY
1978

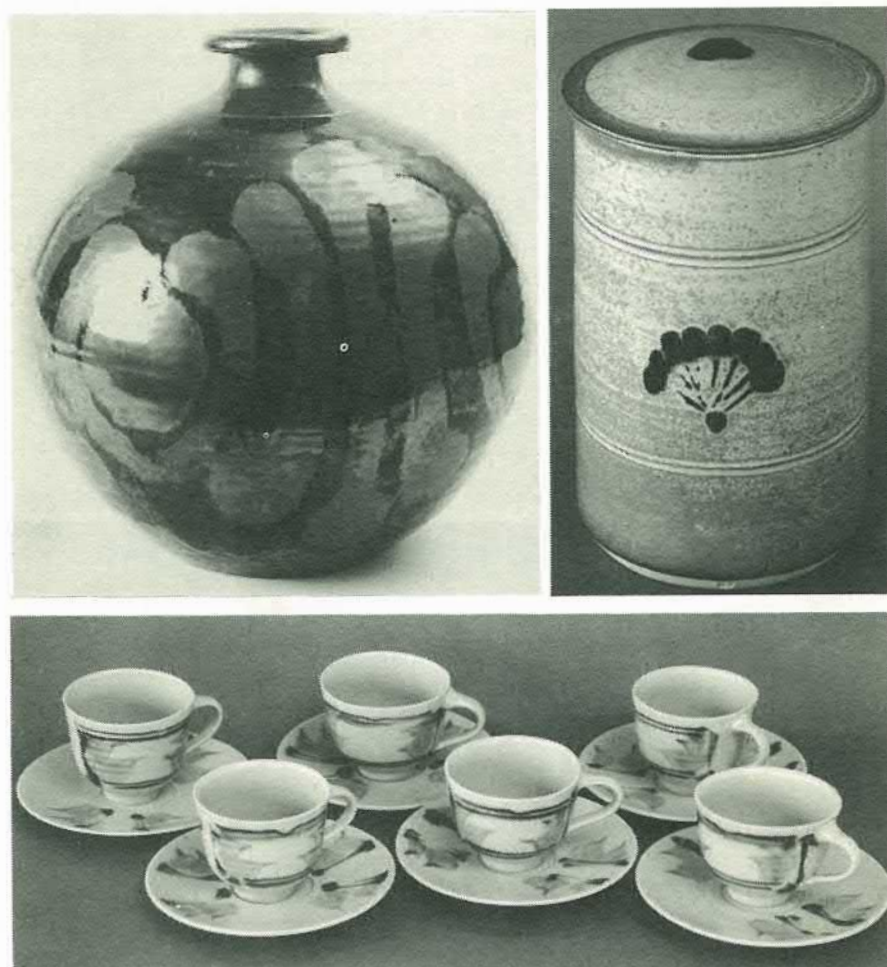
by Flora Christeller

It may appear strange that after being active for 22 years, it was not until this year that the Australian Potters' Society held its first National Ceramic Conference. Here in N.Z. we are accustomed to a national get-together at the time of our annual exhibition. While we are fundamentally concerned with problems within the society, the Australian Conference was more interested in the whole state and development of ceramics in Australia. They wanted to discover "what made it tick" and, if possible, in what direction the movement was going.

The good organisation of the Conference was the result of a tremendous amount of enthusiasm and planning. To stage a conference which would attract people from as far away as Perth, Brisbane and Hobart, as far apart as professionals, amateurs and hobby-potters, and provide for them lectures of interest at all levels, was in itself a large task; but also to assess the whole development of pottery in Australia and to come up with answers called for some very dedicated work.

In all 450 people attended the meeting, including 42 from Western Australia, which is further away from Sydney than N.Z. There was a general feeling of friendliness, and the atmosphere of the conference was exciting. Many of the lecturers stayed at the hostels with the delegates, and we all mixed happily and spent half the night talking and generally enjoying each other's company.

The conference opened with a talk by Peter Travis who was its chairman. He and Milton Moon acquainted us with the history of potting in Australia, and Joan Campbell exemplified the warm and friendly mood of the meeting by pushing away the wooden stand with the words: "I'll have nothing standing between you and me." From then on we were subjected to a programme of intensely instructive and sometimes exhausting lectures and demonstrations. The sessions lasted for 1½ hours and were conducted by three or four speakers and a chairman. This meant that a great deal of ground was covered in a short time. If anything, the amount of material each speaker had prepared was too great and often the subject suffered from being cut short or by

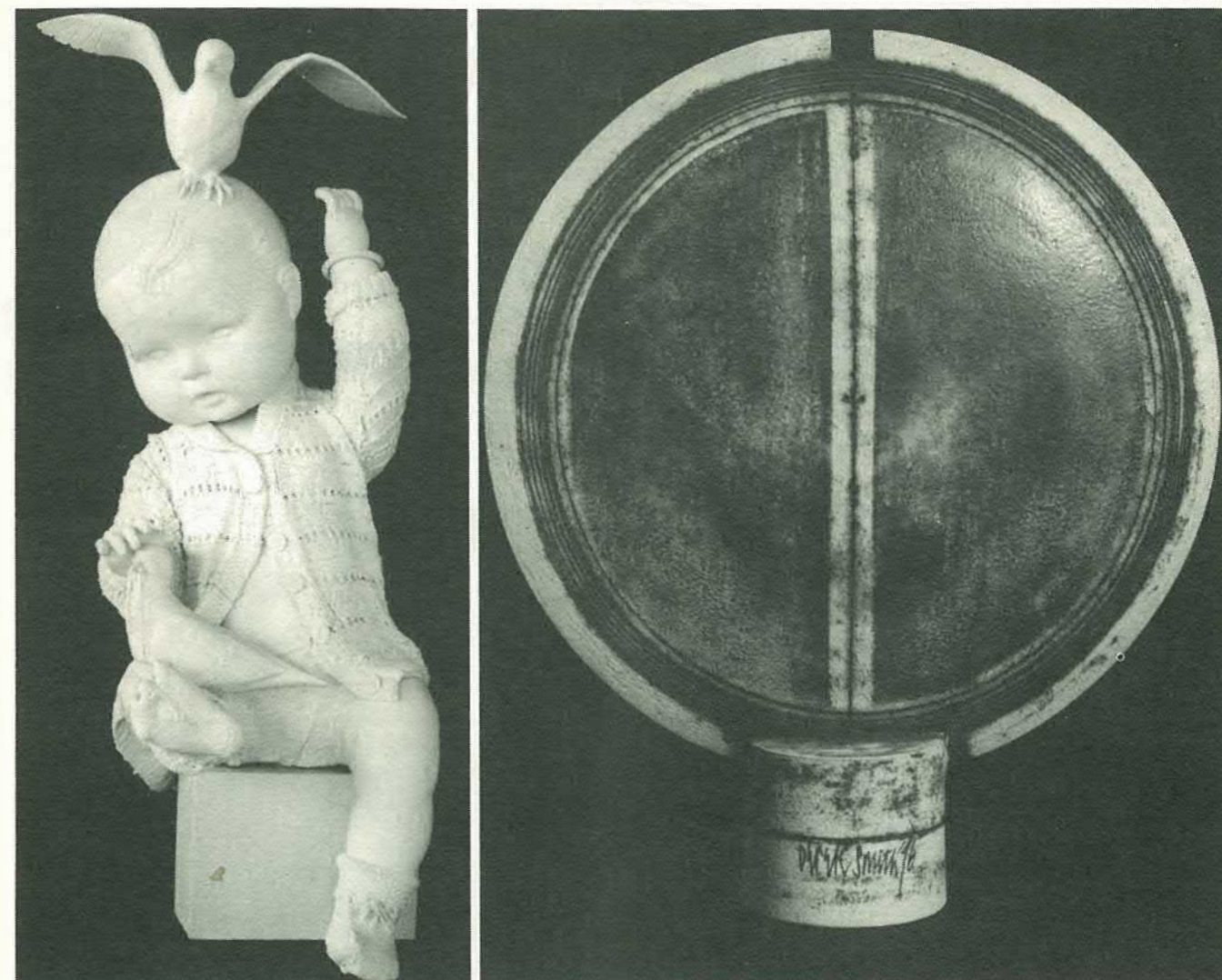


being dealt with too hurriedly. One wished for more time for discussion and questions. The lectures on subjects such as Glaze Technology, Kilns and Fuels, Salt-glazing and the practical workshops were easier to follow and were more popular. The demonstration by John Edye, Vic Greenaway and Doug Alexander featured a light-hearted but basic approach to throwing. We were able to watch both the potters and a close-up of them on the screen. Ian Currie, whose pots appealed to me, gave a demonstration of making large pots by joining two thrown cylinders.

The three Video Films of Les Blakebrough, Alan Watt and Joyce Scott at work were exceptionally good. The way these people worked was shown beautifully, and Alan's description of his methods in slipware was clear and his anecdote on how he made his porcelain doll ceramics and his trials in procuring the clothes for slip casting was very amusing. The lectures on potters' workshops, how to build them and how to make them

work, as well as on how to market the wares were well documented by Richard Brooks, Les Blakebrough, Jim and Jean Tyler, Judi Elliott and Milton Moon. The controversial theme "College training or Workshop" was well argued by a large panel chaired by Mollie Douglas, one of the early members. Pros and cons for both approaches were discussed and it was agreed that each produced a very different type of artist.

One afternoon we visited two studios, the first belonging to Richard Brooks who makes high-fired earthenware. His studio was a long, low building, divided into several rooms. His range of domestic ware was very attractive and of a high standard. He plans to return to stoneware shortly, and one can only hope that others will follow his example of working and experimenting in the mid-firing range. We then continued through the North Sydney Chase to the huge studio of Shiga Shigeo. His studio is an old poultry house with a long central bench, his wheels are ranged along



one side, and the glazing table on the other. He had recently held an exhibition in Sydney and was then almost due to leave for N.Z. to judge the "Brownbuilt Award".

Several exhibitions had been organised to run in Sydney concurrently with the conference. "The Potters' Gallery" staged one of work by those present at the conference. The gallery is located in a narrow terrace house going up several floors which was not made to accommodate the size of the crowds attending the opening. There was a varied range of pots, some very good; so we all decided to go back at a quieter time. "The Macquarie Galleries" were showing an extremely fine display of ceramics by well-known artists, and it was here that one could study and appreciate the pots that are being made in Australia today. The pieces shown were highly individual, mostly large, and not a great many in the domestic category. When one considers the size of Australia, the divergence in styles is more easily acceptable. Also many

of these potters had had Art School training, and it appeared that this training is having a big influence on the present ceramic trends. More and more students have a thorough education in all aspects of the potters craft and in other art forms, and their pots show a sophistication not so apparent in N.Z.

I saw two other exhibitions: one was a small show of pots for the garden and outdoor living. The few pots on show were large, original and interesting. The other exhibition of well made and attractive domestic ware was by Audrey Stockwin. On the whole prices were higher than here, pots from very well known artists commanding high prices, justified in the case of beautiful big pieces.

What with lectures, visits to galleries and studios and, best of all, meeting and talking to the Australian potters, the conference week was altogether greatly stimulating and enjoyable. The Conference ended with these thoughts: What are the future trends of potting in Australia? Will the

photos: opposite page above left, stoneware pot by Flora Christeller, NZ, who wrote this article, red iron glaze with wax resist decoration. Right, Les Blakebrough, Tasmania, stoneware jar. Below, Stephen Harrison, N.S.W., wood fired stoneware. Above left, Alan Watt, Victoria slipcast and applied porcelain. Right, Derek Smith, N.S.W., stoneware, 52 cms.

photos of Australian work:
Douglas Thompson

craft become more indigenous and should this end be sought by the artist? Perhaps Gwyn Pigott summed it up best by saying: "Do your own thing as well and as sincerely as you can and the rest will come."

At the end of the Conference Peter Travis showed us a delightful film of his magnificent kites — which with their kaleidoscope patterns rose, dipped and soared on the wind — and it seemed that the freedom with which these kites flew could be taken as a symbol for our aspirations as craftsmen in the time to come.



Keeping a low profile

A group of Wellington potters decided to build a salt glazed kiln in the country, forty five miles away over a mountain range. So, condition one, it should be of a type which could be built quickly: secondly, it should be of reasonable capacity but not so large that it would not be fired for months: thirdly, it should be able to take large sculptural pieces, or small items without reliance on shelves. The solution seemed to lie in providing a large hearth containing the services, under a broad low-profile roof.

In the built example the arch was placed on low walls and as a large thrust was expected, a full steel framing for the kiln was prefabricated and bolted together on site, providing the control for brickwork.

On the first day of work a concrete pad was laid. When this had set, the kiln was built over two days and on a fourth the fuel system and controls were fitted. The interior was given a wash of kaolin and alumina.

A variety of pieces, large and small, had been made and biscuited, also a range of fireclay tubular stilts with a platter top. In stacking, these permitted a complete distribution of the ware within the space with the use of some small pieces of shelving only. The rim of the platter tops retained an alumina bed in which the pot sat without risk of sticking.

The kiln was first run up at 100°C an hour on two pot burners blown by a vacuum cleaner, with natural draught suppressed. At about 800° the pots were replaced by two modified jet burners, a second vacuum cleaner was joined up, and the chimney was brought in. At 1250°, in the presence of a large gathering, a Priest blessed



the kiln, and using a long-handled ladle, introduced the first charge of salt. Thereafter for two hours the kiln was salted steadily from right and left inlets (shown on right hand side of diagram), at a maintained 1250°, until thirty pounds of dampened industrial salt had been used. Many of the on-lookers had never seen a kiln in action, and this one put up a really fine golden flame, but by the end all had placed their personal ladle of salt in the fire-breather.

The jet burner mentioned is shown

Roy Cowan

Keying the arch. David Irwin adjusting the arch by levering centrings. Gerald Christeller, Muriel Moody, Jo Weissburg, Flora Christeller and above all Roy Cowan.

(Top right Fig 1. It should be called a Ned Kelly) and comprises the usual piece of two-inch steel pipe, enclosing two oil pipes angled up at 45° and also splayed at about 60°, so that two fans of flame, each separately controlled, run upwards on each side of the arch. Where the fans are parting a firebrick

Elevation and plan. Above, the longer pot burner, an 18" side arch brick, the Ned Kelly burner and detail of oil pipes. Below, suggested rebate at arch and wall joint, and the use of tubular supports.

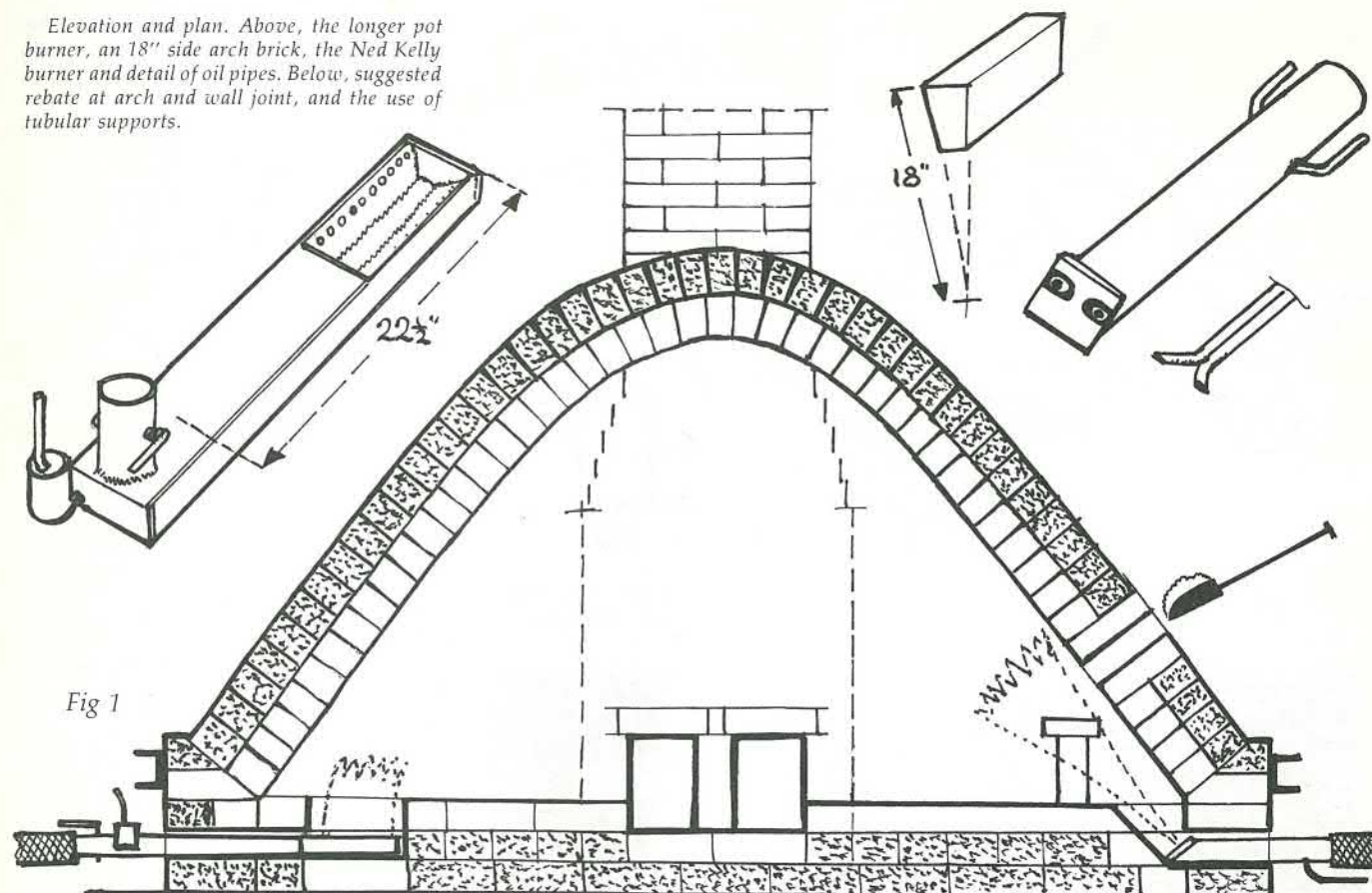


Fig 1

Fig 2

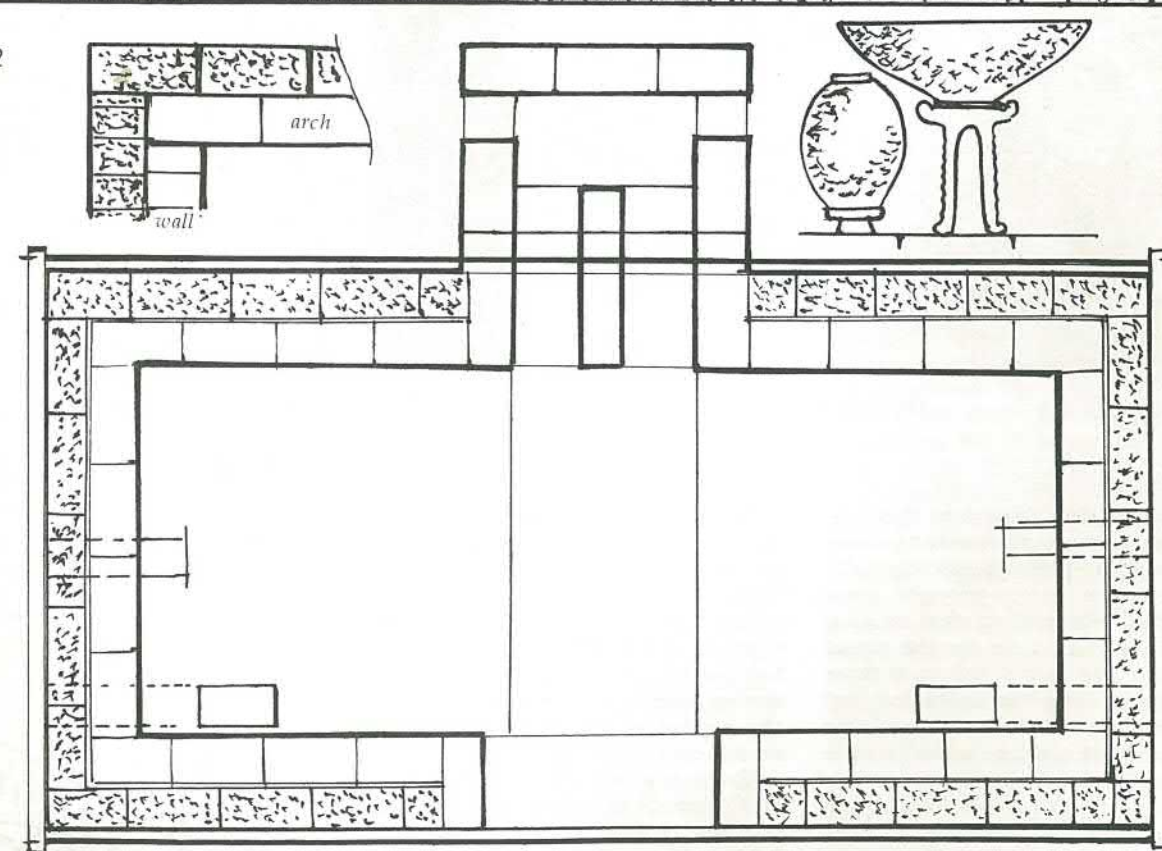


table is set, just below the salting point. The elevation drawing (Fig 1) shows this on the right, and of course the same applies to the left. On the left

in the drawing the manner of inserting the pot burners is shown. In the plan (Fig 2) the alignment of the jets, and of the two pots close to the front

wall, is shown. The body of the pot burner is made longer than usual so that it will go further into the kiln away from the foot of the arch.

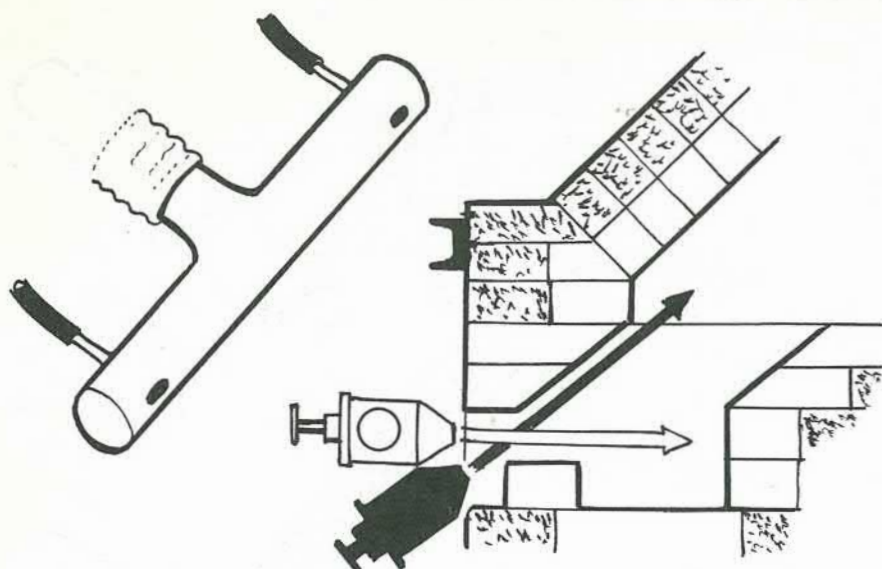


Fig. 3 Application of movable forge burner, and a movable multiple jet burner.



Ooh look! The opening photos: Jill Bagnall

The illustrated version of this kiln includes some modifications compared with the prototype as originally designed. The arch is brought down to the floor, eliminating steel framing apart from a solid tie for the actual abutment. The floor is shown at three bricks deep, firebricks unshaded, but if plenty of red bricks are available another course could be added to raise the kiln slightly. Across the centre the floor drops one course so that the two exit flues each 7½" wide by 9" high are partially submerged. This 'submergence' could with advantage be taken another three inches in a deeper floor, lessening loss of heat by radiation through cool openings.

The stack rises at eighteen by nine inches inside, in firebrick, for twelve courses, when it may change to red brick and step inwards to nine by nine inches inside and continue to from eight to ten feet total height. Two half-bricks are left out at the base for control purposes. A damper is not really needed as the short stack can be readily controlled at the top.

The arch which at nine feet width is quite something must be of accurate catenary profile. Build two half arch formers of wood and support them in a way which permits a measure of jacking up when the final closing run of arch bricks is being fitted. To form the curve shown, the top ten runs

need to be 18" radius side arch bricks, as sketched (Fig 1). The remainder comes from bricks of large radius or standards. For the firebrick grogged or sanded fireclay mortar is suitable. For the red brick, a mixture of equal volumes of the above and a cement mix comprising two of sand to one of cement will provide a blend with adequate cold-setting strength and heat resistance.

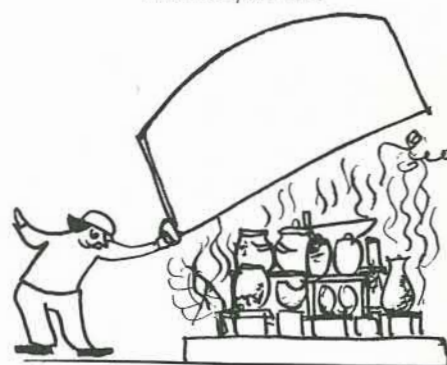
As drawn the enclosed space is 45 cubic feet. Increasing the depth by one brick, i.e. to 3ft 9in will produce 56 cubic feet. Above 60 cubic feet the exit flues should be 12" by 7½" and over 70 the stack should be 18" by 9" to the top. Those who have forge type burners such as the Major or Twiss type could apply them to this design by providing a swing mounting. In fact, the throwing of a long flame would suit this type better than the restricted setting of a firemouth.

There was an earlier version of the jet burner which lay alongside the kiln (Fig 3) and worked through apertures. This type, shown on the left of the installation drawing for the Major burner could perform the work of two or more such burners.

Finally, it seems that this shape of kiln has possibilities beyond the salt glazing function. Of course, the flattened shape has a higher surface-to-volume ratio than more efficient shapes, but as in all kiln types, the top surface is the main heat loser, in this form the top is easily insulated. The early placement of a sheet of flame over the top of the whole charge, which is disposed in a less dense pattern than in the usual solid array, appears to favour even and equal treatment of the pots. Whenever an oil flame strikes a surface, it is degraded, but in this form a larger proportion of the charge can be exposed to primary flame. As all the heavy bits and 'machinery' can be located in the hearth, the design lends itself to the lightweight lift-off type of materials.

For materials required see page 37.

Ah! Not quite done



Refractories for potters' kilns

Potters contemplating building their first kiln can be baffled over the materials they will require. We asked suppliers about refractories. This is the reply from Kamo Green.

When we offer suggestions on refractories we endeavour to obtain as much information as possible on the specific application on hand and to match the refractory to the conditions.

Factors which affect the choice include

- Kiln design
- Fuel used
- Type of burner
- Temperature gradient and soak times
- Kiln atmosphere condition (i.e. reducing, oxidising)
- Type and quality of control over firing
- Type of ware and glaze being fired
- Setting of ware in kiln
- Amount of money available both short term and long term
- Frequency of firing

Some general comments which can be made are:

The use of reducing firing conditions can reduce the maximum service temperature of a refractory by 200°C depending on the amount of reduction used.

For frequently fired kilns efficient insulation, while more expensive initially, has definite benefits in the

longer term.

Control over firing right from light up to finish is as important to the longevity of the refractory lining as it is to the quality of the ware. If in doubt as to the suitability of a particular type of refractory consult the manufacturer with as many details as possible about conditions in the kiln.

We have a range of insulating bricks and castables plus Triton Kaowool Ceramic Fibre which is finding increasing use in potters kilns, both here and overseas. Kaowool may be used either as hot face or back up insulation in potters kilns and our technical services people are pleased to be of assistance in answering questions on application.

Products for use in potters kilns.

K.G. Supalume: A super duty firebrick suitable for use in fireboxes and bag walls in most conditions up to 1550°C where Hifrax is unsuitable.

K.G. Hifrax: A high duty firebrick with good resistance to slag and spalling. Suitable for use in fireboxes and bag walls up to approximately 1480°C.

K.G. Unifrax: A general purpose firebrick suitable for use in most areas of pottery kilns except the bag wall and firebox in some cases. Can be used up to 1370°C.

K.G. P26: A 2600°F (1420°C) hot face

insulation brick which may be used in walls and roofs of kilns.

K.G. Perlbrick T20: A 2000°F chemically bonded, perlite based back up insulation brick.

K.G. Flint Latite: A medium duty air setting mortar supplied ready mixed in drums and suitable for use in conditions up to 1400°C.

K.G. Fireclay: A medium duty heat setting mortar supplied dry in bags.

K.G. Castable 135: A general purpose castable suitable for use up to 1350°C. Can be used to cast in situ shapes which otherwise would require a special shaped brick.

A.P.G. Kastset Nz: A high duty castable suitable for use up to 1480°C.

A.P.G. Mizzou Nz: A 60% Alumina castable with good spall resistance. Suitable for use in burner quarls. Maximum service temperature 1650°C.

A.P.G. Kast-o-lite Nz: Light weight insulating castable can be used as Hot face material up to 1370°C. Density approx. 85 lb/ft³.

K.G. LW Castable: A good back up insulation castable up to 980°C. Density approx. 29-34 lb/ft³.

Kaowool Ceramic Fibre: Comes in 1260°C and 1400°C Temperature Duties. Available in blanket, vacuum formed board, bulk, paper, wet felt and mastic forms. Excellent insulation properties.

Potters' Doo at Driving Creek

The Doo is an annual informal gathering of people (and their families only), who are concerned with making, teaching or collecting pottery with some degree of conviction.

The dates are 7-14 January but these are revisable by common consent if the weather pattern dictates — towards the end of January could be better. Any such change would be mentioned in the *New Zealand Potter* and the major potters societies' newsletters. There is no formal charge for admission, but a donation towards expenses may be made.

A caretaker and Doomaster are appointed before each occasion and a notice board is set up at the barn for all to read. The caretaker supervises the amenities (rubbish collection, wood, fuel, hot and cold water). The Doomaster has charge of entertainment, social events and co-ordinating the various activities as people wish.

As proprietor, my part is to prepare beforehand — this includes clearing

the paddocks, preparing the barn and arranging local events like the boat picnic trip. My duties are also to liaise between Dooists and the potters of Driving Creek Potteries.

No formal teaching, lecture or demonstration is provided for at the Doo. However people are requested to bring samples of their work to show at discussion evenings.

If people wish to make pots they are free to dig and prepare clay, and bricks and wood and sawdust are available for a kiln. As the aspect of the Doo is rather more social than tutorial, we feel that the firing of the raku or sawdust type in which everyone can have a turn if they wish.

People may stay on camping after the last official day (January 14th), for a few days if they wish. Advance and cleanup parties are welcome to help with odd chores. Anyone interested can see me about this.

People are free to explore and enjoy the property (70 acres) — there are

miles of bush tracks and a rough map is set up at the barn notice board. Fires and camping in or near the bush are prohibited. The potteries are open and work may be available for purchase if the potters want to sell.

Postscript: Thanks to the fact that Ralph Sewell now lives in Coromandel there should be a maritime picnic. His half-sized ketch rigged scow with its large deck space and shallow draught is ideal and he is a first class captain. In addition there should be one or two steam launches specially for the occasion, the traction engine will give rides and there will be wood chopping demonstrations.

We can accommodate only from 60 to 70 people so it would be helpful if those who wish to attend could let me know in writing beforehand. This also helps me greatly to recognise people and learn their names.

Barry Brickell
Driving Creek Potteries

Kiln for fast-firing stoneware

Nancy and Bill Malcolm

We fire to cone 10 in an hour, just to save time. Some potters truly enjoy the 12 to 18 hours of a traditional stoneware firing cycle, but we live on a farm, and face long jobs on most days. Biscuiting 100 goblets to 1000°C in 20 minutes is just right for a lunch-break, and we can fire glost for an hour in the evening, and open the kiln before breakfast the next day.

Contrary to what you hear, fast-firing doesn't mean broken pots or crazed glazes. It's utterly common, too — commercial tiles are fired in 30 minutes, and open-kiln raku can take as little as two minutes. Fast-firing does have its problems, though, and to solve them we had to modify our kiln. It's made of ceramic fibre, shelf and all. Many potters are lining older kilns with such fibre, usually to save fuel and extend kiln life, and so our design may interest them, even though they don't intend to fast-fire. This article describes our kiln and its construction.

A traditional kiln heats up by squandering most of its fuel to heat the kiln walls, which then radiate to the ware. Clearly, a potter can save fuel by lining his kiln with insulating fibre — the flame then heats only the ware and furniture in its path from burner to chimney. A fast-fire potter also insulates his kiln, but to save time rather than fuel. Unhappily, though, both potters stand a good chance of reaping serious heat gradients like a 'cold corner' or 'hot floor' along with the expected savings of fuel and time. After all, with the walls insulated, an even firing relies entirely on a uniform flame and ware-stack. The potter can iron out hot or cold spots by firing slowly and soaking at the end, but of course that's no solution for the fast-fire potter, and steep heat gradients are fast-firing's most worrisome problem. Indeed, our original kiln fired 3 cones cooler at the top than at the bottom, and 2 cones cooler from the side to the centre of a shelf, so we had to make some changes. To flatten the vertical gradient, we retreated to a single shelf. By doing that, we lost half

of the kiln's capacity, but with the 10-fold faster firing, we were still ahead 5-fold, and besides, we no longer needed kiln furniture, a savings in cost and loading-time. To remove the horizontal gradient, we made the single shelf into a honeycomb — the flame no longer had to go across the shelf to reach pots at the centre, but instead enveloped all the pots equally from their bases. Lastly, to ensure that the flame passed through the kiln uniformly, we added a mixing chamber below the shelf, and made the lid into another honeycomb. Seen in exploded view, the modified kiln now looks like Figure 1.

At the bottom of the kiln is a firebrick chamber for a standard pot-burner — forced-air, dieselene, burning 6 litres per hour. The flame spreads out in a venturi in a 100 mm-thick slab of refractory castable placed 50 mm above the burner. The rest of the kiln is lined with 50 mm ceramic fibre blanket. The blanket fasteners are steel bolts protected by fibre paper as in Figure 2. The flame mixes in a chamber between the venturi and the honeycomb shelf. Each cell of the shelf is constructed separately from 2 mm-thick ceramic fibre paper as in Figure 3. The cells then are glued together inside a temporary frame to form the honeycomb. After the glue dries, the honeycomb is rigidised, again dried, released from its frame, and set on the mixing chamber. The ware-chamber then is bricked-up around it, lined with blanket, and topped with a perforated lid. Our lid has 49 holes of 25 mm diameter at 80 mm spacings. The lid is welded up from steel plate, pipe, angle, and box-section tubing, and like the rest of the kiln, is insulated with 50 mm fibre blanket. The holes in the lid double as fasteners for the blanket, which otherwise would sag into the ware chamber. A corner fragment of the lid and one perforation are shown in Figure 4, and a single fastener in Figure 5.

Ceramic fibre shrinks about 5% on first firing, and our shelf sagged

noticeably at its centre. But, we just turned it over and re-fired it with 4 fibre props under it to get a flat surface again. It has stayed flat since, but we're careful not to exceed its 'continuous service temperature' of 1250°C. Although it feels brittle, it stands up to considerable abuse. It can be weakened by absorbing glaze during a firing, so we do all glaze experimenting in a masonry kiln.

The fibre paper and blanket, the glue, and the rigidiser are stock items sold by refractory suppliers like Carborundum, but they're not cheap. The insulating blanket alone cost \$150, and the steel, welding, burner, masonry, and castable cost about the same. But, the fibre shelf is what makes this kiln more expensive than other potter-built fibre kilns of the same size. Measuring only 60 cm by 60 cm by 15 cm, it cost \$300. But just as the cost of the fibre kiln is soon offset by fuel savings, the cost of this fast-fire kiln is soon offset by time savings.

Figure 1

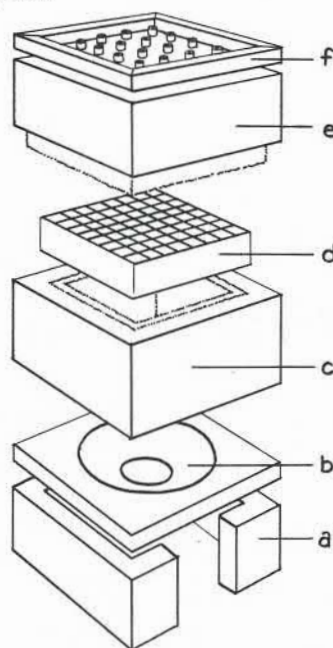


Figure 1. Exploded view of fast-fire kiln. a. Firebrick chamber for forced-air dieselene pot-burner. b. Refractory castable slab with venturi. c. Firebrick flame-mixing chamber lined with 50 mm ceramic fibre blanket, fastened as in Figure 2. d. Honeycomb shelf constructed of 2 mm ceramic fibre paper as in Figure 3. e. Ware-chamber lined with 50 mm ceramic fibre blanket. f. Welded steel lid with blanket and paper insulation, as in Figures 4 and 5.

Figure 2

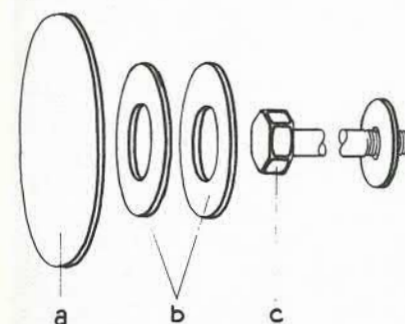


Figure 2. Fastener for ceramic fibre blanket in flame-mixing chamber and ware-chamber. a. 80 mm-diameter disc of 2 mm ceramic fibre paper. b. 50 mm by 25 mm doughnuts of the same paper. c. 6 mm bolt and washer long enough to fit through the chamber wall plus another 35 mm. Drill the chamber wall with a masonry bit for the bolt, pull the bolt up tight enough to dimple the blanket, and then glue the doughnuts and disc over the dimple.

Figure 3

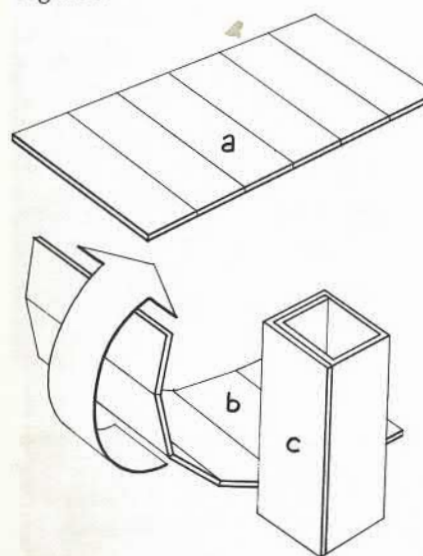


Figure 3. Single cell of honeycomb shelf. a. Blank cut from 2 mm ceramic fibre paper. For a cell 50 mm on a side, the widths of the 6 sections are 49, 48, 48, 46, 46, and 46 mm. Two of the 4 sides of the cell are 2-ply for strength. When gluing up the honeycomb, position the 2-ply sides of adjacent cells together to make 4-ply beams alternate with 2-ply beams in both directions. b. Cell being bent into box-section. c. Finished cell.

Figure 4

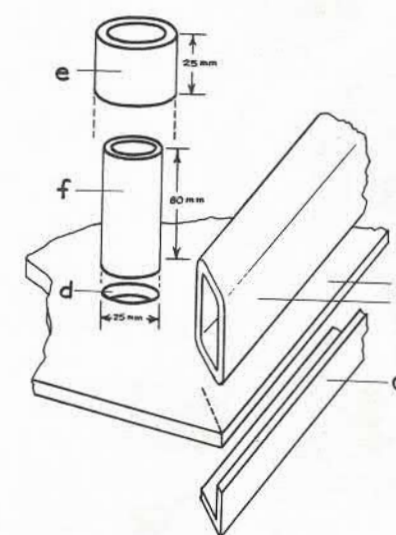


Figure 4. Exploded view of kiln lid corner and one perforation. a. Lid of 6 mm mild steel sheet. b. Stiffening frame of lid, 50 mm by 25 mm of 3.2 mm steel box-section tubing, welded continuously to lid both sides of the box-section, corners picture-frame type. c. Blanket edge protector and fastener, 25 mm by 25 mm by 3.2 mm steel angle, welded continuously to lid, outside only. d. Lid perforation. e. Section of 25 mm interior-diameter black steel pipe, 25 mm long, welded to top of lid flush with perforation. f. Perforation liner of 2 mm ceramic fibre paper rolled into cylinder. For assembly see Figure 5.

Figure 5

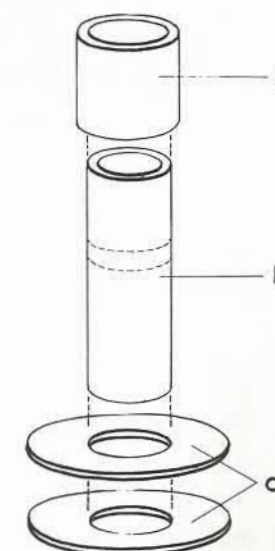


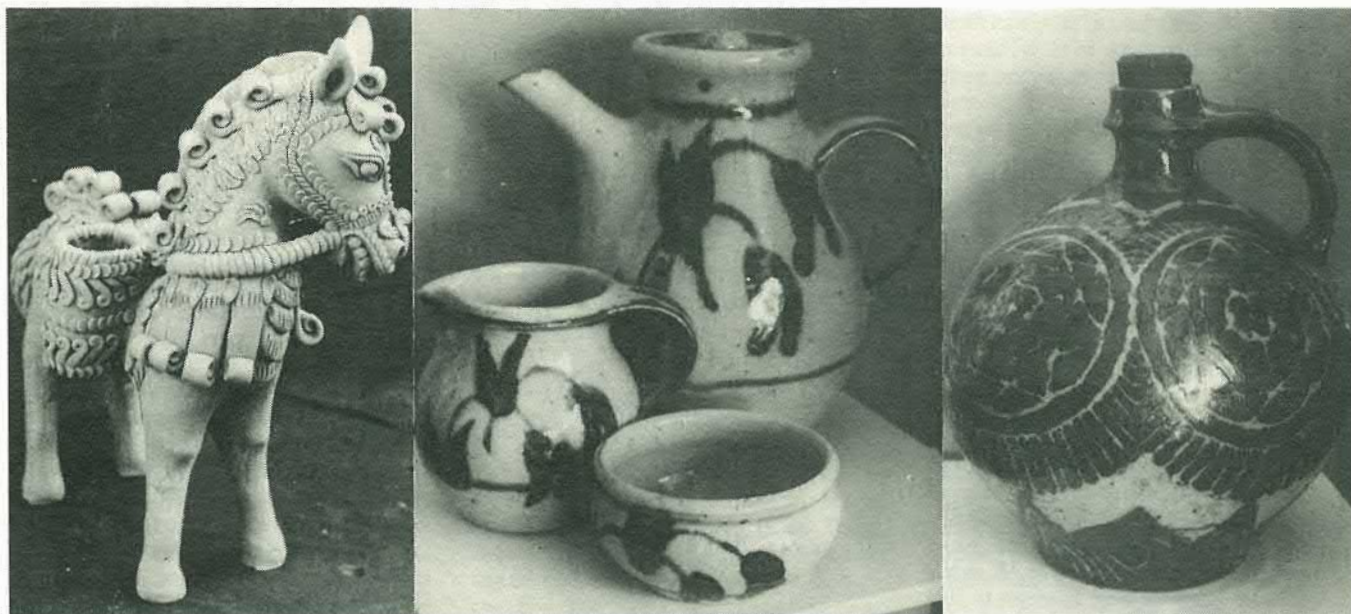
Figure 5. Fastener for ceramic fibre blanket on underside of kiln lid. a. 25 mm diameter black steel pipe 25 mm long. b. Tube of 2 mm ceramic fibre paper. c. Doughnuts of 2 mm

fibre paper. Glue the two doughnuts together, dry them, rigidise them, and again dry them. Perforate the kiln lid with 25 mm diameter holes on a grid pattern. Punch enough holes that their combined area is about a third again the area of the venturi above the burner. Weld the pipe sections over the holes, and then continuous weld the box-section tubing around the perimeter of the lid. Cut the blanket about 10 mm bigger than the lid, centre the lid over it, mark the hole locations with a pencil or dowel, and with an apple-corer cut holes in the blanket. Cut 2 mm ceramic fibre paper into squares 80 mm on a side, one square for each hole in the lid. With a straight-edge and sharp pencil, score parallel lines on one side of each paper square about 5 mm apart, then roll the paper into cylinders, and slip one through each hole in the blanket and lid, flush with the top of the pipe welded to the top of the lid. With a finger or pencil, spread each cylinder out so that the edges butt neatly inside the pipe section and hole in the blanket. Glue the double doughnut onto the other end of the paper cylinder. Continuous weld the steel angle to the bottom of the lid to hold the edges of the blanket.

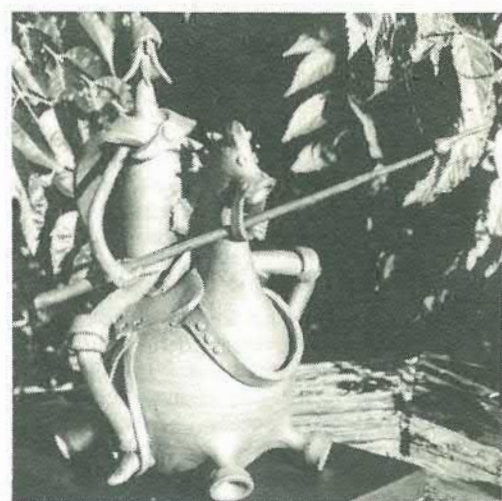
Nancy and Bill write

Recently we met a former DSIR physicist who's built a smokeless wood-burner. He's adapting it for cooking, heating water or living-space, and drying crops like hops and tobacco. It pyrolyses wood into gases which are then burned completely at high temperature inside a refractory-lined fire-box. The pay-off is high efficiency, over 80%, compared with ordinary wood-burning fireplaces which lack the second chamber at red heat. Its principle isn't new — it's like a wood-burning kiln, and hence thousands of years old. But we mention it because it differs from a kiln in one attractive detail — the rate of burning is controlled by the air supply rather than the wood supply. As a result, it could be adapted to allow a potter to feed wood into his kiln only a few times during a firing rather than constantly. During the next couple of months, we expect to give it a try, and if it works out, we'll let you know.

Sunday Creek Pottery
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This collection shows from left Terra Cotta horse bought in Bali by Guyn Ace, coffee set and bottle by Nicholas Brandon from an exhibition at Spectrum Gallery, two press moulded teapots made by Luke Adams in the '30s, a teapot by Barry Ball, and a Raku tea and sugar caddy by Bill Malcolm, both shown at Spectrum and Don Quixote by Ian Firth from an exhibition at the Dowse Gallery.



Among the pots chosen for display in Brussels, "Te puna o Te Wai Ora", fountain by Alec Musha and a shino bowl by Len Castle, a shino bottle by Lawrie Ewing and a vase by Peter Stichbury.

photos: John Fuller

Craft Council

The aim of the Crafts Council of New Zealand is to provide a structure where all craft bodies and individuals can have an organisation to speak and act in affairs of mutual concern with one voice.

The Constitution of the Council is framed to have its members composed of craftsmen and crafts-involved people, who represent the overall craft movement in New Zealand. A member representative of any particular craft appointed to the Executive by their Guild or Society will be in the position to express the needs of that particular group.

The Crafts Council representing the World Crafts Council in New Zealand is part of an international non-political organisation with headquarters in New York.

Visitors are welcome, for further inquiries at the Resource Centre 110-116 Courtenay Place Wellington between 11 a.m., and 3 p.m. on week days, or to Post Office Box 11-233, Wellington.

D. Pascoe

Erratum

Apologies to Barry Hockenull for omitting his name from the list of potters Vol 20/1, page 13. Barry is a member of Albany Potters Group, and for those who also discovered that 10 into 11 goes once with one over, the 11 are again from left to right; Barbara Hockenull, Mary Hardwick Smith, Howard Williams, Warren Tippet, Peter Oxborough, Barry Hockenull, Ray Rogers, Margaret Symes, Warwick Lidgard, Peter Lange, Ian Smaill.

Materials for Saltglaze Kiln (from page 32)

Masonry:

940 red bricks, 490 standard fire bricks, 50 18" or 27" side arch bricks. Fireclay, 5-6 40 kg bags, cement, 3 bags, sand, 6 40 kg bags.

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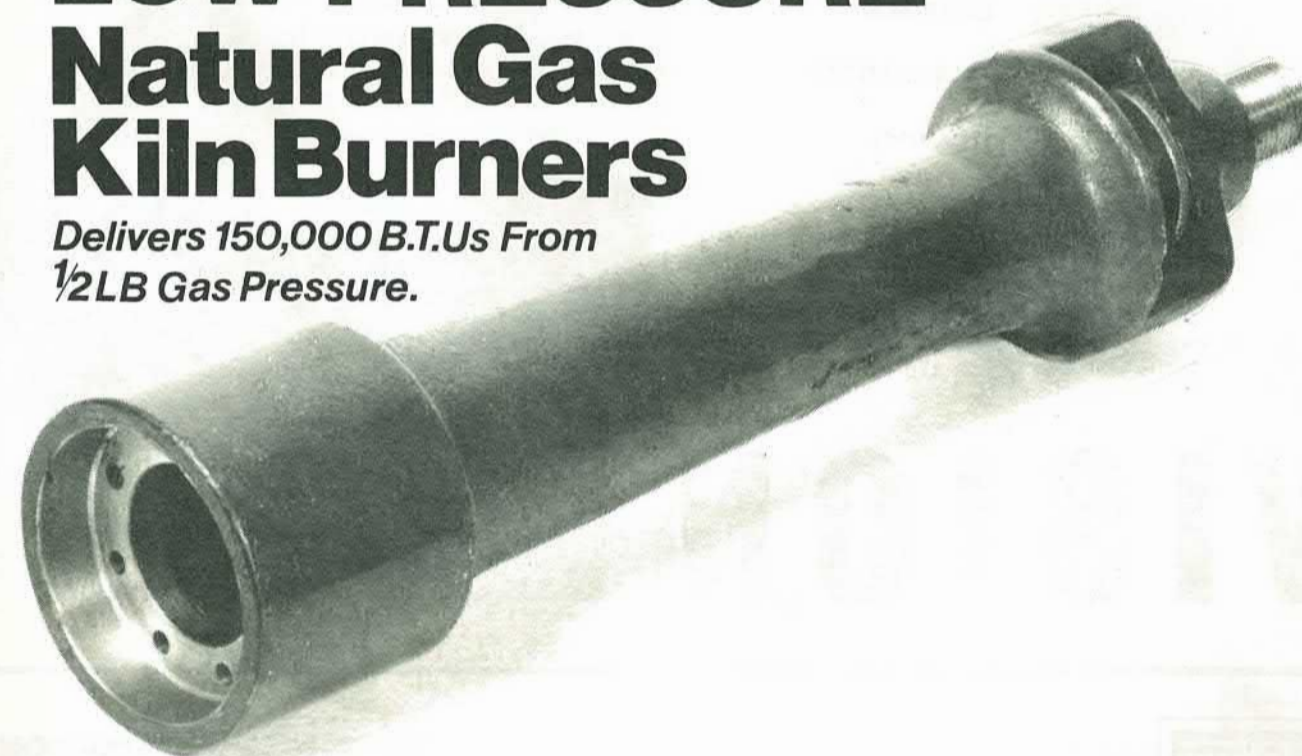
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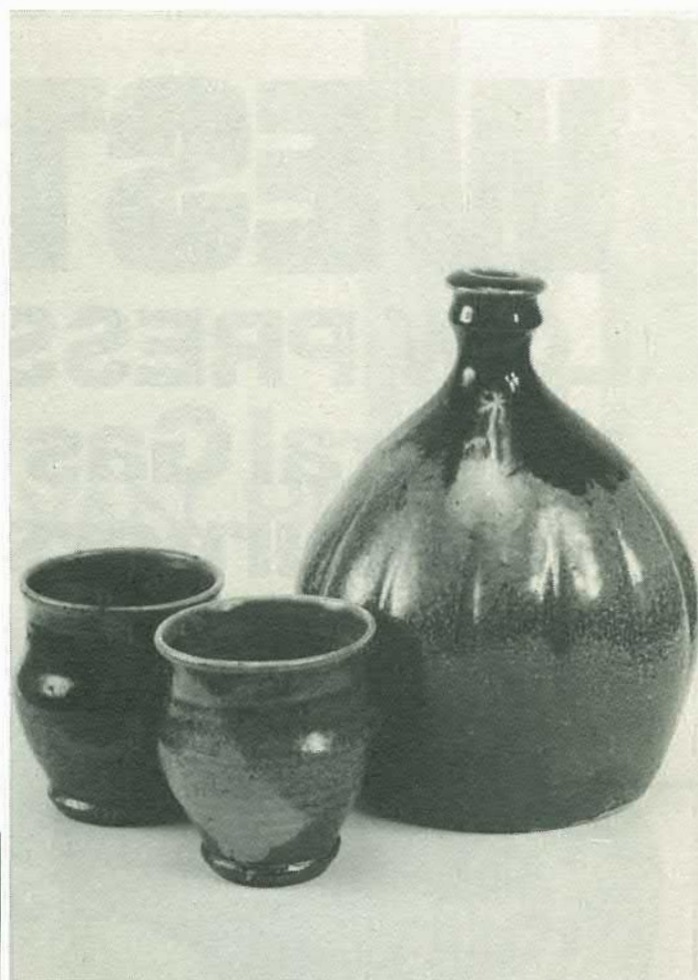
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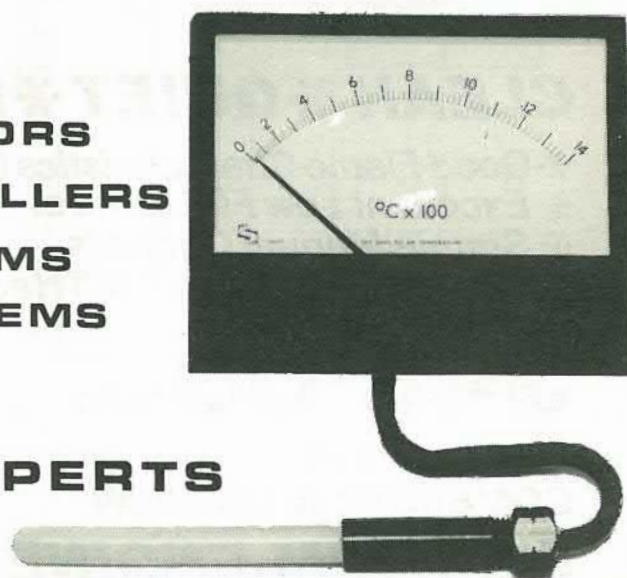


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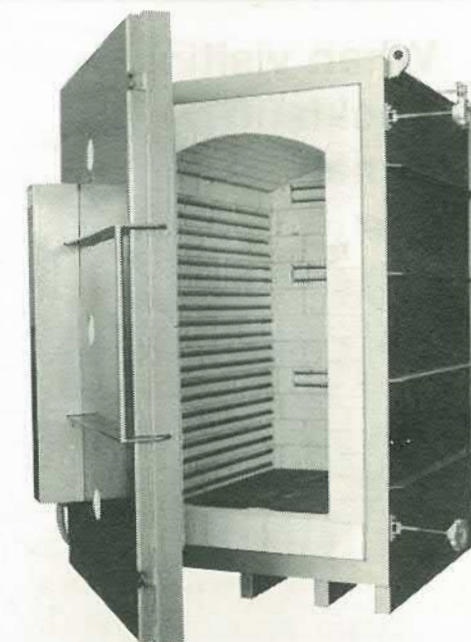
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A Potter's Book

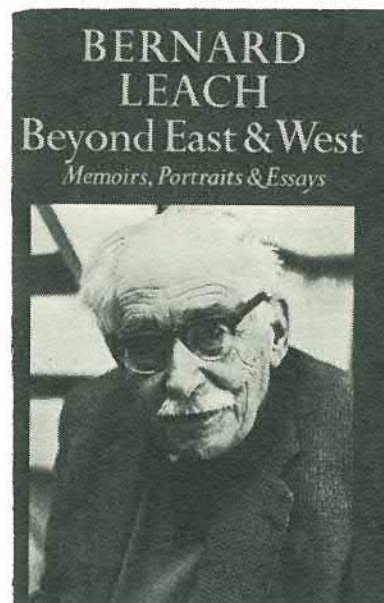
Bernard Leach

This now famous book is the first treatise by a potter to appear on the workshop traditions which have been handed down by Koreans and Japanese from the greatest period of Chinese ceramics in the Sung dynasty. It deals with four types of pottery, Japanese raku, English slipware, stoneware, and Oriental porcelain. The student of pottery learns how to adapt recipes of pigments and glazes, and designs of kilns, to local conditions. A vivid workshop picture is given of the making of a kiln-load of pots from start to finish, and the position of the individual or artist-potter in an industrial age is touched upon. It is a book intended primarily for the hand craftsman and the school, but it has a strong interest for all lovers of pots and for those who are interested in the cultural relationship of East and West. \$9.15 P.B.

Forthcoming: *The Art of Bernard Leach*, edited by Carol Hogben, 192pp, 33 colour plates, 90 black and white illustrations, 20 drawings and etchings in sepia or black, about 12 black and white half-tone documentary illustrations. About \$53.
A Handbook of Pottery Glazes by David Green, 288pp with 45 line illustrations. About \$26.95
Michael Cardew: A Portrait by Gareth Clark, 228pp, 24 colour plates, 123 black and white illustrations. About \$40.30.

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"The post-war growth and co-operative spirit of the contemporary pottery movement in this country (New Zealand) took me by surprise. The level of the best pots made compares favourably with that in other Commonwealth countries. It was the strongest movement outside England..." Bernard Leach in *Beyond East and West*, on his visit to New Zealand in 1962.



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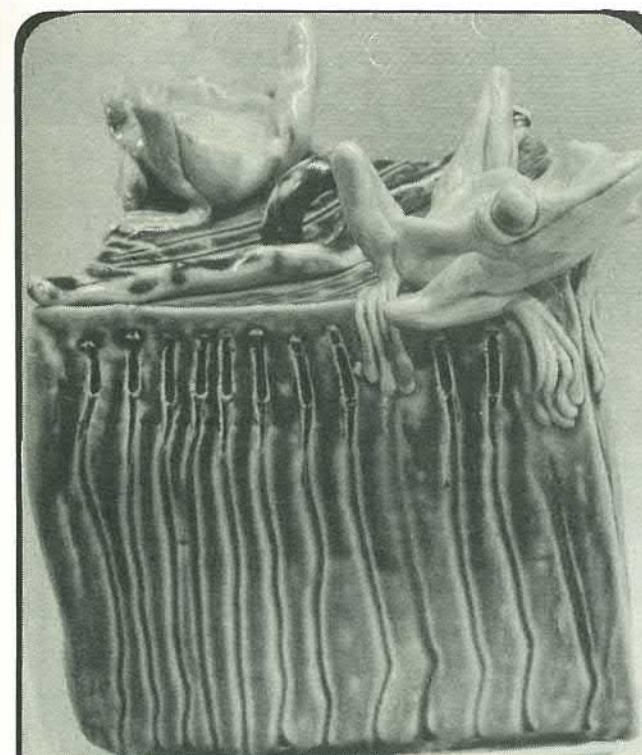


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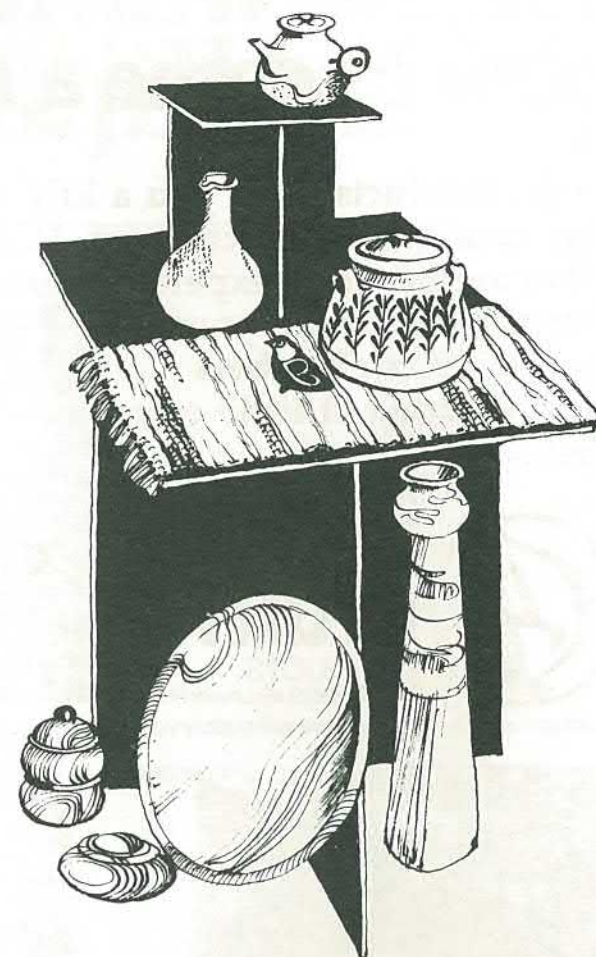
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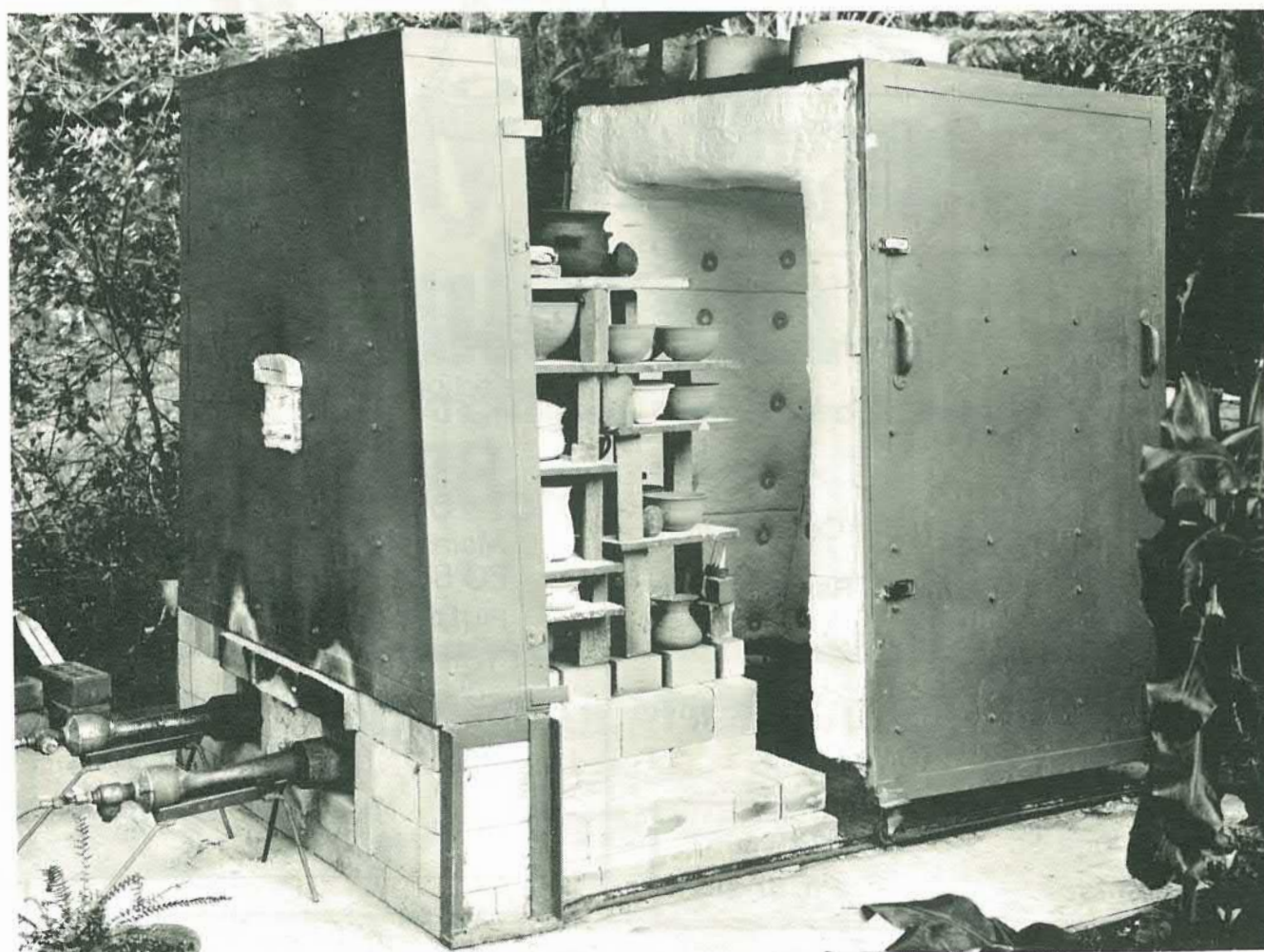
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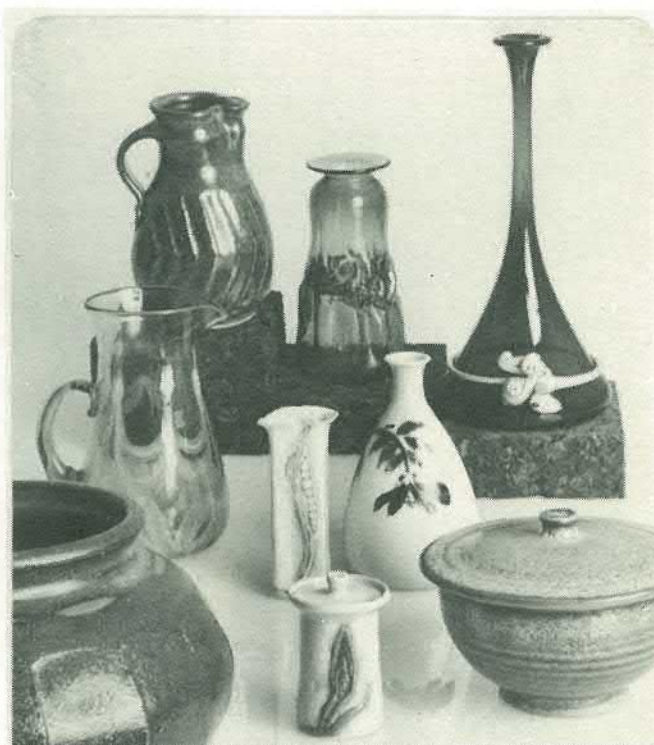
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