

Paper

*Smile
Gunsen K*

New Zealand Potter
Vol 24/1 AUTUMN 1982



Rosemarie

Brittain

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Editorial

At the pottery symposium we got talking with Brian Gartside about finding inspiration for creativity with clay. Where do the ideas come from? The result has been a brilliant creative contribution to this magazine from Brian Gartside (pages 23-26). It suggests we look, listen, laugh, take courage and do it. Thank you Brian.

Cover: Rosemarie Brittain
Photograph: Steve Rumsey
Design: Barry Ellis

Rick Rudd, Debbie Pointon, Leo King and Brian Gartside had work selected for the last international exhibition, in Faenza, Italy. Here they explain their intentions and describe their work methods.

Raku Rick Rudd



My training in ceramics at Great Yarmouth and Wolverhampton Colleges of Art in England, over a period of four years, was definitely inclined towards sculptural work rather than domestic ware; nevertheless I rarely make pieces that have no "function". Basically work falls into three categories: box, bottle and bowl forms. Because nearly all my work over the last four years is raku fired it is porous, fragile and therefore not obviously "functional". Each piece is an exercise in form and line. (I began raku firing at a weekend school with Una and Frank

Sharpley and Mary Burr in July of 1977.)

My materials are deliberately limited to one grogged stoneware clay, with coarser grog added for texture rather than strength, a slip made from white earthenware and a clear crackle glaze, sometimes with 10% commercial black stain added. This small range of materials is enough, at present, to give the contrast between smooth and heavily textured, and shiny black and white surfaces.

All my work is handbuilt by a process of pinching, coiling, and

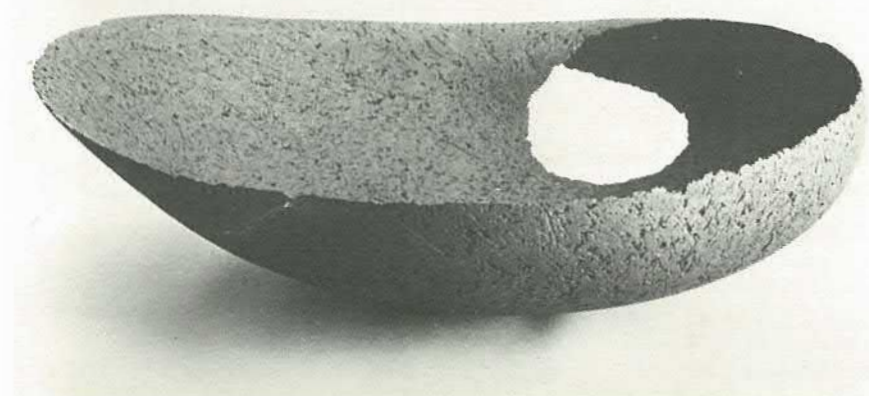
scraping. Spring steel scrapers are used to bring up the texture with the grog that has been added to the clay and certain areas are smoothed before being coated with slip. After bisquing, only the areas of slip are glazed with clear crackle glaze. Many of the more recent "bowl" forms are double skinned and are hollow inside. Shapes evolve rather than begin as separate ideas, but, because the making process is very slow, (several days can be spent on one piece) it takes a long time to develop a different form to a satisfactory degree.

Anything up to a month can be spent making enough pieces for a day's raku firing, although it is not strictly *raku* in the true sense. I use the technique of removing pots from the kiln red hot and then smoking them in sawdust, but do not accept the spontaneity that true *raku* entails. I am using this process to obtain effects that are solely achieved in this way, i.e. the quality of the black and smoke crackle that are unique to raku. I require complete control of an all-over black, and through experience have found that crackle can be induced in many cases. Each piece is completely covered with sawdust during smoking after being fired to approximately 950°-1000°C. I shall probably change from the diesel kiln previously used, to a gas fired fibre kiln soon, to allow larger scale pieces to be made (previous maximum 50cm in any direction).

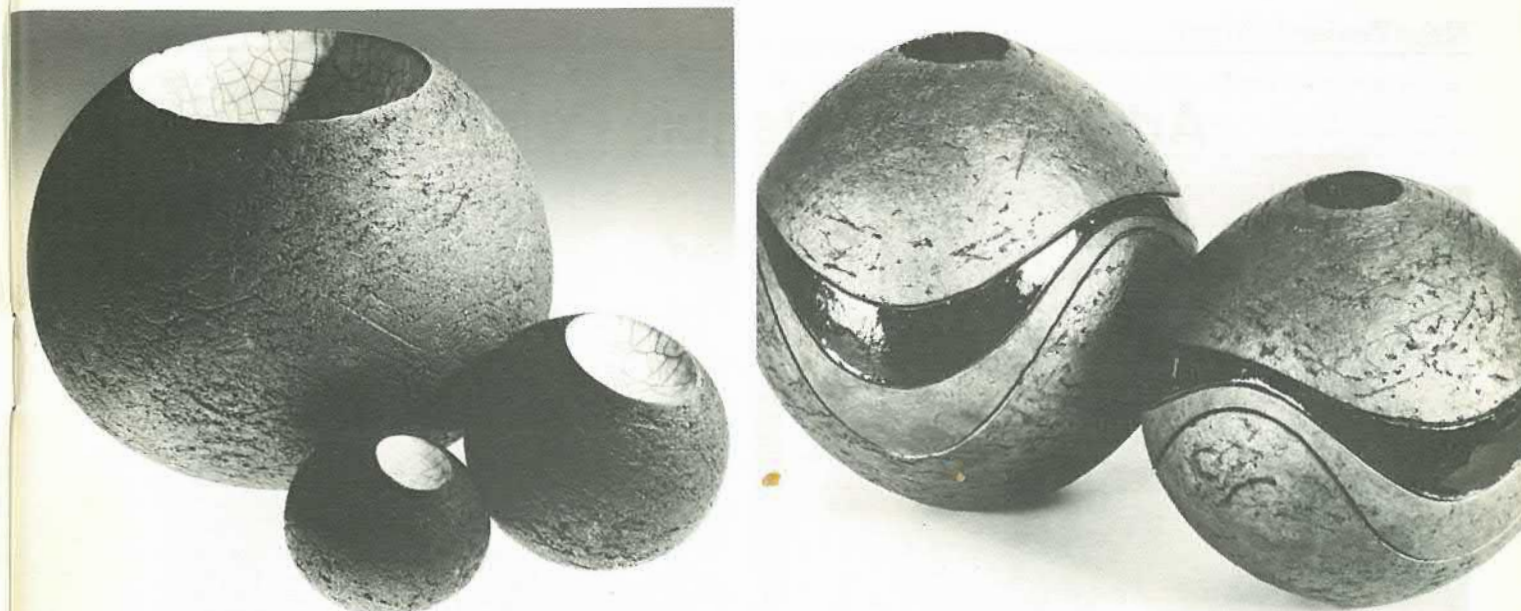
Until recently I have lived ten minutes from downtown Auckland but a strange turn of fate made it possible for me to buy a small dilapidated beach cottage on the Whangaparaoa Peninsula, 25 miles from the city. Although I thought of myself as a confirmed city dweller, I must admit the view through the trees over Stanmore Bay from my windows gives me much pleasure and the distance from the city will mean fewer distractions without being too isolated.

Rick Rudd
36 Stanmore Bay Road
Whangaparaoa

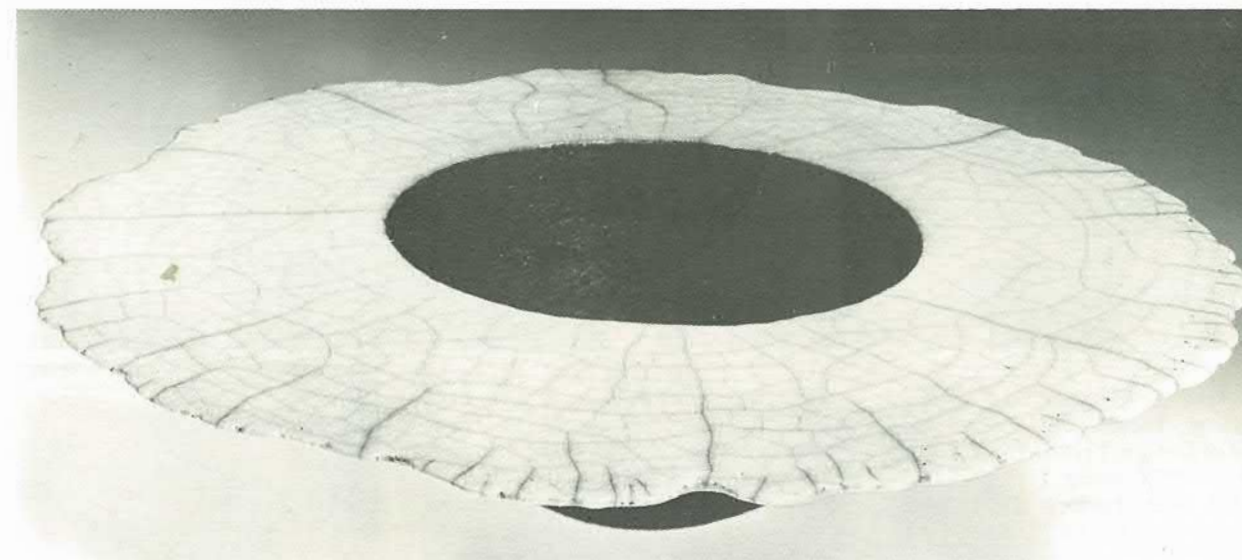
Clear crackle glaze	
Gertsley Borate	60
Potash Felspar	50
Barium Carbonate	22
Silica	16



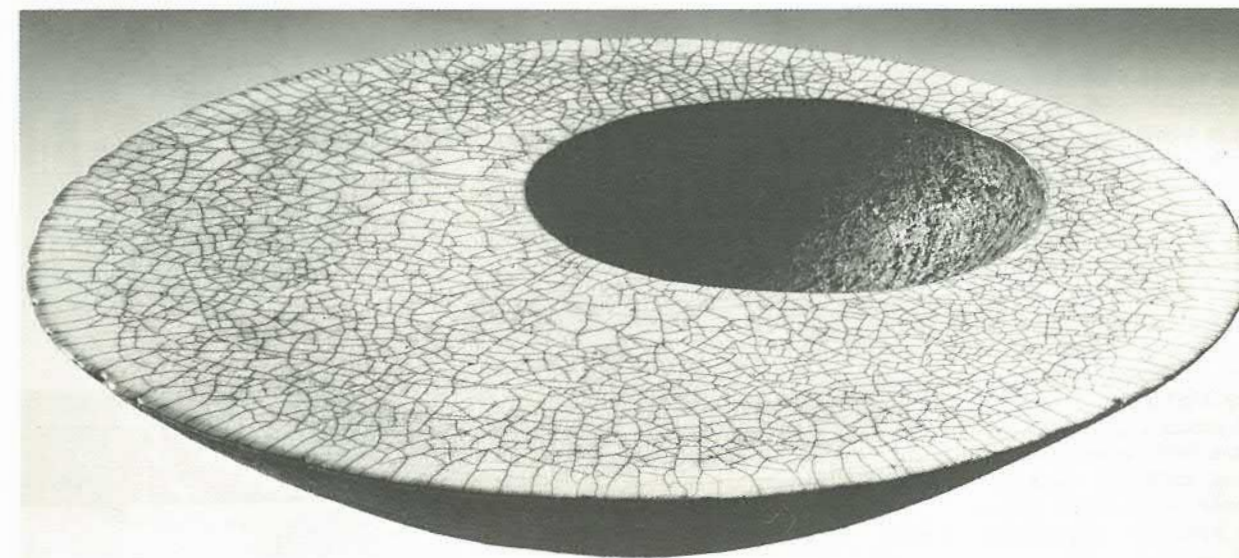
"Bowl" form 43 cm wide



Left: Double skinned "bowl" forms 30 cm, 12 cm and 7 cm tall. Right: "Bottle" forms 20 cm and 18 cm tall

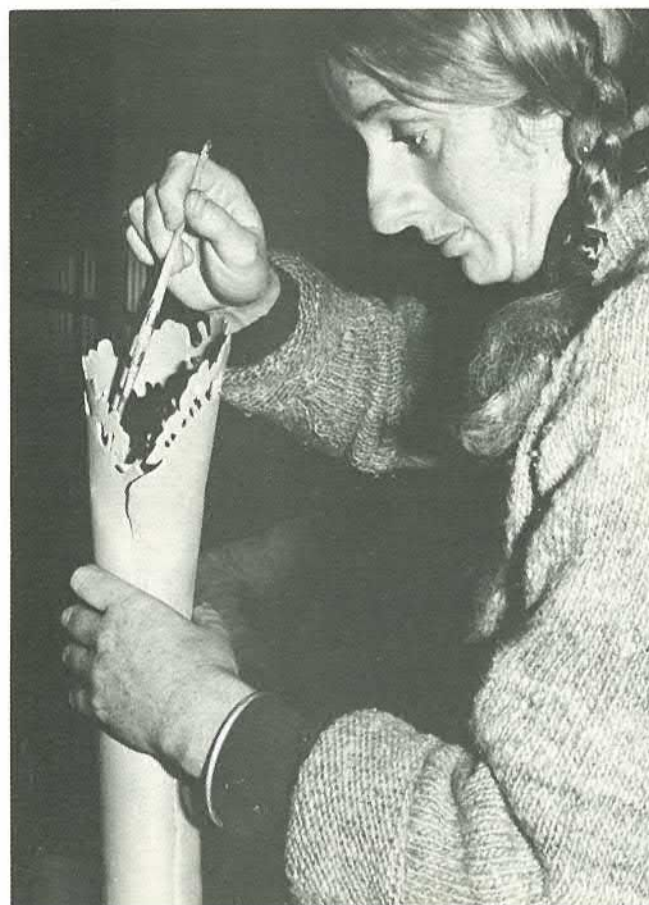


Above: Flanged "bowl" form 20 cm wide. Below: Double skinned "bowl" form 40 cm wide



Photographs: Ces Thomas

Artist in clay—Debbie Pointon



After two years studying graphic design at Wellington Polytechnic School of Design, I painted consistently up to 1977 when I first became involved with pottery through the Kapiti Arts and Crafts Society classes. I built an 8 cubic foot crossdraft oil kiln at home with the help of Jean Hastedt and fired it successfully many times before being asked to share Jean's workshop and kiln facilities in 1978.

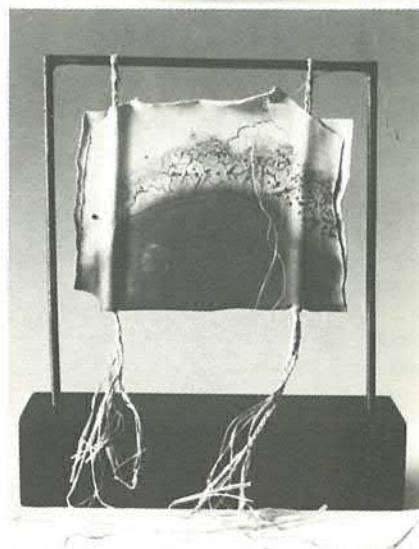
I first made stoneware garden pieces and domestic ware. Then in 1980 I became interested in porcelain and experimented with both low fired pieces in wood chips, and higher fired pieces in charcoal filled saggers. The unglazed surface of the porcelain is like a beautiful piece of white paper waiting to be decorated. My interest lies in the contrast of black, white and bands of yellows and oranges resulting from the placement of the charcoal around the pots. These colours are not applied on the top of the clay surface, but are fired into it.

The pieces I have been working on combine both wheelwork and hand-building methods. Sometimes I incorporate silver inset and since last year I have been experimenting with

underglaze pencils, soluble salts and china painting techniques to bring more colour to my pots, for example the butterfly symbols and "faerie" plates. Some of the pieces influenced by tree forms, take many hours to hand carve using a variety of dental tools and a specially made knife, and have a high disaster rate due to the fineness of the process. I prefer to use Potclays Porcelain as it is sympathetic to my carving needs.

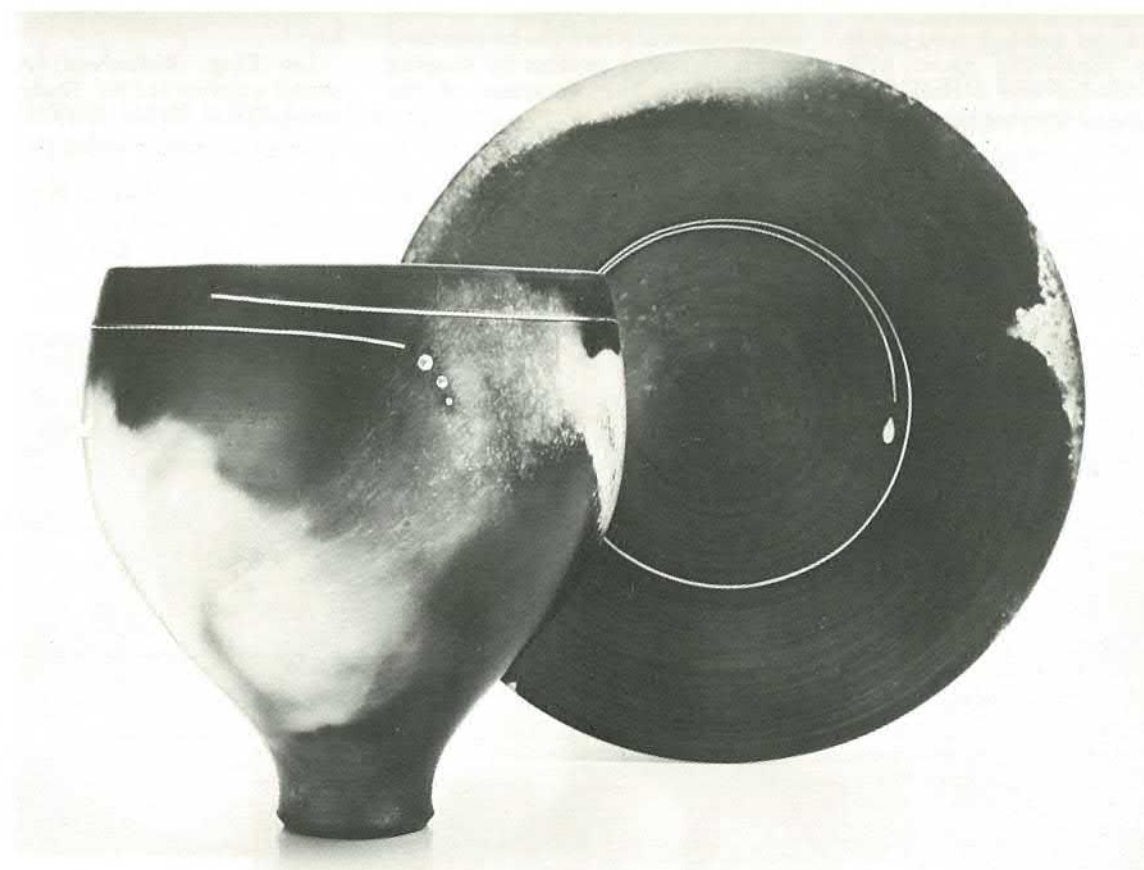
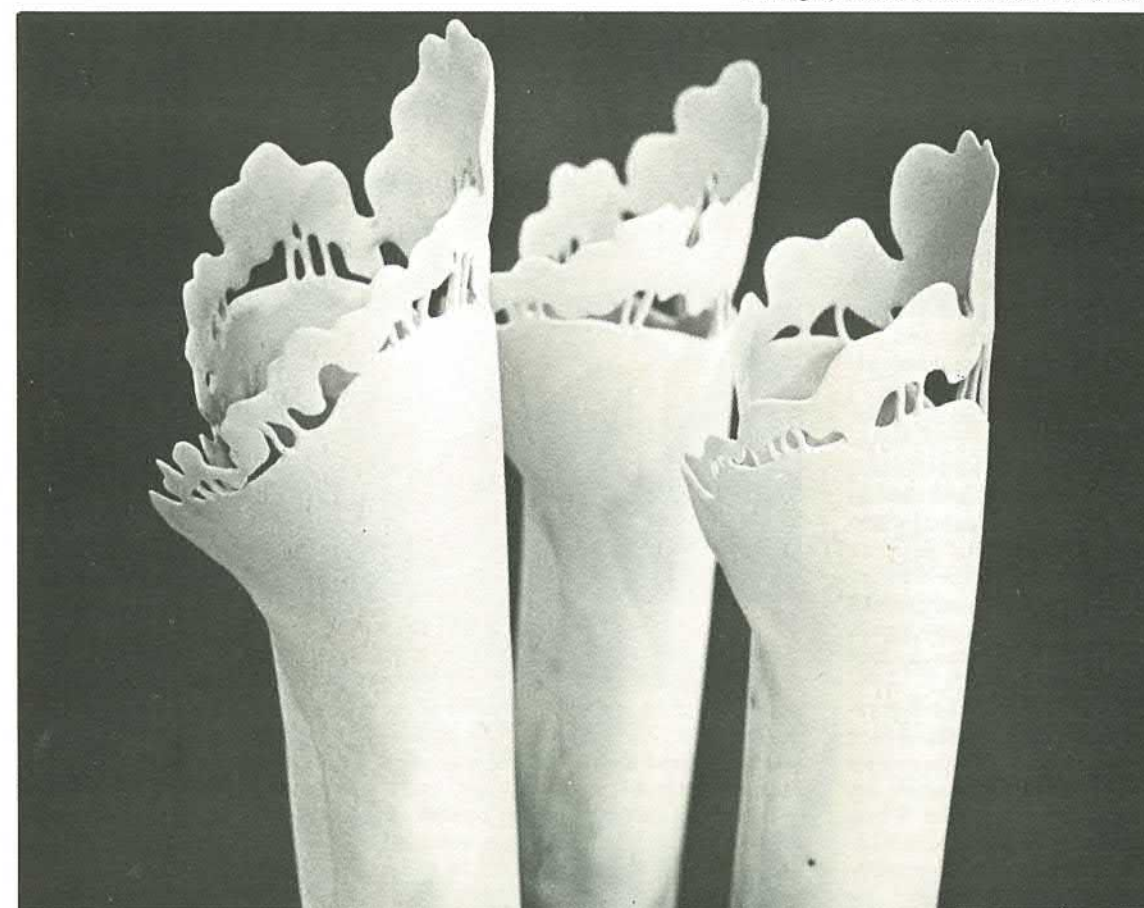
Some of the pieces are fired to 1230°C in a 4.5 cubic foot gas down-draft kiln while others are fired in a small drum with seaweed and sawdust. They are bisque fired to 1000°C then smoked. Only the pots with the most interesting smoked surface have silver inlay. I cut the design out of the flat piece of fine silver with a piercing saw then file it till it exactly fits the recessed design on the pot. This part takes many hours to accomplish.

A recent grant from Q.E. II Arts Council has now enabled me to build a workshop at my home at Raumati Beach on the Kapiti Coast, although Jean and I will continue sharing ideas, new directions and experiments together.



Left: Detail of "Flame Spirits" fumed porcelain. Below: Bowl and porcelain "painting" that went to Faenza. This page, above: Detail "Manuka Trio" won 1981 BNZ Art Award. Below: Smoked porcelain with silver inlay.

Photographs: Sal Criscillo, Ces Thomas and Stan Jenkins



Sphere as form

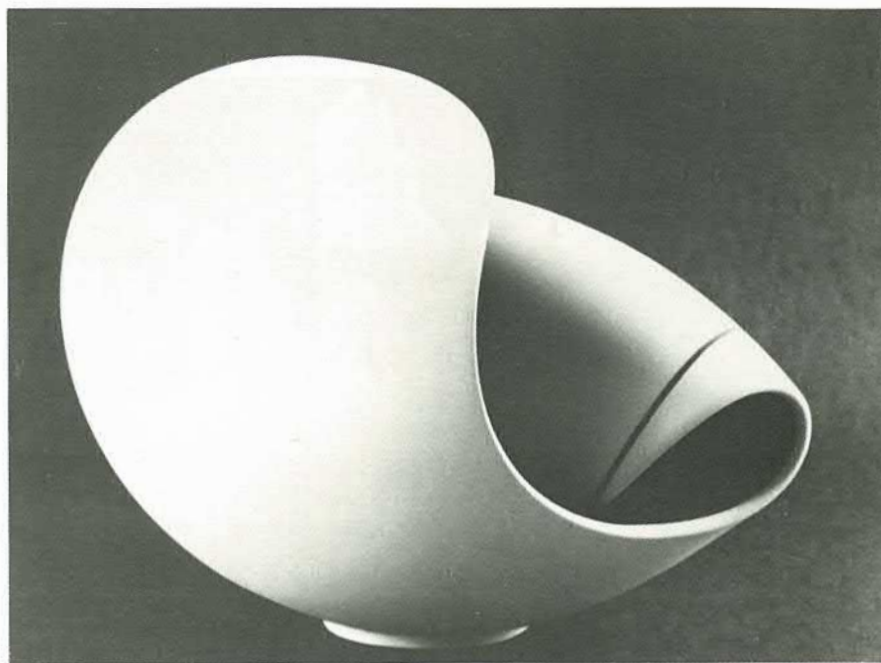
Leo King

For the last six years my work has revolved around the sphere as a theme. The aim has been to see how far it can be changed, added to, subtracted from and still retain the elements by which it can be identified. This has presented a number of challenging technical problems as the piece has to evolve through the usual sequence of forming, glazing and firing and emerge as an accurate acceptable form.

I chose the slip casting method for producing the initial spheres in preference to more conventional methods. I needed accurate thin walls which can be handled and those produced by slip casting are both light and strong in the green state when most of the fabrication is done. The process of joining different pieces together is by liquid slip used in a similar fashion to that used in slab building.

I work in black and white as decoration detracts from the shapes which are important to me. Colour is a sophistication I prefer to reserve for later work. Using black and white demands clear delineation, which itself presents problems in the application of glaze which is mainly by spraying. Intermediate shades of grey are produced when needed by under glaze techniques using a matt white base glaze containing about 80% Nepheline Syenite and a black base glaze with the addition of iron, copper and manganese.

Perhaps the most spectacular form has been the lamellar form derived



Photograph: Ces Thomas

from the sphere, carved to the prescribed shape in the white hard state and formed in the kiln by deforming or slumping. All pieces are raw glazed and once fired to 1180 degrees centigrade in an electric kiln.

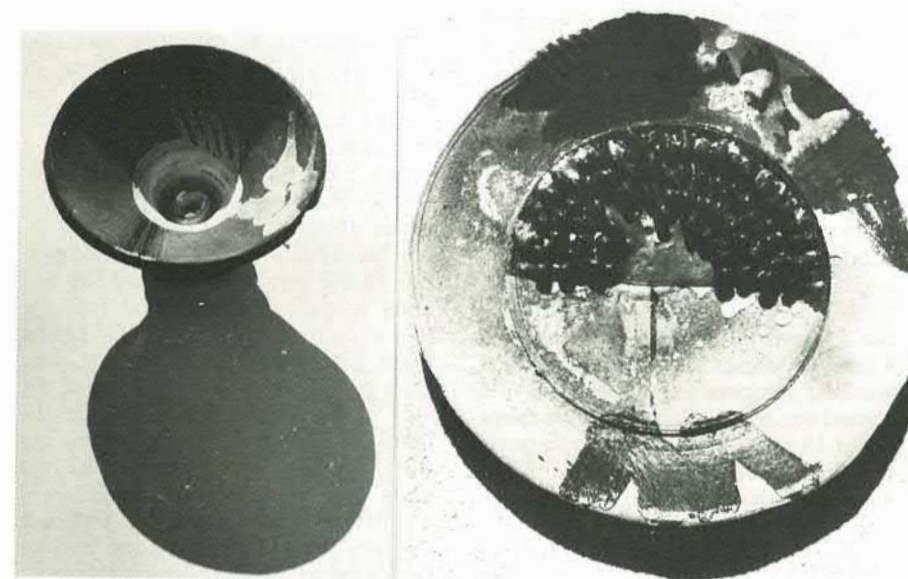
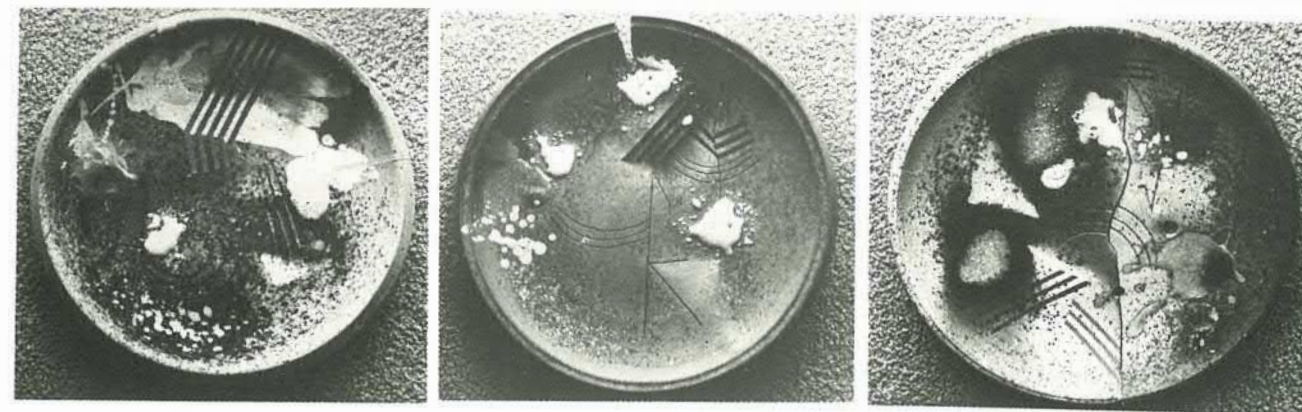
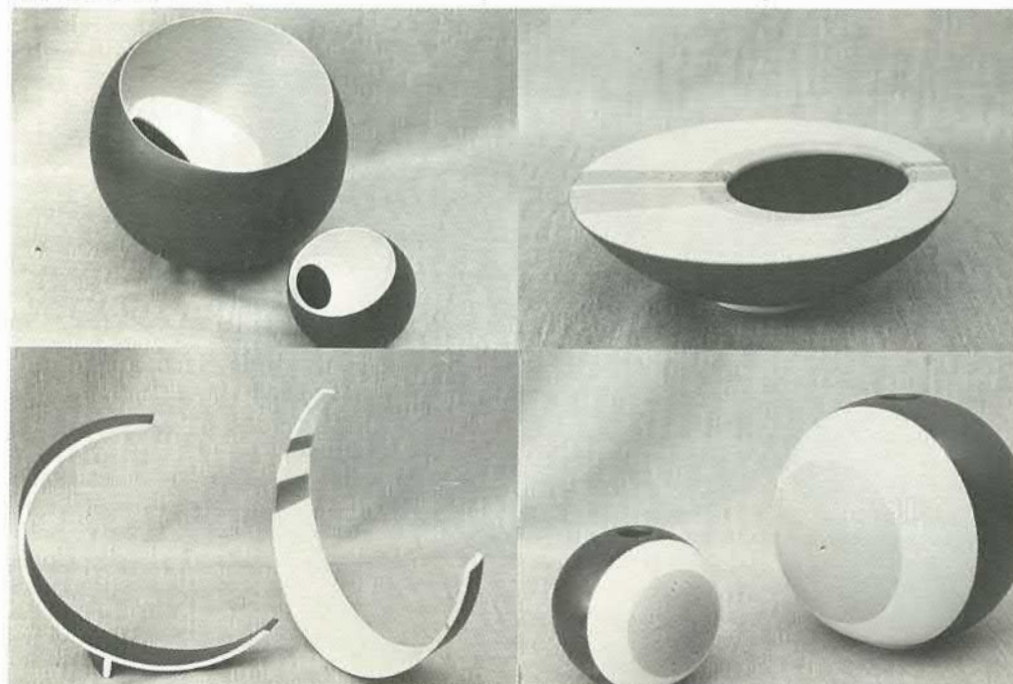
Exploring this avenue has produced satisfying technical successes such as the capability of the material to support sharp thin edges, the possibility of deforming in the wet state (although this appears to be limited), and the control which can be exercised in the slumping process by shaping and varying the thickness of the material.

The enjoyment I derive from the finished pieces — the purity of the spherical form whole or partial, the

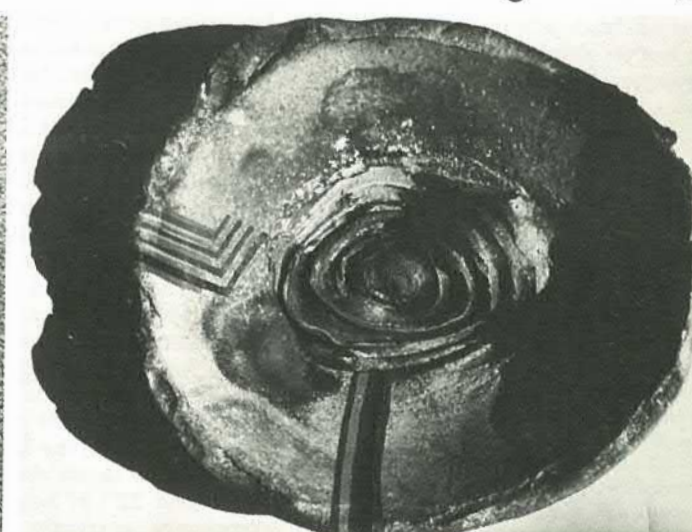
combination of planes and surfaces and the harmony or intentional discord produced by the straight line, is heightened when I consider the demands of the environment to which they are submitted during the firing process.

Knowledge acquired during the development of this work has already provided an abundance of methods of approach towards expression of ideas I intend to follow as quickly as possible.

Leo King, Birkenhead, Auckland, started sculpture in 1960. Studied mosaics and design in Britain in 1970. Gave up being an aerospace scientist the following year to come to New Zealand. Last President New Zealand Society of Potters.



All these pieces were fired one at a time in a wide open-topped kiln that allows direct and intimate contact with the red hot surfacelike painting with fire!



The land is green. very green.
And there are large skies
dramatised by two large oceans
and the sun.
There is underlying violence
in the landscape.
Volcanic cones and craters
surround my home.
Long fault lines "dunt"
New Zealand
Which is very green.
Clay is easy to use.
The fire, if I can watch the
heat, says what needs to
be done next — so I just do
There's no need for a plan.
A month or years later I can
go on painting the pots
They are never finished
That's how I see my work
Some of the time
.....There's probably more to it.....
"All I say is in inverted commas"
Brian Gartside 1982

A production raku kiln

Reducing pots in sawdust at the end of a raku firing may seem like mere spectacle, but in fact it's the only way to get intense reduction effects like penny-bright copper. For good results, the pot must be hot, the sawdust dry, and the pot muffled during the reduction. Of those three requirements, the toughest to pull off is keeping the pot hot until it gets to the sawdust. Raku potters have thought up several solutions to the problem, but most just turn off the fuel and then either tear the kiln apart or lift it away bodily, and move in quickly with tongs to grab the pots. Unhappily, with such methods a potter can't expect to handle many pots before they cool too much to reduce effectively, even if he invites several potters to fire their pots with him, and each handles his own. So, raku firings tend to be small. They tend also to be one-shot — it takes too long to re-load the kiln and bring it back up to heat for another go. That's why there's not

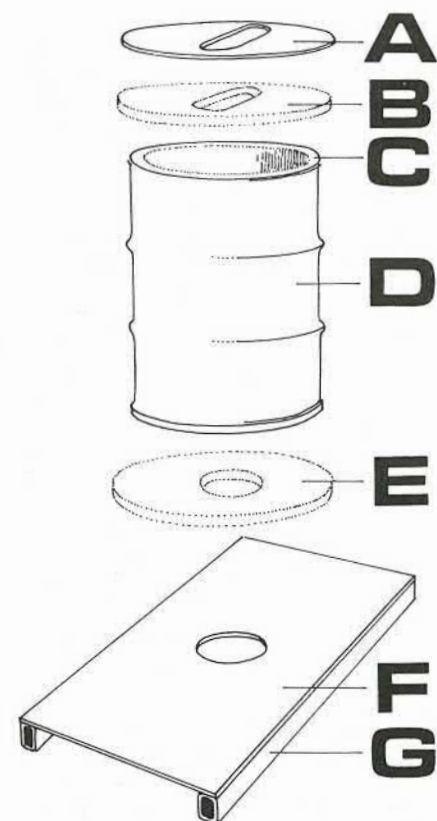


Fig. 1. Exploded view of kiln. (A) lid made of sheet or plate steel. Pots are lifted into the kiln through the oval hole, which acts also as the burner exhaust. (B) ceramic fibre lid-lining with oval hole to match lid's. (C) ceramic fibre bottom-lining with hole for burner port. (D) kiln body, a discarded 12.5 gallon oil drum. (E) bottom made of plate steel. The round hole is a port for an updraft pot-burner. (G) stiffener to prevent warping of bottom during firing.

much raku about, compared with stone-ware, and why most raku pots are exhibition rather than production pieces. But raku can be fired on a production basis if the kiln stays lit and intact while pots are put in and taken out. This article describes such a kiln — it fires 2 or 3 pots at a time, and they come up to heat in a couple of minutes, so you can fire upwards of 200 pots in 4 to 5 hours. They're all fired perfectly, too, because you can watch the glaze mature and even repair crawls. The kiln is cheap to build (about \$50), it's far more fuel-efficient than one-shot raku kilns, and you can eke 50 firings out of it before it succumbs to the ravages of entropy.

To build this raku production kiln (see figure 1), you need an oil drum (50-litre or 12.5 gallon), enough ceramic fibre to line it (either 25mm or 12mm blanket will do), 2 fire-bricks, a piece of kiln shelf, and a burner with enough output to maintain 1200°C inside the drum. Many fuels and burner designs would work, but we use a forced-air pot-burner that burns 9 litres of diesel per hour. It reaches working temperature as soon as it's turned on, but the kiln furniture takes about 15 minutes to come up to heat. We then throttle back to allow us to work at a relaxed pace.

CONSTRUCTION

The bottom of the kiln is a rectangle (18" by 36") of 1/4" mild plate with a 5" diameter hole cut in the middle for a burner port. Welded to its long sides are two stiffeners of RHS (rectangular hollow section) to prevent its warping during a firing (you could solve the warping problem by making the bottom of masonry or refractory castable rather than steel, but then the kiln is far less portable). The finished bottom sits on 4 fire-bricks stood on their ends to allow room for the burner below (the burner we use is fully described in *Ceramics Monthly*, Vol. 27, No. 8, October 1979, pp. 34-36). The kiln bottom is wider than the kiln drum so that it can double as a final drying rack for the pots before they're placed in the kiln. After all, inside the kiln the pots reach 100°C in seconds, and they're quickly blown apart by even tiny traces of water. The resulting shards can clog the burner (forcing you to shut down) or damage the ceramic blanket by contaminating it with glaze.

For the body of the kiln, you need a discarded oil drum about 15" in diameter and 22" in height. Petroleum companies currently are changing their drum volumes from imperial to

metric, so you can pick up a good 12.5 gallon drum for a pittance. You must cut out the top and bottom of the drum, but that's a quick job with a cold chisel and a hammer (never use a cutting torch to open drums — many have carried volatile petroleum products, and the vapours still inside can cause memorable explosions). Flatten any rough edges by laying the drum on its side on a concrete floor and belting the rim against the floor with a hammer from the inside. With the drum's top and bottom out, you next line it with ceramic blanket. If you cut the blanket an inch or two oversize and compress it carefully into the drum, you'll need no fasteners or adhesive even after the blanket has shrunk during its first firing. To install the blanket inside the drum, spindle it gently into an overlapping cylinder smaller than the drum. Then with the drum upright, lower the blanket in, one hand holding the overlapped portion of the blanket to prevent the two ends spreading apart. Next butt the two ends together squarely by easing them into the drum's interior, and then gently push the join toward the side of the drum. You'll buckle the blanket on both sides of the join, but the join will stay together and the two ends will lie flat and undamaged against the side of the drum. To finish the job, you merely work the buckles back around the drum's circumference on both sides of the join, compressing the blanket evenly (see figure 2). Avoid pushing the blanket hard against the drum — the fluffier it is, the better it insulates. The blanket typically comes in a width of 2 feet, and happily enough the drums are about 2 feet high, so you suffer little waste. If your drum is slightly shorter, that's even better — leave an extra inch of blanket draped over the rim at the top to seal the lid.

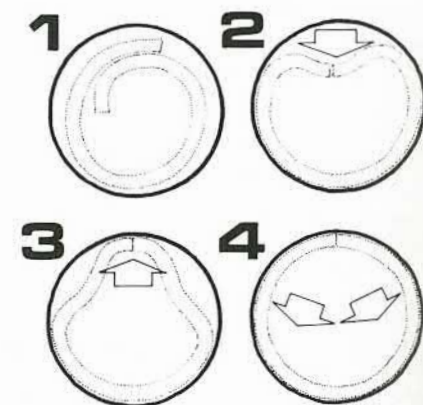


Fig. 2. Method of inserting kiln lining under compression to avoid use of fasteners.

Bill Malcolm

For the lid you could use one of the two drum-ends that you cold-chiseled out, but it's better to make a new lid from sheet or plate steel. That's because to sit securely on top of the drum and to make a good thermal seal, the lid should be an inch or two larger in diameter than the drum. In thickness, it shouldn't be more than 1/8", or else you'll have trouble cutting the hole in its centre for putting in and taking out the pots. We've found that the best shape for the lid hole is an oval — it lets you slip in large bowls and plates sideways, and gives you a good view of the glaze maturing on the pots. Optimum size for the oval is about 4 inches wide and 9 inches long. Much bigger than that and the kiln won't heat up your pots, but much smaller and you won't have a good view of your pots or get them in without lifting the lid — that requires a second person, and the kiln loses a lot of heat. The hole must be a minimum size, though, say 4 inches in diameter, even if you must lift the lid for all your pots and so are tempted to cut only a spy-hole. Admittedly, it seems like the kiln would heat up faster if heat can't escape through a hole, but that's not so. The kiln heats up only if there's an energy flow through it from a source (the burner) to a sink (the outside). All kilns, even electric ones, must have that flow of energy through them if they're to heat up. In an electric kiln, the energy flow comes and goes through wires, so the kiln itself can be sealed, preventing heat loss. Even lavish insulation is well-spent in such a kiln. In contrast, any kiln that depends on a stream of hot gas for its energy flow must allow the spent gas to escape through a hole after part of its energy has heated the ware, and inevitably some of the heat escapes too. Hence in that sort of kiln, insulation isn't so important. This production raku kiln is that sort, but even with only minimal insulation, it burns less fuel per pot than a large (and therefore efficient) stoneware kiln, and it burns far less fuel per pot than a typical one-shot raku kiln, because it's fired continuously.

The bottom and lid of the kiln are lined with the same thickness of blanket as the sides are. The bottom lining is easy to make — just cut a doughnut-shaped piece of blanket (the doughnut-hole is 5" in diameter for the burner port, and the doughnut itself is a couple inches larger than the drum diameter). The drum sits on the edge of the oversize blanket and so makes a good thermal seal. You could save a bit of blanket by cutting the doughnut to fit neatly inside the drum lining, but if you dismantle the kiln after firing, the doughnut will slip out

of the drum, and suffer ragged edges or start to break up. The next assembly and dismantling worsen the damage until you must replace the blanket. Part of the appeal of raku kilns is their portability, and the high cost of blanket is good incentive to minimise any damage during your travels. And even if you can afford to replace the blanket, it's not a good idea to scatter ceramic fibre about — the makers themselves concede that it's a skin and breathing irritant.

Blanket for the lid, too, is doughnut-shaped, but the hole is an oval to match the lid's hole. And, unlike the bottom, you must fix the blanket to the lid so that it won't sag into the kiln's interior during a firing, especially if you lift the lid to insert a pot that's too big to fit through the hole. You don't need commercial fasteners for the fixing job though (indeed, few fasteners are made to fix blanket only 1/2 or 1" thick). Instead, you can use ordinary steel bolts. With a 3/8" bit, drill 6 holes in the lid, two of them 3" beyond the ends of the oval, and a pair each 3" from the sides of the oval (see figure 3). To make corresponding holes in

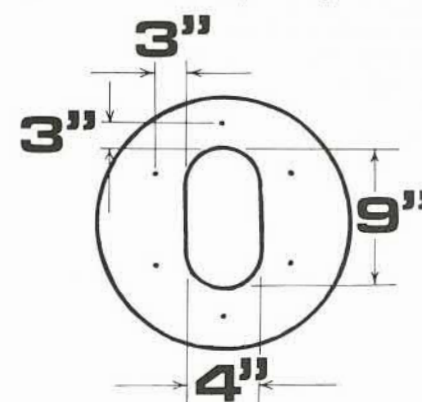


Fig. 3. Layout of bolt and fibre fasteners that anchor ceramic fibre lid.

the blanket, firstly neatly align the lid and blanket by their oval holes, and then push a sharp pencil through the blanket from the lid side. Next you'll need six short flat-head steel bolts (about an inch long and 5/16 or 3/8" diameter), six nuts to fit them, and six square washers about 1.5" on a side with a 1/2" hole (that's an oversize washer, but you want the bolt head to seat almost flush with the washer). You must protect the bolts and

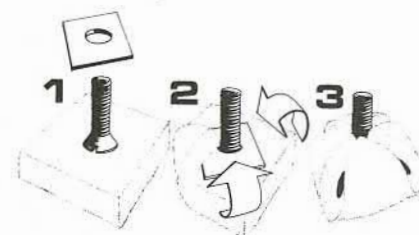


Fig. 4. Assembly of bolt and fibre fasteners for lid.

washers with a layer of blanket, because even stainless steel would suffer terminal psoriasis if exposed to the kiln atmosphere. So for each fastener, you cut a square of blanket 3" on a side, then place a bolt head-down in its centre, and slip a washer over the bolt to lie at 45° to the edges of the blanket. Fold the corners of the blanket up over the edges of the washer — it's fiddly, and the blanket won't stay put gladly, but gently force it to. You end up with an unruly square packet of blanket with the washer invisible inside and a bolt sticking out at you (see figure 4).

Jam the bolt of the fastener through one of the lid holes, pressing it home firmly against the blanket, and screw on the nut. As you tighten the nut, the bolt may start to turn inside the fastener. If it does, carefully punch a screw-driver through the blanket to hold it, but turn the nut, not the bolt, or you'll wear a hole in the blanket and the bolt will corrode during firings. When all six fasteners are firmly in place, the lid is finished.

During a firing, the pots sit on a shelf placed parallel to the oval hole in the lid and about halfway up the height of the kiln. The unused bottom half of the kiln acts as a flame mixer, ensuring uniform heating. If your pots are no taller than about 10 inches, prop the shelf on two fire-bricks stood on their ends. You can set the shelf lower for tall pots, of course, but then you must lift the kiln lid to put them in and take them out, and you'll need uncommonly long tongs to avoid getting burned.

The shelf itself can be a broken piece of alumina or carborundum kiln shelf, but it shouldn't be wider than 6" (or it'll impede the flame) nor longer than 12" (or it'll tear the blanket lining as you put it in). You can use a fire-brick for the shelf, but a brick's length of only 9" is well short of the kiln's diameter, and so you must fill in the two end gaps with brick offcuts. Soft bricks are best for that, being easy to cut accurately and with only a hand-saw.

FIRING

Pots for production raku must be soft-bisqued, from 600°C to a maximum 800°C. Above that, cracking becomes a problem, especially with thick-walled pots. Contrary to popular belief, the make-up of the body is not important. We've rarely bothered to add either sand or grog to our raku bodies, and we've successfully fired most of the commercial bodies, thrown and slip-cast. A whiteware that we used for years (equal parts kaolin, silica, ball clay, and English talc) was nigh on slump-point in 3

minutes, yet the glaze needed 3 minutes to mature too, so we lost pots to melting now and then when our attention wandered. We nonetheless stuck with that body because we were making functional raku pots, mostly bowls and goblets, that had to be well-vitrified. We've fired stoneware bodies and cone 10 glazes in this kiln, too — they take longer of course, from 5 to 7 minutes. The firing works well enough, but the rapid cooling that follows can microfracture the body, and so the pots lack the strength of traditional stoneware.

Some glazes crawl or fall off if heated rapidly. Minor crawls can be fixed inside the kiln — just wait until the glaze starts to melt, then insert a 3-foot-long 1/4" diameter rod through the hole in the lid, and gently work melted glaze into the bare patches. We've repaired crawls up to 1" wide that way, sometimes taking the pot out of the kiln to work more comfortably away from the heat. The glaze stiffens rapidly as the pot cools, though, so you must work quickly and perhaps re-heat the pot several times. Don't let it cool beyond the glaze's freeze-point, or it's likely to break up on re-heating. Repairing crawls can be comic relief in a long firing, but clearly prevention is a better solution, and crawling problems can be virtually eliminated by lacing the offending glaze with gum (arabic or tragacanth). To make up a stock solution of the gum, dissolve the gum powder in the alcohol (meths will do), then add enough water to make the mix just pourable, and a few drops of formalin to discourage the bugs (gums are organic). Before glazing, add to the glaze a few per cent of the gum stock by volume. The glaze will gel slightly, allowing you to increase the thickness of the glaze on the pot if you wish, but if you don't want a thicker glaze, dilute it accordingly. Because you're using the gum as an adhesive, it's best to paint or smear the bisqued pots with a thin coat of the stock gum solution, and let it dry thoroughly before glazing. The glaze of such gummed pots is firmly attached and very tough, and easily withstands rapid firing and rough handling with tongs.

Actually, glaze crawling is a common problem with most raku pots, even if they're fired slowly. And unless you prize such accidental effects, the best solution is to find a glaze that rarely crawls, and doesn't look damaged even if it has crawled. Glazes based on soda ash are like that, and they have the added appeal of looking salt-glazed when applied ultra-thinly. A formula that we've used for years is: (by weight) boro-calcite 51.7%, silica

23.3%, soda ash 18.3%, and kaolin 6.7%. Like many glazes with soluble components, it crystallises on standing, so you may have to heat it before each use. The solubles also migrate in the clay body a short distance ahead of the glaze line. Although nearly invisible during the glazing, that zone shows up during the post-firing smoking in unexpected ways like crystals, metallic sheen, and intricately preserved fingerprints. Indeed, potters who smoke rather than glaze their pots could get interesting effects from soda ash alone.

To fire this production raku kiln, you'll need a burner and its vacuum-cleaner air supply, long and thick leather gloves, a pair of tongs (the old fireplace type works well), plenty of dry sawdust and two big trays to hold it, and assorted tin cans for muffles. Although pots over 6" in diameter are best fired singly, the kiln is designed to fire two pots at once. For that reason, you should set up two sawdust-filled trays close to the kiln (say 3' away) and in line with the oval hole in the lid. We place our trays at waist height for easy access, and they're about 3' square and 2 or 3" deep. Each tray easily holds four 6" muffles (the use of muffles in raku firing is covered in the last issue of *New Zealand Potter*).

Because the kiln furniture takes some 20 minutes to heat up at the start of a firing, you can favour one or two pots with a relatively slow heating. Complex or delicate pieces are the obvious choices, pots that could break up if handled roughly or hastily when the kiln is going full-blast. So before lighting the burner, put one or two pots inside the kiln. You must resolve not to remove them until the kiln is truly up to heat, though, especially if you're aiming for bright copper reduction. But after a firing or two, you'll be able to judge kiln heat by colour alone, and of course you can watch the glaze mature anyway, through the hole in the kiln lid. Be warned, though, the exhaust gases are very hot, and even a gust of wind can blow them into your face, so wear medium-shade plastic gas-welding goggles, and don't let your face get close to the lid opening as you watch the glaze maturing.

While the kiln and the first pots are coming up to heat, you should set other pots around the kiln for their final drying. Once the kiln is heated, turn-around time is only 1.5 minutes, so it's best to have at least 5, and up to 10, pots drying on each side of the drum, waiting to be fired. If you're standing beside one of the sawdust trays and facing the kiln, the pots drying on the near side of the kiln will go onto the shelf on the far side, one by one for firing. That way your gloves

and arms never cross directly over the top of the kiln, and you can't get burned. During a firing, you work the two sides of the kiln alternately. Adopt a comfortable system — if you hold the tongs in your right hand, plan to fire the rightmost pot first, then work to the left. When you've fired two or three, replenish the pots one at a time from the right again, leaving a gap between dried and undried pots (see figure 5). That way you don't ever run out of pots to fire, and all are dried evenly. If anything goes wrong or you want to pause briefly, just leave the kiln running with no pots inside it. You're of course wasting fuel, but if the burner is stable, the kiln will get neither hotter nor cooler, and you can start firing pots again anytime.

Bill and Nancy Malcolm, Sunday Creek Pottery, Stanley Brook, R.D. 2, Wakefield, Nelson.

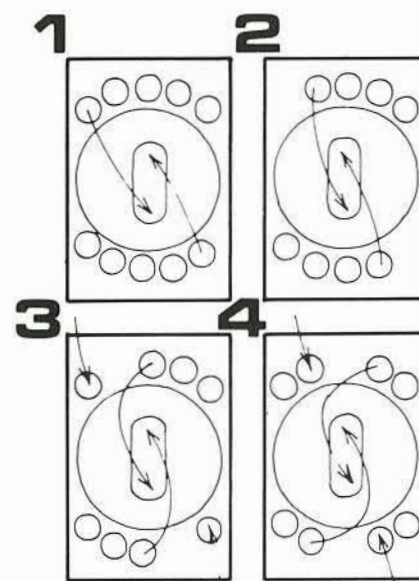


Fig. 5. Top view of kiln showing layout of pots for final drying before firing. The method dries all pots evenly, keeps dried and undried pots separate, and allows you to work the two sides of the kiln at different rates.

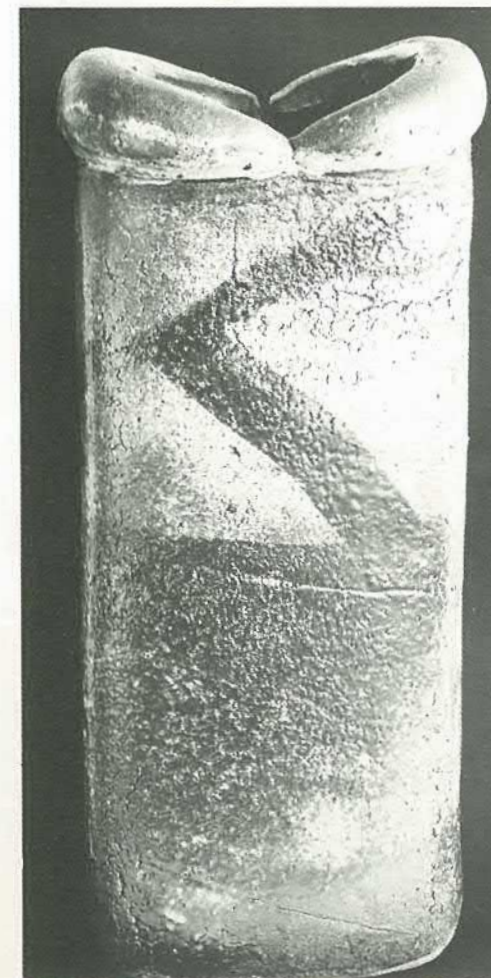
For sale Pottery

Well established business on West Coast, South Island, 850 sq. ft. workshop, 45 cu. ft. oil-fired kiln, includes all equipment and materials, plus 3 bedroomed house on half an acre of land. Enquiries: phone Dobson 719.

Don Thornley

Pots in a philosophic context
----- "the challenge to stay alive — to keep in touch with one's creative energy."

"Tablet" — brush strokes inspired by calligrapher Sengai --- "a monolith with no reference to nature or man." yellow ochre underglaze, decorative yellow/white feldspathic glaze
←



"The Dylan Poster Tablet"
blue/black semi-matt feldspathic glaze →



"The Decorative Pot"
A Shino glaze — experiment in adding coiled lips to the form.
←

photographed by Alannah Craustou

Flights of imagination

Rosemarie Brittain



I am almost totally influenced by my surroundings... The fact that I was a florist for several years has certainly played some part in my potting development but I am also intensely interested in the horticultural & natural science areas & I feel it is these that have had the greatest influence in my work. I am a very keen gardener & sometimes find it hard to make pots when I want to work in the garden.

Ever since I moved to Auckland from Wellington, I had wanted to live in the beautiful bush clad hills of Titirangi. When I married Roger, we bought a tiny cottage in Central Titirangi. It was there that Roger first tried his hand at the Potter's craft. I was too busy looking after our twin babies then to be too involved with pots. This was over twelve years ago & we now live higher up in the hills in Waitarua or "The Rim of Heaven" as some romantics call it.

It was when our girls started school, about eight years ago, that I became totally absorbed by clay & the "Potting game."

It is hard not to be influenced by one's environment especially living & working up here.

I am constantly in awe of Nature's design, the endless variety of forms, the wonderful irregularities, the subtle colours, new buds on a precious plant, the sensuous feeling of fronds, silken petals, mossy stones... The bird life in this extraordinary bush is remarkable. Somehow, it seemed natural to turn my fat coiled forms into "fat birds." I am spellbound by the wood pigeons which abound in this neck of the wood. Their magnificent hue, their pure white "singlet" & the sound of their throbbing wings over dripping branches has me entranced! I believe I live in constant fantasy. For me, it is "Heaven on Earth" & I hope that through my work I can share & express the sheer delight & beauty I see in life every day of the year.

Rosemarie Brittain



The tactile qualities of pots are very important to me whether they be rough "lumpy" forms or serene sophisticated beauties. I always consider it a compliment if a person responds to the immediate desire of handling one of my pots.

I also like people to use my work. The vases I design so that a few special flowers, branches, grasses, feathers can be arranged, quite simply & informally in them - these accessories are often an extension of the form itself.

Smaller porcelain bowls, dishes etc. I like for holding little pebbles, feathers, shells, bones, marbles, stamps, one tiny flower - but not cigarette ash!

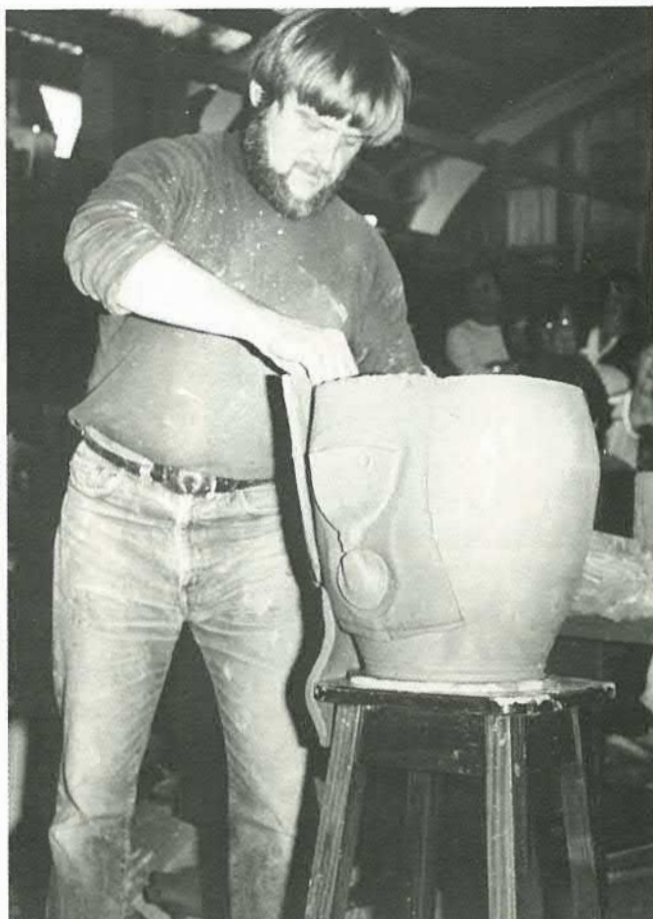
I find drawing a very valuable guide for design, however, these drawings are merely blueprints for IDEAS, which, in the three dimensional medium often become entirely different articles.

Most of my work is fired to 1300°C in an oil fired kiln & all is hand-built. We are currently building a smaller gas-fired fibre kiln so that we can have greater flexibility.

Occasionally, I fire some pieces in an electric kiln when I require an oxidised effect. It is also very useful for bisqueing & firing low temperature on glaze enamels and lustres.

Above left: Fish, porcelain, celadon glaze, oxides giving red and blue on tail and fins fired to 1300°. Above middle: Leaf bowl, barium matt pure white glaze with pink tinged edges chrome and cobalt underlined areas. Below left: Group of porcelain - Lily bowl, barium matt interior oxidised exterior. Bird, celadon, "Kelp" vase, pale green celadon.

Photographs: John Cleland, Howard Williams, James White Associates.



George Kojis—New New Zealander

by Audrey Brodie

George Kojis, 39, arrived in New Zealand in 1974 with a New Zealand wife and family. After a spell with the U.S. Army in Europe from 1964-1967 he was offered the opportunity to attend the University of Wisconsin. He then completed a graduate study with Rudolph Staffel at the Tyler School of Art in Philadelphia.

Two years ago George, along with fellow-artists Dorothy Pascoe (screen-print, batik, fabric design), Julia van Helden (painting/porcelain) and Jean McKinnon (painting/porcelain), established the "Creative Workshops" at Eastbourne across the Harbour from Wellington City. Here George has been working fulltime as potter, tutor and catalyst for people who come to the workshop to develop or extend their creative skills.

George's work at the University of Wisconsin concentrated on painting and design while developing considerable skill at the wheel. It wasn't until his arrival in New Zealand that he began the construction of his slab pieces whose individualistic forms constitute a readily recognisable strain of Kojis-made ceramics — "if you

work on a firm idea, the clay will continue to respond so that a characteristic style can't help but emerge."

For George the forms and structure of his pots incorporate the rugged landscape of New Zealand. Both large and small scale features are captured through drawings or photographs. "Some drawings say all that needs to be said"; sometimes they inspire decorative detail or substance to work in progress.

George's container forms rise from a rectangular base, their summits commonly crowned with a functional or decorative lid. These ceramic vessels are sometimes stubby, sometimes monumental — most considered "functional", as a lamp base, lidded container or a tower with a drawer.

The work is finished with variations of a stoneware glaze applied to accentuate areas with greens, reds or yellowish hues. More recently the pieces have been masked and portions of glaze and body altered with an industrial sand blaster.

George translates the stoneware slab clay into even thicknessed sheets with a repeated free-air waving and

slapping-down technique which, he says, comes from his one-time employment as a pizza maker. Latterly, George has used cardboard boxes as formers inside which to build the base course of the monoliths. The slabs are joined by scoring the edges with a tooth brush and a liberal application of vinegar in the place of the commonly used slip. George prefers using "fresh" rather than leather hard slabs as the wetter clay is less likely to separate at the joins. It is no accident that the sculpted forms hold together. Meticulous attention is paid to the inside, strengthening corners and to consolidation of the external surfaces where the shape is appropriate with a large, lightweight balsa wood paddle. George is aware of the responsiveness of his sheets of clay to touch and the shaping pressures. "Clay behaves like skin."

George has an appreciation of the perfection of form obtainable on the potters wheel and an admiration for those potters who work towards procuring this kind of perfection. He does not consider himself a natural thrower — "The wheel is yet another tool

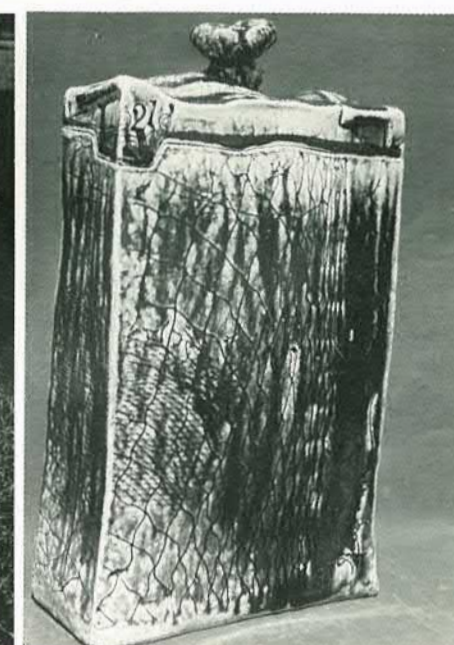
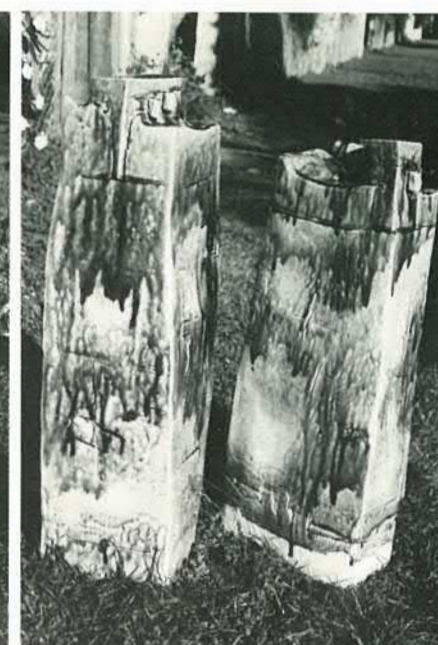
available to the clay artist." His own thrown ware has a quality of strength, it can be symmetrical if not smooth, more often dreamily irregular.

George's aim is to communicate. During the past five years he has conducted schools and workshops in many outlying country centres — situations where the artist becomes absorbed into the occasion as a whole, rather than standing remote as a sender of exhibits.

The willingness to share clay experience has provided many satisfying community experiences for this New New Zealander.

In 1982 George accepted an appointment as Lecturer in Art at Palmerston North Teachers College.

Above right: Form made from working inside a box as in upper left. Below: A tree stump provided the inspiration for such pieces.



Thought for the day

- * Aim for the square but don't worry if the form takes a life of its own — encourage it to develop.
- * The average buyer purchases the pot he doesn't have to look at twice or think about too much.
- * A challenging profile makes one look again, requires the viewer or buyer to become involved. This can be uncomfortable for some, i.e., rejection follows.
- * Work is done for enjoyment but there is the hope that some

money will be forthcoming. Getting away from the structures you know is important. Leave them behind if you can or let them work together so a bit of the artist is taken away with the pot and work.

* Most growth and development comes when teaching; ideas grow from communication with students. He is a new potter — impatient and immediate, no contemplation.

* New Zealand potting generally is now tending towards looking strongly to refined and delicate work — not for George. Still

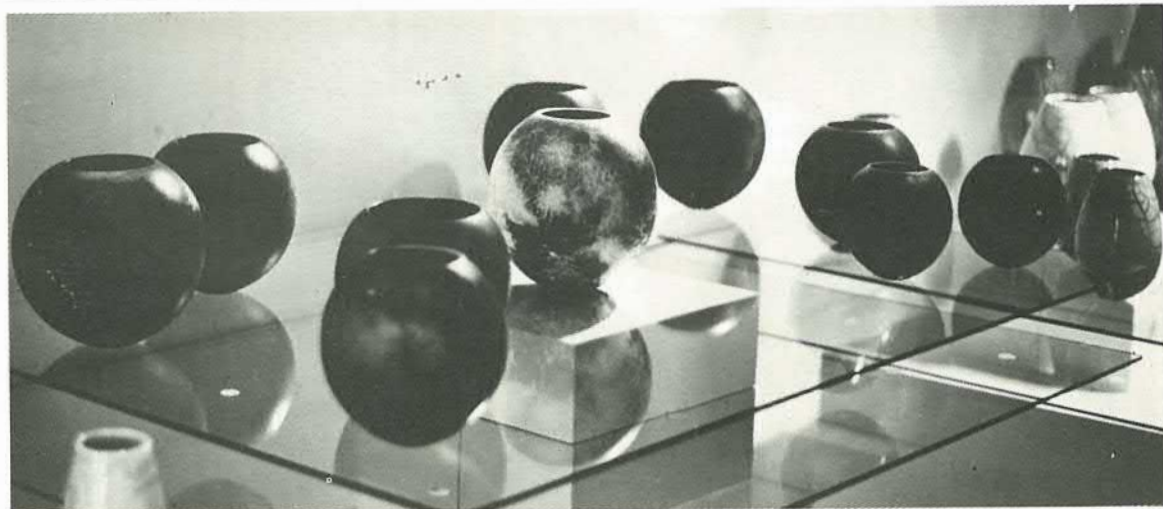
enjoys his rugged forms — from landscape and country surroundings. Enjoys his country teaching and contacts most.

* On ability to do things. If you think you can do it, you usually can.

Art School degrees only useful as a bread ticket.

No primitive artist needed to go to art school.

* On teaching — expects students to attend courses. No use saying I'm a genius and can do it all. If you're a genius then I want to share it with you. Come on in and we'll both enjoy it.



Spontaneous precision

Catherine Anselmi

I work mostly in fine clays, porcelain because I like the whiteness, and Podmore's red earthenware for its rich orange-red colour.

All pots are raku fired. With the porcelain I either use a crackle glaze or I burnish the pots and simply smoke them. And with the red earthenware I smoke them only so that orange, instead of white, shows through the smoked surface.

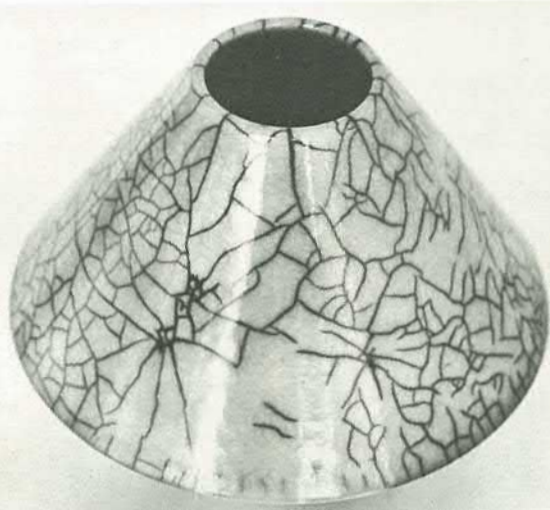
I like strong geometric forms, and shapes that start and stop decisively. All my work is wheelthrown and turned. I think that it is important to throw the pots because it allows the forms to improve and change. Some forms naturally are better than others and I hope the standard improves as I work. In my experience there are no shortcuts to making good pots.

I work within restricted themes, for example the non-angular forms on which I have been working all come from limiting myself to a bowl shape and extending it as far as possible.

I enjoy taking these precise, delicate pots and treating them in such a drastic manner as raku firing to achieve a soft, random and spontaneous quality. In the finished piece I enjoy the contrast between these two opposing factors.

Raku allows me to carry the direct involvement of the making of the pot through to the firing. The most important point of the raku method for my pots is the opportunity to combine clay and the firing process. By not trying to control it, I have the chance to recognise change, to enjoy the unexpected, to accept it and grow with it.

Catherine Anselmi, fulltime potter since 1977, lives in Epsom, Auckland. A detailed article illustrating the raku methods used by Catherine, Brian Gartside and others appears in POTTER Vol 22/2. Copies available. eds.



Nelson Convention

Personal picture from David Brokenshire our Christchurch correspondent of the NZ Society of Potters Convention and annual exhibition.

November, 1981

Clay/81 was fun. Not as high powered as the earlier symposium in Palmerston North, but lower keyed and very friendly. Anyone who had a problem in ceramics had only to ask and help was instantly forthcoming, very like twenty years ago. Then if you were having trouble reaching cone 10, there was a knock on the door and Roy Cowan magically turned the oil down and the air up and temperature leapt!

The fast firing wood burning kiln built at the Polytech to a Frederick Olsen* design and reaching cone 10 in four and a half hours was very interesting indeed. Bill and Nancy Malcolm gave generously of their time and knowledge in almost continuous raku firings.

The demonstrations from John Parker, Rick Rudd, George Kojis, Chester Nealie, Debbie Pointon, Len Castle, Neil Grant, Royce McGlashen, Jack Laird and myself went well. I admit to feeling absolutely drained after being watched for six hours, but in turn enjoyed being able to see such diverse talents at work.

In my view the exhibition was a good one — expertly set out by John Parker and friends. Approximately 460 people attended the convention, of those, 96 submitted a pot for exhibition. Also shown were 21 pieces from the New Zealand Society of Potters collection. Although of historical importance, I think there are only a

couple of really important pots there. Of the 1981 exhibition there were possibly half a dozen pieces I'd have selected out, but overall it was full of interest and it was grand with so many potters in attendance to put faces to pots. I think this is a really good way of doing the annual New Zealand Potters Exhibition as everyone had responsibility to get work there — to remove it at the end of the show or collect a cheque. Fairly painless for organisers too.

Pots I enjoyed were:

Raynor Scandrett — Christchurch, a stoneware plate with "landscape" worked in glaze.

Brian Paltridge — Wellington, a lidded porcelain box with air brushed landscape on the lid.

Robert Waggoner — Dunedin, stone ware jar with a satisfying "feel" to a lobster-claw crackle glaze.

Vic Evans — Nelson, fumed porcelain sphere, really lovely.

Ruth Court — Auckland, miniature teaset, quiet and very lovely.

Alan Kestle — Auckland, porcelain cylinder, wonderful proportion, control and sensitivity.

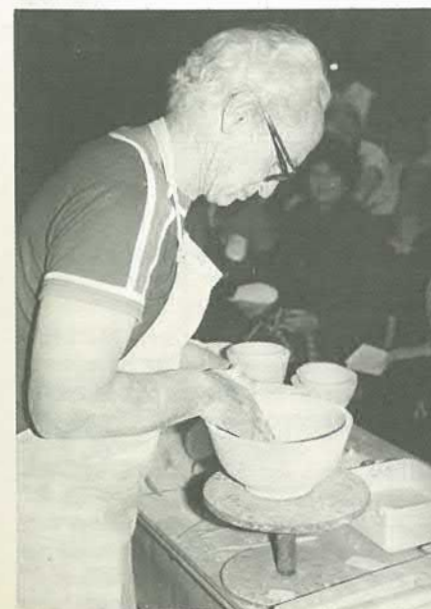
Peter Masters — fine sculptural piece "Dead Twisted Root Growth, No. 2."

Chester Nealie — Northland, very fine wood fired jar, quiet with the appearance of soft turned clay.

Pot of the show — Marc Sauvage, raku platter — hard edge painting in clay and glaze. Done with great assurance, as far from "instant toast" clay as you could imagine.

* We intend publishing this plan in a future issue.

David Brokenshire and Rick Rudd



Photos: Stan Jenkins



The New Society

Sally Vinson, President of the New Zealand Society of Potters, writes on future aims and plans.

A membership drive is continuing as we firmly believe that a truly representative national organisation for potters is necessary, not only for the formal aims of the Society stated below, but also for responding immediately and effectively to all problems that may threaten New Zealand potters. For instance, the sales tax issue is not solved — merely shelved. We need to have "clout" to survive.

In 1982 the Society is planning:

Another in the highly successful series of weekend get-togethers. This year the convention will be hosted by the Auckland Studio Potters.

A comprehensive weekend study on gas kilns, their design, construction and suitability to function.

A scheme of insurance, at lower group cost and tailored to potters' needs.



To research the bulk-buying and distribution of materials on a co-operative basis.

An improvement in the presentation of our already informative bi-monthly newsletter.

These projects are all part of continuing activities in terms of our Society's aims, which are formally stated as:

To encourage and foster the development and appreciation of pottery and ceramics in New Zealand.

To encourage and promote those educational and technological activities which are judged to be of benefit to pottery and ceramics in New Zealand.

To promote, by the conduct of or involvement in exhibitions or by other means, the work of those persons in New Zealand who work in the field of pottery and ceramics.

To communicate all information which the Society considers necessary for the promotion of its objects by whichever method is the most desirable.

To represent the interests of its members upon all those occasions when representation is requested or when representation of those interests is judged by the Society to be required.

To promote the highest achievable standard of craftsmanship in the field of pottery and ceramics.

Our membership has grown from 120 potters in January 1981 to 520 in November 1981 and hopefully we will see this figure multiply many times as our activities encompass all potters throughout the country. The criteria

for membership of the Society were radically changed at the AGM in January 1981 in order that all potters would be entitled to join, and accordingly membership categories are now as follows:

Full Membership: with voting rights; open to any potter practising in an on-going capacity — present sub. \$20 p.a.

Student Membership: open to all full time ceramics students and apprentices, and senior secondary school students pursuing a practical study of ceramics and students following any practical course in ceramics approved by the Council — tentative sub. \$10 p.a.

Associate Membership: open to all

individuals, business houses, corporate bodies etc. who are interested in craft ceramics and in furthering the aims of the Society; non voting — current sub. \$12 p.a.

Honorary Memberships

For further details regarding membership we invite you to contact the Secretary: Russell Toplis: Ross Melville Bridgman & Co., Chartered Accountants, P.O. Box 881 Auckland 1, Phone 798-665.

The N.Z.S.P. is your Society, and functions for the benefit of all New Zealand potters. If you are in Auckland, please feel free to contact me.

Sally Vinson (President): 19 Abbotsford Street, Devonport, Auckland 9, Phone 456-104.

A mug's price? What's a pot worth?

In search of pertinent pricing for potters, Auckland Studio Potters met last November for a panel discussion of approaches to pricing. The five potters, Steve Yeoman, Sally Vinson, Lex Dawson, Ross Tovey and Ian Firth outlined their differing attitudes and methods. Jan Cockell and Tricia and Steve Yeoman have provided us with reports.

Modern Business Practice

Steve Yeoman

If you are a full-time all day production potter then Steve Yeoman's approach is one you may appreciate. He analysed the costs of producing a single mug in terms of setup, process, raw materials and overheads. This exercise assumed an eight-hour five-day week with two weeks' holiday and a pre-tax salary of \$15,000 a year for 2000 hours' work. Setting up, cleaning and similar tasks take half an hour a day. Selling is assumed to take place to retailers at the kilnside. Processing can be broken down as follows:

Man-minutes per mug	
Collecting Clay	0.186
Wedging and weighing	0.286
Throwing	2.00
Trimming and Handles	2.000
Loading bisque	0.500
Firing	0.500
Unloading and waxing	1.000
Mixing glazes	0.150
Glazing & Decorating	1.000
Loading Glost	1.050
Firing	0.500
Unloading and Grinding	1.00

10.2 man-minutes/mug

To allow for 10% seconds this must be multiplied by 1.1

equals 11.2

Raw materials:

Clay	15.4c/mug
Glazes	2.0c/mug
Energy	25c/mug
10% seconds	
42.4 x 1.1 equals	46.6c/mug

Overheads:

Expenses which cannot be directly related to producing one pot are:

ACC Levy, Advertising, Bank Charges, Depreciation, Entertainment. General — books, stationery, course fees, special clothing. Rent, insurance, Repairs and Maintenance, Transport, Secretary and Accounting, Telephone.

Working on the last two years' tax returns I estimate this year's expenses to be \$9385. Over a year of 250 working days this works out to \$37.54/day!

The cost of one mug includes first the cost of time spent including setting-up time that is 11.90 minutes at \$7.50 per hour or \$1.50 for the labour cost. Overheads of \$37.54 per day are shared over the 40 mugs that can be made in an eight hour day, that is 91.5 cents per mug. Raw materials cost .466 cents. The total cost is thus \$2.88 per mug.

In this figure there is no margin for additional capital equipment or contingencies such as kiln accidents, unsatisfactory materials. A figure of 20% needs to be added making the wholesale price of a basic mug \$3.45 which would retail at about \$5.70.

Potters selling their mugs at \$2.50 are earning about \$5.10 per hour.

Potter selling only to retailers

Sally Vinson

After potting in Britain ten years ago, prices here were very different. In London a small mug would sell at

£0.6.6d and a coffee set at £5.8.6 and it was very much more difficult to compete. One had to have a range of samples, go out to shops, make appointments with buyers, have a price list and gain a firm order which had to be finished and delivered by a given time. Much extra work was involved in having samples and photographs, issuing invoices, calculating purchase tax, collecting it and paying it to the tax department. Statements had to be sent offering a 2½% discount to get the money by the 30th of the following month. Tea chests and wood wool were needed to pack the pots which then had to be transported by rail or by road or by yourself. It was a complicated business. To come here and have retailers clamouring for work was amazing. Sally maintains the method used in Britain and buyers have become used to it. Every January prices are increased 15% to keep abreast of inflation and from the price list all concerned know exactly where they are. "I've done this over the last four years and have managed to live in roughly the same manner as I did. I am not aiming to get rich quick. I just want to stay being a potter and earn a living."

Marketing to the public

Ross Tovey

Ten years ago at Cook Street Market it was possible to make a lot of money. There was no brushwork on pots and I used a standard glaze on everything because it sold. Coffee mugs were selling then for \$1.80, and at Cook Street today you can still find mugs for \$1.80. In Germany today similar coffee mugs with minimal decoration sell for \$9 and casseroles for around \$50.

There are good and bad points to

selling direct to customers. A good point is the personal loyalty of customers — they come back to replace. It is also a break from routine and produces a satisfying feedback. A stall is a very good outlet for seconds which sell cheaply for fast turnover.

There are bad points as well, such as when other people take a stall for one or two months, cut their prices if they are not doing well; you cannot compete with them. Firing once a week in a large 120 cu. ft. kiln turns over a lot of pots, 90% of which are casseroles, ramekins and other domestic work. Selling pots in bulk is successful but for various reasons, it does not encourage people to be discriminating. The standard of appreciation is nevertheless better now than ten years ago, people are more discriminating, they look underneath pots, but still want them as cheap as they can get them. Because we have pushed people to appreciate pots more, we will have to raise standards and maybe our prices.

Selling from a co-operative or two

Lex Dawson

Pricing is not approached from an accounting point of view but from the necessity to make \$300 per week to make ends meet. He can make on pots \$600 over a five-day week (usually its more like a seven-day week). Materials and firing take about 25%, tax and car 25%, leaving 50% for running the family. Pricing was worked around a coffee mug, just as most other potters do. It took the same time to make 100 coffee mugs as it did to make 50 goblets, so therefore goblets should be twice the price of mugs. One has to be very aware of what prices the others in the co-operative are charging; one cannot undercut or overprice. A regular dialogue is required about what prices should be placed on pots, normally discussing the matter over a kilnload. Amateur potters can be a lot dearer than full-time potters. There is customer resistance against high prices for individual things — if a decoration that is on a pot were put on canvas, framed and hung on a wall, the artist could get a lot more for it with no customer resistance.

Domestic ware and one-off pieces

Ian Firth

We must look at ourselves; each person is an individual and you must decide what you are. If you are a beginner with not much experience, you should make at least 4000 pots

before you sell any. If you are the "average" potter you should have "average" prices. If you are among the top 20 potters you price accordingly. Also consider whether you are a Journeyman potter making a limited range and making it time and time again or whether you like to think about what you are doing and change and evolve with it. Are you an artist-potter? One does not like to see pots whose prices are obviously subsidised. Some prices are so ridiculously low that there is no way anyone could make a living from them. Part-time potters often do not allow for overheads in pricing. You have to get a livable wage on 40 hours a week.

There are two prices; one is just a price, a fair one worked out: the other is an individual price as placed on a superb piece of work. On this basis you could feel that you would never make another mug or jug because the special piece brings four times the price of a mug. People know how much they are going to pay for a pot and that is it. To get the same value for a coffee mug as 25 years ago, it should be over \$10 today. In England a coffee mug is £4.50 and a good casserole is over £50. We are behind inflation and if it carries on it soon will not be possible to earn a living wage on present pricing practice.

There is a method to follow. You must ask yourself "What am I worth?" "Am I worth as much as a plumber or a carpenter?" You should be worth the average wage at least. What you throw in one day is what you earn in one week. If you can throw 250 pots in one day you have to finish them the next day, then you have to make another 250 for costs will be 50% of the gross value. There is not as much discrepancy amongst any other trade as there is with potters. Some potters have been known to put costs in their tax returns as low as 7% and some have put them in as high as 90%. If you earn the national average wage I would say you are going to be working harder than in any other occupation. You have to decide yourself whether you want job satisfaction, integrity etc. You have to use true costs that relate to kiln space used and remember that larger pots result in more losses. Take into consideration replacement costs, depreciation, raw materials, wasted days, clothing, maintenance which if allowed for, brings costs right up. Some of the pots at the Auckland Studio Potters Exhibition must have been charged out at \$2 per hour. Some people price by the pound of clay using a figure of somewhere between \$6-\$8 per pound. On this basis a coffee mug should be \$3-\$4 wholesale; a casserole around \$40-\$50 wholesale.

Discussion ranged over a wide area: **Pricing for quality.** "Should be a factor but difficult." Retailers will cheerfully accept higher prices so long as the pots sell. "One-off pots should be sold at art-dealer galleries."

Exhibitions. "All risks are taken by the potter." "Exhibitions do not pay." "Some mark-ups are too high on top of opening costs, gallery fee and transport costs."

Bulk Buying. "Potters can get wholesale rates for clay and glaze materials if they buy in large enough lots. Co-operative or Society buying can be organised to increase the size of orders."

Some hobby potters and others sell too cheaply? "Pot prices have lagged behind the rate of inflation." "Potters are not considering overheads and allowing for them in pricing."

Discussions with Retailers. "Hoped that an open forum can be arranged with retailers for discussion of pricing."

Packing pots

The "sausage packing" method used successfully by the Manawatu Art Gallery will avoid disappointing breakages when you send your pot away.

Ideally pack in a box, within a box, within a box thus avoiding gaps from shifting packing materials.

Wrap each object in clean paper. Bubble plastic is excellent for the second layer. Hold with the minimum amount of cellotape as tearing off strips of tape when unpacking is risky.

Never handle the pot by its edges or handles when packing. Always hold with one hand under, the other steadying.

Put a firm non-slip layer of packing on the bottom of the box at least 3 ins thick as this is the area of greatest impact.

Then pack with "sausages" made by crushing a few double-page sheets of newspaper and then rolling this material in about a foot square of clean newsprint, forming a filled-in tube tied off with a twist at each end. This is resilient, pliable and strong.

For sale Pottery

Auckland, Waitakere Hills, harbour view, 3 bedroom contemporary wood-lined bush hideaway. Workshop. 120 cu.ft. diesel trolley kiln. 3 cu.ft. elect. kiln. Leach kick wheel. \$65,000. Enquiries 639 Ohaupo collect.



A ton of Nelson clay

Wellington potter Roy Cowan beside his monolith for the foyer of the Reserve Bank Auckland. The elements of the design come from traditional Maori patterns developed in wooden carvings. Built in six separate pieces with a whitish glaze flashed by salt firing. The inside is glazed deep red that is visible through the exterior openwork. Roy also constructed the heavy steel core which is bolted to the floor.

Roy enjoys meeting the challenge of the engineering problems inherent in the construction of such large works.

Photograph: Evening Post

Natural gas as fuel by Roy Cowan

The Scenario

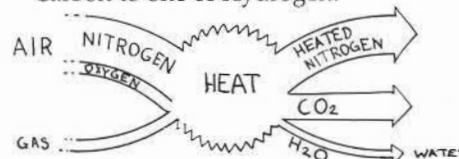
The production and supply of Natural gases in New Zealand and their use in pottery kilns is still in a developmental stage; changes are occurring in the composition of the gases, and gas kiln design will repay further research. Whatever happens to the world oil supplies of diesel or equivalent light gas oil must be available in New Zealand if the economy is to function, and liquid and solid fuel fired kilns are as open to research and improvement as are gas and fibre type kilns.

Some knowledge of the science of flames and furnaces can help the potter understand the possibilities of the variety of fuels now available, and provide creative leads, and there re-

main opportunities for original studies in the field of kiln design and firing.

The Basics

The most simple fuel is Methane, CH_4 , the main constituent of commercial Natural Gas, having a basic unit of one Carbon atom linked to four Hydrogen atoms; in mass, three parts of Carbon to one of Hydrogen.



On burning, the Carbon combines with Oxygen from the air to form CO_2 , Carbon Dioxide, plus heat. The Hydrogen also combines with Oxygen to make H_2O , water in gas form, and

heat. On leaving the furnace, water vapour eventually becomes water liquid with a further heat loss, representing heat energy produced in the fire which cannot be used. The lower the Hydrogen content of a fuel, the less will be this loss. Air consists mainly of Nitrogen, which rides through the fire taking up heat but contributing nothing.

The possible temperature in test conditions of the Methane-Air reaction is about 1900°C . Take away the Nitrogen from the Air and the possible temperature goes to around 3000°C , as in Oxy-Acetylene or Oxy-Gas welding. I doubt anyone will see 1900°C in a kiln, but some kilns can peak at white-flame conditions, over 1400°C .

Calorific Value

A term that appears on gas bills and in official pronouncements upon gases and oils is calorific value, formerly in B.T.U.'s (British Thermal Units) per pound or gallon, or per cubic foot of gas at a standard temperature and pressure, or in Megajoules; for gases Megajoules per cubic metre, MJ/M^3 . It stands for the amount of heat energy contained in that measure of the fuel. Methane gas produces 1010 B.T.U.'s per cubic foot, Ethane, another gas from the wells, 1770, and Butane, 3263. Diesel produces about 21,000 B.T.U.'s per lb, dry pinewood from 6800 to 8000. This has nothing to do with the firing temperatures these fuels will give, in fact they all have maximum flame temperatures between 1900° and 2200° . The difference, to cite wood against diesel is that about $2\frac{1}{2}$ times the weight of wood is needed to equal the output of diesel. Calorific Value figures are important in calculations of the amount of fuel which a kiln will require, the volume of gas or the weight of a solid fuel. They say nothing about the quality of firing each fuel gives.

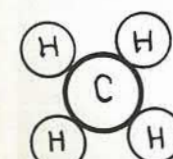
Kapuni, Maui 1, Maui 10

New Zealand's first natural gas, from Kapuni, came up with a large amount of CO_2 and other fractions which condense into liquids at the surface. Maui 1 also provides a condensate which yields diesel oil.

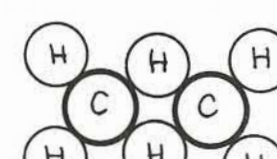
Percentage Composition of Gases

	KAPUNI	MAUI 1	MAUI 10
Carbon Dioxide, CO_2	2.45	13.47	4.89
Nitrogen, N_2	0.97	2.74	2.83
Methane, CH_4	82.13	70.05	82.46
Ethane, C_2H_6	9.41	7.55	6.71
Propane, C_3H_8	3.81	3.78	2.71
Butane, C_4H_{10}	1.08	2.10	0.72

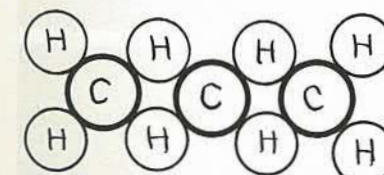
The molecular pattern of this group of gases is a chain.



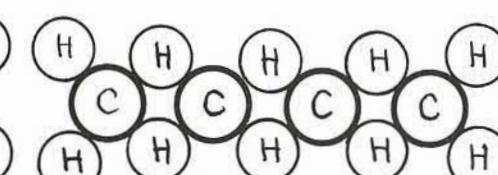
CH_4 METHANE



C_2H_6 ETHANE



C_3H_8 PROPANE



C_4H_{10} BUTANE

Notice how the ratio of Carbon to Hydrogen rises from Methane to Butane. As the Carbon content rises, the luminosity (or emissivity) of the

flame increases. A low emissivity flame heats by contact, a higher emissivity flame by contact and by hot radiation. In the rising ratio of Carbon to Hydrogen, the steps beyond Butane are, in order, wood, light fuel oils, heavy oils, and then the coals. But when some industrial furnaces such as steel soaking baths and glass melting tanks were changed from oil to gas, difficulties were caused by the lower emissivity of natural gases, especially Methane. This factor is present in Natural Gas kiln firings — hence the potter's observation that oil is a richer fuel than gas. The solution in the case of the glass tanks &c. was to design burners which promoted the formation of carbon in the flame, raising its emissivity.

Two other measures of gas character are relevant to a potter's understanding of gas behaviour. The Wobbe Index measures a combination of the calorific value and the density of a gas, so indicating the air demand and needful burner capacity for a particular gas or mixture of gases. If, for instance, the Wobbe Index of a fuel increased, unadjusted appliances or kiln burners would run a more sooting flame. In fact, the gas rising from the well does vary in composition, and the Wobbe Index of Kapuni gas wobbles (sorry about that) a few percent, and some potters on lines near to the source report fluctuations in flame quality which could well be related to these variations.

would be less prone to sooting and from the potter's viewpoint, give a clearer less radiant flame. Either all appliances or the gas mixture would have to be adjusted, the present proposal being to adjust the gas, with a fall from the present 1150 to 990 B.T.U. A 16% increase in gas volume would be needed to obtain the same total heat yield, which may cause difficulties for potters on low-pressure reaches of the Auckland and Wellington systems, at least. A second condition, which has already been observed, is failure to finish ware adequately, even though the correct amount of fuel is there, there is a lack of sufficient radiation; as a counter-measure; boost the flame with a more carbon-rich supplement such as LPG, oil, or wood. Note that a combination of high flame temperatures and glaze elements from wood ash may shorten the life of fibre linings.

LPG

Commercial LPG is a mixture of Propane and Butane. They are liquids which boil at -42° and -12°C respectively, but they can be compressed back into a liquid up to a Critical Temperature, 97°C for Propane and 134°C for Butane. At a reasonable 15°C , the Propane will be pressing on the cylinder at 100 lb sq. in. and Butane will be at 32° p.s.i. At their Critical Temperatures, the pressures will be 617 and 544 p.s.i. Obviously 97°C is rather too close for comfort to tank temperatures which might be reached in a hot sun. Earlier, our LPG had more Propane, but this was later reduced, more Butane being added, increasing the stability of the mix. The two liquids tend to separate in the bottle, the Propane coming off first. This condition can be partly corrected by shaking the bottle, when it is full and just before firing, but this step is not always practicable. Recognising that Butane is the higher calorific fuel, needing more air, another way is to provide a supplementary low-pressure air jet alongside burners or make greater use of stack draft, if sooting appears.

LNG

The Critical Temperature for Methane is -82°C , pressure 673 p.s.i. The storage and shipment requires maintained low temperatures and high pressures; if the associated problems in Cryogenic Engineering are solved the South Island could be provided with Natural gas.

The second measure is that of flame speed. For each gas, flame travels

through an air-gas mixture at a distinct speed. If that speed is higher than the rate at which mixture is flowing out of the burner, the flame will pop into the burner (popping back). If the flame speed is lower than the outflow rate, the flame is blown off the burner head. Popping back is eliminated by a reduction of the burner outlet area. Some appliance burners are designed to do this automatically. Blowing off is simply controlled by reducing the mixture flow, until the kiln is hot enough. In fact, a blown-off flame is part of the act in advancing oil-fired kilns running on jet burners — the primary very hot phase of combustion is shifted off the burner and spread throughout the charge. The low-pressure inspirator is reluctant to do this — a respectable gas fitter would have a fit if a potter suggested that there is a place for blowing off in pottery!

Gas Stripping

As the table shows, the Kapuni and Maui gas outputs are mixtures, from which selected parts can be stripped off at the well head plant. These include excess CO₂ from Kapuni, condensate from Kapuni and Maui 1, Propane and Butane for making Li-

quid Petroleum Gas (LPG). The commercial Natural Gas retains fractions of the stripped gases, raising the Calorific value to around 1150 B.T.U. per cubic foot, compared with 1010 B.T.U. cu. ft. for Methane alone. The policy is to concentrate on the use of Kapuni, shifting to Maui 1 as Kapuni is depleted, to obtain a supply of condensate towards reduced dependence on oil imports. At the same time Propane and Butane are taken for LPG. It would be wasteful to burn these valuable gases and Ethane, for ordinary steam raising and heating.

References:

New Zealand Energy Research and Development Committee. Report 37 May 1978.

Gas making and Natural Gas. BP Trading Limited 1972.

Natural Gas. E. N. Tiratsoo. Creative Press (Reading) Ltd 1972.

NZ POTTER has consulted LPG bulk suppliers and wholesalers to discover the present position on LPG composition and availability. There are two grades of LPG at present available from retail outlets. One is "Commercial Propane" (the bulk suppliers' term) that consists of 80% Propane and 20% Butane. This gas is produced in a

small total quantity (500-1000 tonnes a year) that is likely to decrease in the future. The second grade is Mix that contains 60% Propane and 40% Butane. It is the gas now normally supplied for car fuel and camper and kiln bottles. The Mix grade proportions vary at least by plus or minus 5%. Since 1981 this has become the normal gas supplied to LPG users. It is essentially the previously available 80%:20% gas with more Butane added. The more dense Butane (SG 2.04 as against Propane's 1.55) requires a larger orifice in the burner jet than Propane, so burners set for Propane will not burn Butane efficiently. As Roy Cowan points out, more air is also required.

We hear that there is industrial interest in normalising supplies of Commercial Propane at 95% Propane content and the matter is under discussion with the gas suppliers. There is also said to be a jet that can burn Propane, Butane or Mix efficiently but we have not located details.

The Commercial Propane (80%:20%) is still available at some outlets so potters getting gas bottles filled should make a point of asking specifically for it, if they wish to maintain the firing settings they have used with this grade when it was the usually available gas.

Designs for colour

Probably the first observation one makes of my work is the colour — it's fairly bright. I first became interested in using colour on clay two years ago, influenced by music and "New Wave" colourist images that accompany it, and to some extent by science-fiction.

It took me the best part of a year to explore the technical aspects of glaze techniques. I was studying ceramic chemistry at the time, but have since gravitated to commercial glazes which although expensive provide a reliable degree of control in a wide range of colours otherwise difficult to achieve without extensive testing for which time is not available.

The word "controlled" has been used when describing my work. This is the result of art school experience in design where precise control over the process gives the successful visualised piece. I admit to perfectionist tendencies so this method became a natural and enjoyable way for me to work. Though I've not studied graphics, I'm aware of that formal approach to design in my work.

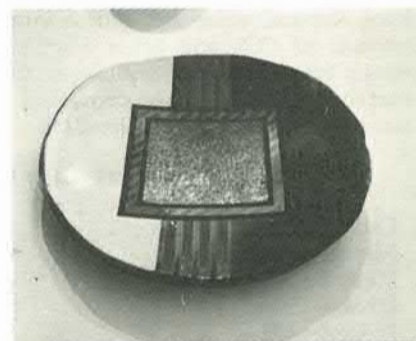
The first concept begins on paper, but the clay object develops much further, in fact rarely does the completed piece duplicate the original two dimensional design. But the sketching stage is an exciting appetiser until I

Marc Sauvage

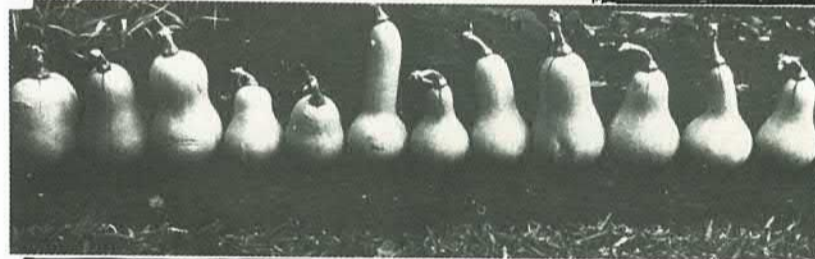
become sufficiently familiar with the intended object to carry it out in clay. One sketch may develop into a group or series each different, but sharing the same theme.

Some objects may function as containers or vessels as a bowl or a lidded box, but function is not the prime aim. I hope each piece will exist on its own merit even if that is only its extreme fragility or the precarious way it exists in its space.

Marc Sauvage, an Australian lived and worked at Community Potters Workshops, Nelson during 1981. These examples of his work exhibited in the Bishop Suter Gallery, Nelson, were photographed by Bob Heath-erbell.



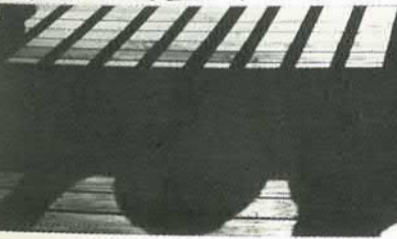
Are you busy?
That's the way I see it!
"What you're doing could
be better in another material!"
I WANT to make it in clay!
What shall I make?
Does it matter what
people say?
Who can help me?
How do you make a
goblet?
Who can help me?
Why does he stick marble on?
Who can tell me? I don't know. Just do it!
Write an article on ideas and inspiration
How on earth.....? There must be basics
I don't know! JUST DO IT!standards....



Out of a thousand words written
there may be one, and one only
that need in truth be written.
The rest are wasted ink and paper,
and minutes given feet of lead
instead of wings of light.
Mikhail Naimy.



That's nice! I think I'll make one.
I don't know who to believe!!

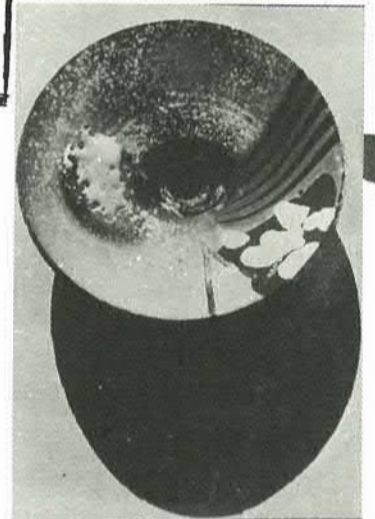


CONVERSATIONS
REMARKS
QUOTATIONS
....All taken
completely out
of context....



Someone must know!

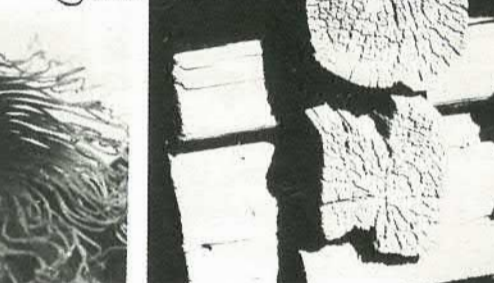
We are all. Free. To do. Whatever. We want. to do.
Paulus Berensohn.



Do you really want to do that?.....
No!..... then don't do it!
make



Look.....
the answers
are all around
you...



THEY SAY...

You have to learn to ask the questions before you can grow to the answers. Paulus Berensohn.

... have to work hard!
... lots of practice ...
... a long way to go ...
... some improvement ...
... BUT ...

Try harder and one day ... ?

I would like to warn you most earnestly not to try to find your own expression before you are capable of using your medium and your technique
M. WILDENHEIM

IS IT REALLY SO DIFFICULT?

You already have all you need to make a work of genius

IS IT REALLY SO EASY?

A lot of these top potters — they're really up themselves! weekend school students

There are NO RULES: only concepts
CONCEPTS means wrapping things up!
Maria Whitcombe

I do objects of sensation not philosophical statements
Reg Butler

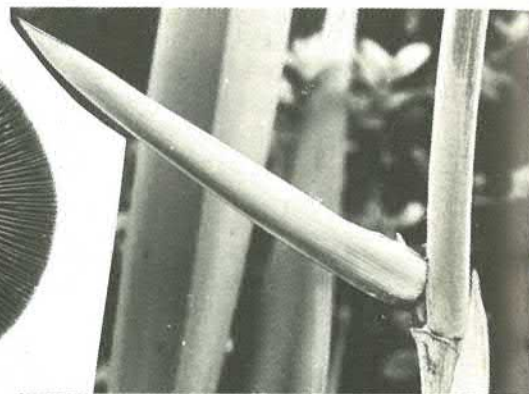
The material is secondary to the idea
Henry Moore.

it is the material that dictates to our creation
Brancusi

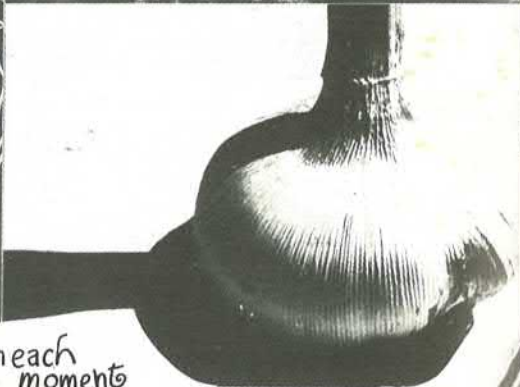
... Not a set of procedures ... it's an art ... that which you learn by yourself ...
Chris Cockell.

There are moments when art almost attains to the dignity of manual labour
OSCAR WILDE.

In saying that potters should have the courage to be potters, one is merely saying that they should have the courage to do things for the right reasons
Harry Davis



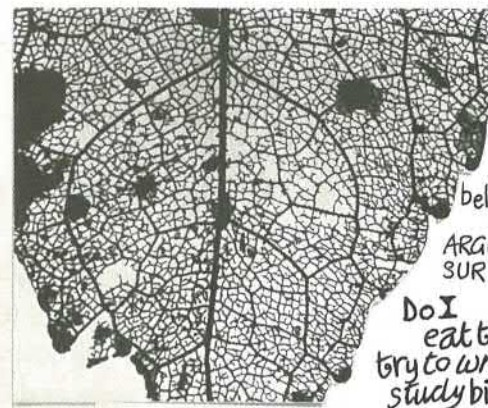
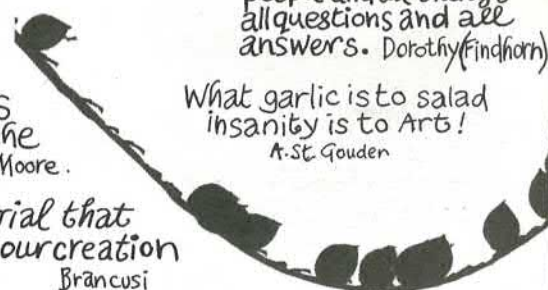
You mustn't let yourself be impressed by your beliefs.
Michael Frayn.



A mystery for you to find in each moment
Seek it with the little and the big. It includes all people and all things all questions and all answers. Dorothy (Findhorn)

What garlic is to salad insanity is to Art!
A. St. Gauden

ART



We're all bombarded constantly from the day we're born with limiting suggestions
Dr. Georgi Lozanov.

belief in limits creates limited people.

ARGUE FOR YOUR LIMITATIONS, AND SURE ENOUGH THEY'RE YOURS.
Richard Bach.

Do I eat the menu instead of dinner? try to wrap up and label the sky study bird song in a collection of stuffed nightingales?
Alan Watts

In oneself lies the whole world and if you know how to look and learn the door is there and the key is in your hand. Nobody on earth can give you the key or the door to open, except yourself.
Krishnamurti

There are times I see things clearly. One of those times is when I work with clay.
Don Bendel, Flagstaff Arizona.

SEEING

... a million things to learn ... but I do know that, when it's right on the wheel, a state of grace descends that cannot be matched by anything else I've come across.
(studio potter USA)

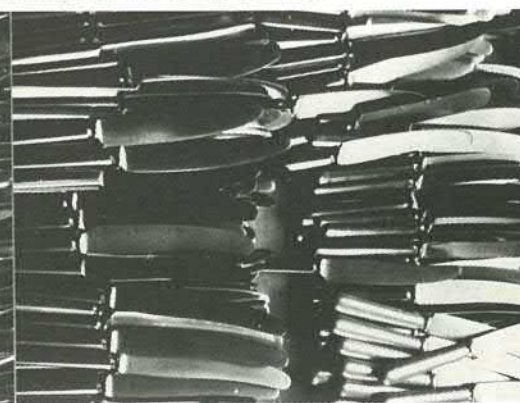
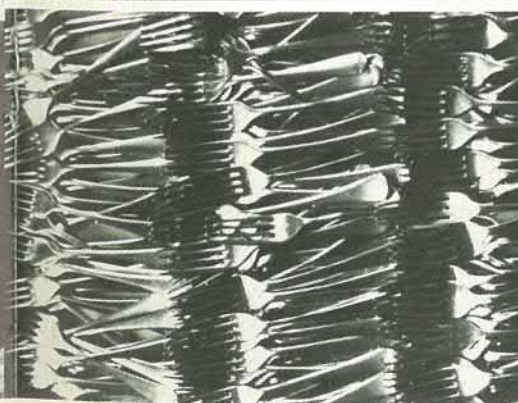
In every object there is inexhaustible meaning the eye sees in it what the eye brings means of seeing
Carlyle. Fungus.

BECAUSE IT IS SOMETIMES SO UNBELIEVABLE THE TRUTH ESCAPES BECOMING KNOWN.
Heraclitus circa 500 BC.

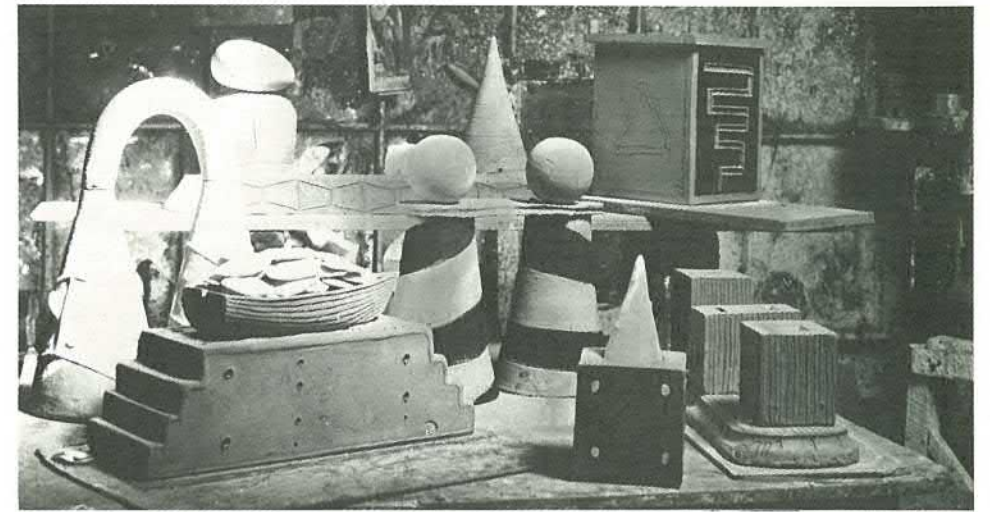
... seems right that what is of value & wisdom to one man seems nonsense to another.
Hesse Siddhartha.

TRUE SEEING IS FIRST PERSON AND SO EYELESS
Harding.

Watch with yer eyes and not with yer mouth. Sat. night TV. movie



Right: Assemblages in local clay and porcelain taking shape in Denis O'Connor's workshop.



The flesh of the salmon Denis O'Connor

The ideas behind some of the sculptural pieces I have been doing, keystone, tradestone, touchstone, stepstone, anchorstone are influenced by decisions in the making process and a strong sense of place — Putiki Bay, Waiheke Island, where I've lived on and off for ten years. The sea, its vessels, lighthouses, marker buoys chandlery and architecture provide the image. I like the finished pieces to have a presence not unlike dockyard hardware with the intimation that they also function as markers and beacons for our inner lives.

The other aspect of my work is salt fired domestic ware in porcelain. The pots from history that turn me on are Momayama ware. This tradition suggests to me the right touch of joy, chance, suspense or just plain gutsiness.

Decoration is a touchy subject. The inspiration of 20th Century art makes it hard to reason why so many potters stick to worn out clichés with which to scribe their pots. Modern masters like Tapiés or closer still, bus shelter graffiti, provide the keys to the vigor traditional folk pots were decorated with.

As the pot grows while throwing or building we make decisions. Each step requires a choice. What width, height, thickness markings — and with each of these decisions the potter leaves his personal history on the finished product. He reveals himself. If he is generous, he may allow the clay itself to do a little talking and during the firing he may encourage the flames to add their contribution. These processes demand the whole attention of the potter i.e. in each moment of construction he must be "there", if not, the pot dies. This is the meditation of potting.

Above: Wishstone, swamp clay. Below: Trade sign, swamp clay and porcelain. Photographed at the Dowse Gallery, Lower Hutt. Over eleven years the gallery has been establishing a representative collection of N.Z. pottery and holds several major exhibitions annually.



THE CLAY AND THE FIRE

Trust what you see hear touch feel
It is what is you
it will tell you what to do
There's no need to change... or judge too quickly
Just do what you do — give yourself to yourself
You can have what you want
If you ~~want~~ believe it
do what you do without fear

and the pots? — they will make themselves

The only constant is change

Change is in some sense an illusion for we are always at the point where any future can take us
Alan Watts.

Plus ça change plus ça la même chose

Be still
Take it easy
There's no rush
Look around the answers are all there.

What you dislike dislikes you. Like it and let be, thus removing an obstacle from your path.
Mikhail Naumy

the place whereon you stand is holy ground.

It is not sufficient to know an artist's work — it is also necessary to know when he did them
Why
How

Under what circumstances
Picasso 1943

THE BRIDGE TO HEAVEN IS BUILT WITH BRICKS YOU MAKE YOURSELF.
Findhorn Garden.

Majolica, a painter's medium

Sally Vinson

Sally Vinson – potter, of Auckland – revisits the majolica collections of Europe

The decorated ware historically originating in Mesopotamia, Egypt and Persia and moving to the Mediterranean countries where it still flourishes, is known as majolica and consists basically of medium to high fired earthenware specifically covered with a rich lead-based glaze opacified with tin oxide and decorated with rich oxide colours.

"Tin-glaze" came to the Mediterranean around the 9th century, spreading from Italy to Spain and Holland and from there to Britain. It is called "majolica" in Spain and Italy, "delftware" in Holland, "faience" in France, and in Britain "English delftware" or simply "tin-glaze". The fresh colours and bold approach are to me evocative of the Mediterranean countries. I feel that the hot sun and bright light of the New Zealand climate makes majolica's characteristics totally appropriate to our country.

One of the noted present day exponents of majolica is Alan Caiger-Smith of Aldermaston, England. He is a far sighted potter. He bought shares in a Cornish tin mine. The potters of Southern Spain are not so fortunate. They can no longer afford the cost of the tin oxide for their glazes and are using substitute oxides such as zinc, titanium or zirconium in an effort to opacify their earthenware glazes. The results are not good. The glaze has lost the richness of the intense whiteness that is characteristic of tin-glaze. The glaze has become thin and cannot carry the colour.

The anticipated price drop in the cost of tin will be good news for the potters of Spain, and good news for me too. Every time I buy the raw materials to make up another batch of tin glaze, I wonder if I should continue being so indulgent. Further, it takes an expensively long time to apply the decoration. I get carried away with brushes full of oxide working in involved patterns on the absorbent glaze surface. This surface feels similar to a hand-made water-colour paper which sucks oxide from the brush.

After five years of experimenting with the basics of firing temperatures, types of clay, thickness of glaze, depth of colour and the use of brush strokes, I feel that I'm now getting some results that please me. I reached the stage when I could get no further with experiment and books — I needed to go back to the museums and art galleries which house collections of superb pots, made and decorated by

artist craftspeople who knew all about this technique.

To this end, and because last year I was the recipient of the Zonta Art Award, I was able to visit England, Holland and Spain.

At the Wallace Collection in London, I was struck by the hot colours of the paintings so intricately woven from carefully applied brushstrokes made up from combinations of oxides. These huge platters, drug vases and other domestic pieces of the era were all used as vehicles for decoration it seemed. The collection of majolica at the Wallace comes mainly from Italy and Spain of the 15th to 18th century. The range of colours from the yellows of antimony oxide through to the ochres and browns from irons, and the green from copper, purples from manganese, and the many blues acquired from cobalt oxides and carbonates cover an artist's palate. These pieces reinforced the notion I already had that majolica is indeed a painter's medium. I was awed by these perfect examples of painting that had been submitted then to the whims of the kiln.

The rest of my trip took me to Reading Museum and Art Gallery, the Ashmolean Museum in Oxford, the Fitzwilliam in Cambridge, the Bristol Museum and the Holburne of Menstrie Museum in Bath. These museums offered wide varieties of majolica from Persia, Spain, Italy and naturally English delftware. The English approach is different. Commemorative platters, punch bowls, posset pots, drinking vessels of all kinds, puzzle jugs and yet more platters and chargers were made in England throughout the 15th, 16th and 17th centuries. Their decoration is more restrained, often using line drawings in only one oxide, such as cobalt or manganese. Lettering and messages of a political kind were often combined with figure and plant drawing as decoration.

In Holland I visited the Rijksmuseum in Amsterdam and the Boyman's Museum in Rotterdam. Again the collections of majolica spanned many areas and times, but concentrated on their own delftware. Decoration of pieces ranging from tile panels, platters, tulip holders to bird cages and even a ceramic violin, seemed to have a combination of the sophisticated draughtsmanship of the Italian pieces and the restraint in colour use of the English delftware.

Using only one oxide, either cobalt or manganese and by building up layer upon layer of colour, a monochromatic picture was produced with exceptional three dimensional qualities.

My last visits took me to potteries in Spain where the traditional methods of making and decorating domestic ware for tourists are unchanged. Majolica is used in architecture and street furniture. However, present day Spanish majolica has not the richness or quality of that produced even fifty years ago.

Back home in New Zealand I am still sifting through the information I have collected and absorbed. Time will show how much of this I will be able to use directly. Certainly I have a more confident approach, my brushwork is freer, and I am making my shapes more suitable for decoration than previously.

I am using a lead bi-silicate based glaze with 10% tin oxide. This fired to 1120°C with a good soak at temperature, matures well on a body of 50/50 Nelson Clay RfK, and a local red clay. Devonport is situated on a clay bed, the now defunct Dunders brickworks having used this very clay for their production. The clay itself is not strong enough for the firing temperature that I require, but it adds a richness to the Nelson clay, and warms the opaque glaze giving a more mature looking result. Bisque pots are dipped and allowed to dry. Then I paint on oxides pure and mixtures, which produce on firing the colours so typical of this ware.

Despite the expense and time consuming drawbacks of making majolica ware, I personally enjoy the results. Thankfully the pottery buying public seem to enjoy it too.

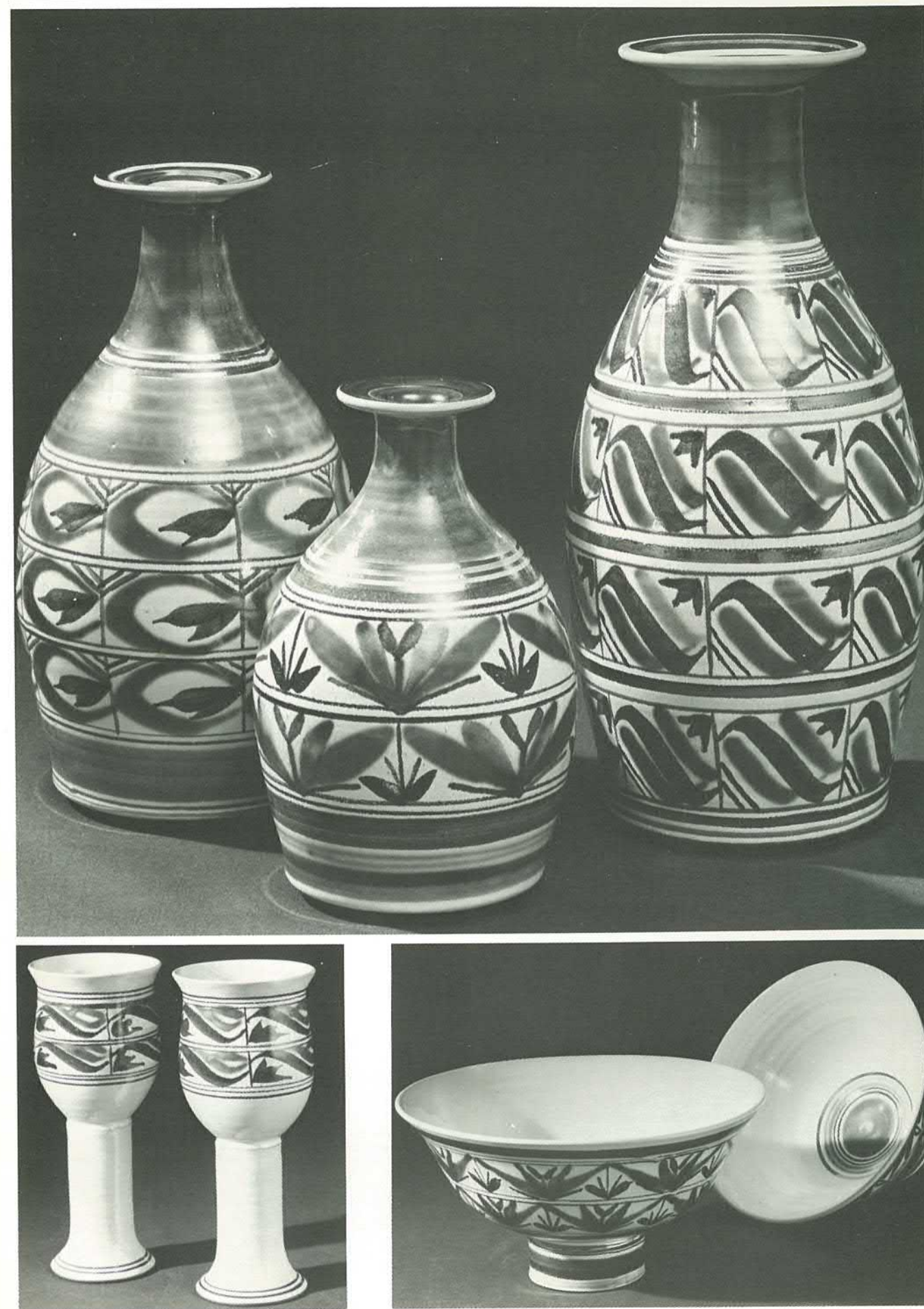
Opposite page: Variety of domestic ware with decoration in blue, turquoise brown and green.

Photographs: Ces Thomas

OBITUARY

Toby Easterbrook Smith who died last year made a valuable contribution to the pottery movement in its developing years, in Wellington in the '60s.

Lorna Ellis a notable sculptor in terra cotta and bronze, a friend of many New Zealand potters died in Wellington late last year. Her work is in the collections of the National Art Gallery.



Saggar fired terracotta in an electric kiln

John Fergusson

Saggars, the fired clay containers enclosing pottery during firing, were originally used to protect ware from direct contact with the flame, thus eliminating mottling, colour variation and other defects. Saggars can be used to develop and enhance these variations by putting a pot within a saggar and filling it with combustible material before firing to the required temperature. During combustion heavy localised reduction is created within the saggar, causing the surface of the pot to be marked by carbon.

For experiment a number of enclosed spherical pots were made from terracotta clay, circular sections were cut out when they were leather hard, and completely dried, the pots then saggar fired in an electric kiln. Large lidded containers which had cracked during a previous bisque firing were used as saggars.

Grass clippings, bamboo grass leaves, eucalyptus leaves all of which were dried, and fine pine sawdust were the combustible materials used in the saggars. Each kiln load was fired at the same rate—60° per hour—up to 400° and then on full until shutdown at

1200°C. Smoke billowed out of the kiln from about 250° to 400° approximately, but after this point there was no smoke at all. All the saggars were fired with their lids on to give a more intense reduction. Each saggar contained at least two pots, one fully covered, the other partly covered.

The most unexpected results came from the firings with eucalyptus leaves. Where the leaves had been caught between two pots touching during the firing, marks appeared best described as an agate design—black centre, progressing to a blue black, white, then pink, orange and finally to a black, glossy band. The markings covered an area about 2–3 inches wide. The pot that had been submerged in leaves had several of these markings on it and very little iron spotting. The area which wasn't marked was jet black in colour giving a pleasant contrast. The pot half covered had only one of these marks. Also a large amount of red and black iron spotting was quite visible, though not on the marks. The exposed surface was greenish red. After firing, the leaves were still intact though they

crumpled into a black powder when touched.

There was very little effect from the bamboo grass leaves. The pots came out a typical terracotta red when fired to 1200°. There was a little iron spotting—with spots very small compared with those from the other firings. There were no markings but certain parts of the pots had a bit of a glossy sheen to them, probably caused by the ash forming a partial glaze. The residue left at the bottom of the saggar was a fine white powder which disintegrated when touched.

From the fine pine sawdust firing the covered pot was jet black with a band of silver lustre top to bottom. There were no iron spots on this piece. The exposed surface of the other pot was a muddy black colour with iron spotting. The under surface, which had been nestled into the sawdust, was a delight, with large circular bands of colour about six inches across grading inwards from black to orange, pink, white, and then grey to a central velvet black. It was fresh and vibrant, The burnt sawdust was a black powdery ash.



Dried lawn clippings



Dried lawn clippings



Fine pine sawdust



Eucalyptus leaves

The most rewarding of all the tests done was with grass clippings. The grass produced some remarkable colours which were not at all expected and left no set pattern or design like the sawdust or the eucalyptus leaves. The covered pot was a mass of colours covering its entire surface ranging through reddish pinks, yellows, greens, greys, whites and blacks, each complementing each other. Some of the grass stalks left a fine line where the stalk had been resting during the firing, red in colour and about 1/4 to 1/2 an inch long. There was no iron spotting at all. The exposed surface of the partly covered pot was a chocolate brown with large iron spots. The underside which was resting in the grass clippings, was similar to the totally covered pot. Greens, whites and yellows were the prominent colours—not as much pink, but there were still grass stalk marks. The ash reflected the colours on the pots, it being a fine red dust.

The interesting thing about these experimental saggar firings was the unpredictable spontaneous appearance of the result. The range would appear to be limitless.

Una Sharpley writes

John is an Australian potter who spent 1980 working with us. He started this research in April and had three pieces accepted for the Fletcher Brownbuilt exhibition in that year.

The old electric kiln had a top limit of 1250°C but was only used for bisque and saggar firings to 1200°C. The reduction

smoke was gone by 400°C and seems to have had little effect on the elements. The saggars were just cracked crocks and lasted at least ten 1200°C firings before collapsing. We used red-firing Hume clay obtainable from Lower Hutt. It seems leakproof at 1200°C, but we usually seal anyway.

I have been continuing from where John left off using only Hume clay because I like the colour. I think this is a good way for electric kiln people to get exciting pots which differ from the usual high- or low-fired electric kiln results.



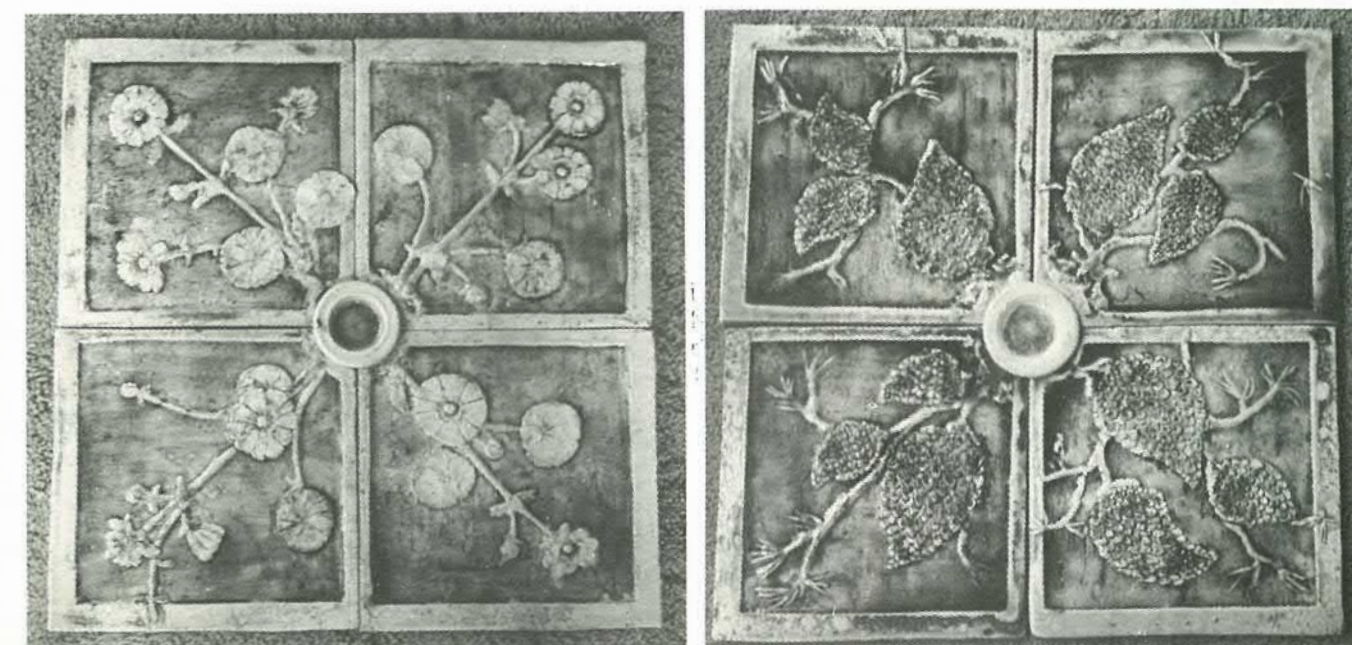
Learning and leisure summer school

A very successful and inspiring summer school was held at Matataki, a recreation centre in Pauanui, Coromandel during January.

Both batik and pottery were practised. For potters small kiln building was the main emphasis. Pits were dug, piles of timber burnt, and horse droppings collected for dung firings. Brick wood kilns and LPG fibre were also made and used.

Salting, fuming, staining and many unconventional methods of surface decoration were tried in an experimental and exciting way. Tutors were Brian Gartside and Madeleine Findley. Susan Poff conducted the batik course.

Matataki is now well established as a crafts centre and plans several schools throughout the year. For details write to Box 61 Pauanui Beach, Coromandel.



Above: Five sets of tiles with themes relating to native plants of the area, made by Flora Christeller for the walls of the foyer of the new Bank of New Zealand building at Ohakune. Each 2 ft by 2 ft set, made up of four tiles shows one plant species, the design elements radiating from the centre—the designs have been developed in low relief, oxidised and glazed green-grey highlighted with glass cullet added to the background. The mountain plants chosen were ranunculus, spaniard, flax, daisy and exotic pine.

Left: Una Sharpley's entry in the 1981 Tokoroa Pottery Award was awarded first prize of \$500.



Cecilia Parkinson loads saggars into her gas fibre kiln.

Saggar firing

Text and Photos by
Howard S. Williams

Pick up a local publication on cane basket making and the chances are it was written by Cecilia Parkinson from Auckland. A recognised expert in this craft for many years, Cecilia has now relegated her stock of cane materials to a back room and closed the door. Pottery has taken over.

Day classes at the Auckland Studio Potters' Centre at Onehunga, with Margaret Milne and John Parker as her tutors, led to more concentrated potting from 1977 at Margaret's Remuera workshop, making domestic stoneware and some porcelain, and then to total involvement in the pottery world — for two years Cecilia was Auckland Studio Potters' Treasurer, and Secretary for three years. This included a great deal of work assisting in the running of the Potters' Centre. Cecilia, now a member of the "Twelve Potters" shop in Remuera, is currently setting up her own workshop at home and is using a 5.1 cu. ft. electric kiln and a 10 cu. ft. fibre kiln fired on L.P.G.

However, the excitement really started when she was in a class of John Parker's looking at the various ways firing methods affect an unglazed pot surface. She became interested in the technique of localised reduction in

sawdust filled saggars. The kiln atmosphere itself needs no reduction, offering cleaner and more simple firings with oil or gas, or reduction possibilities in an electric kiln. Some gases are given off from the saggars during firing, and in an electric kiln the elements will be affected by these to some extent. To retain the expected life of the elements the kiln should be fired normally three or four times, in between each sawdust/saggar firing. This allows the protective oxide coating to be built back on the elements after being partly stripped off by reduction gases. Cecilia does not saggar fire in her electric kiln, keeping it for bisque only, but she is using the technique very satisfactorily in an L.P.G. kiln, for her small-scale (few are larger than 12cm), meticulously turned forms in porcelain.

The pots are thrown, then burnished with a metal kidney at the leather-hard stage, while still on the wheel after turning is completed. The burnishing imparts a satiny sheen to the surface of the clay. These pots are then bisqued (electric kiln) to their maturing temperature of 1230°C. For their second firing (L.P.G.) the pots are placed in sawdust inside saggars, and the kiln fired to 1200°C under

oxidising conditions. All colour taken up by the pots is burnt in permanently — too often, low-fired smoked pots allow their colour to be partially brushed off. Sooty fingers amongst guests at an exhibition opening can be embarrassing!

Making saggars

Saggars are thrown or coiled from HGB clay plus 10% grog, or from a more refractory mix of fireclay and grog. Some have their own lids, others are made to stack — the base of one saggar forming the lid for the one it is stacked on — a lid being required to top off the stack. (Photos 1 and 2). Other saggars are formed simply by taking two similar-sized bisqued bowls and inverting one on the other, rim to rim. Cracked or broken saggars are still useful as the cracks allow some air in giving patches or streaks of oxidation. Different effects will be produced according to how much sawdust is put around each pot, or pots, in the saggar. The pot may be placed on, imbedded partially in, or totally buried by, sawdust. They may be placed upside down, on edge or stacked inside each other. Different

sawdusts may give different effects. Flashes and fuming of brown/red, orange, yellow and touches of blue, in addition to the predominant black/grey/white, are obtained by sprinkling oxides and chlorides judiciously into the sawdust, the amount and placement being determined by experience. Cecilia uses mainly copper and chrome oxides, but is excited by the potential offered by experimenting with all sorts of chemicals for colourants. The area around the kiln is kept well ventilated.

After firing (Photo 3), the remains of the burnt sawdust are often left in the saggar and topped up with fresh sawdust for the next firing, thus concentrating the minerals left in the ash residue. The pots require a great deal of finishing work — scrubbing brush, poly-pad, wet-and-dry sandpaper and polishing cloth, before their final and permanent beauty can be seen (Photo 5). Sometimes a heavy concentration of oxides will burn clinker-like onto a pot, needing careful grinding off, but maybe leaving an interesting textural

area on an otherwise satin smooth surface (as in Photo 9).

The rich random effects of this type of firing can be visually exciting, but as Cecilia has found, more satisfaction is gained by the potter, and the aesthetic value of the pots enhanced, when experience and sensitivity to what is happening in the kiln, give control over the placement and subtleties of the colours obtained. Saggar firing can be used as a fine-tuned decorating tool, instead of just a colour fixing bath.



*Above left: Photo 3
Above right: Photo 4
Left: Photo 9
Below left: Photo 6
Below right: Photo 5*

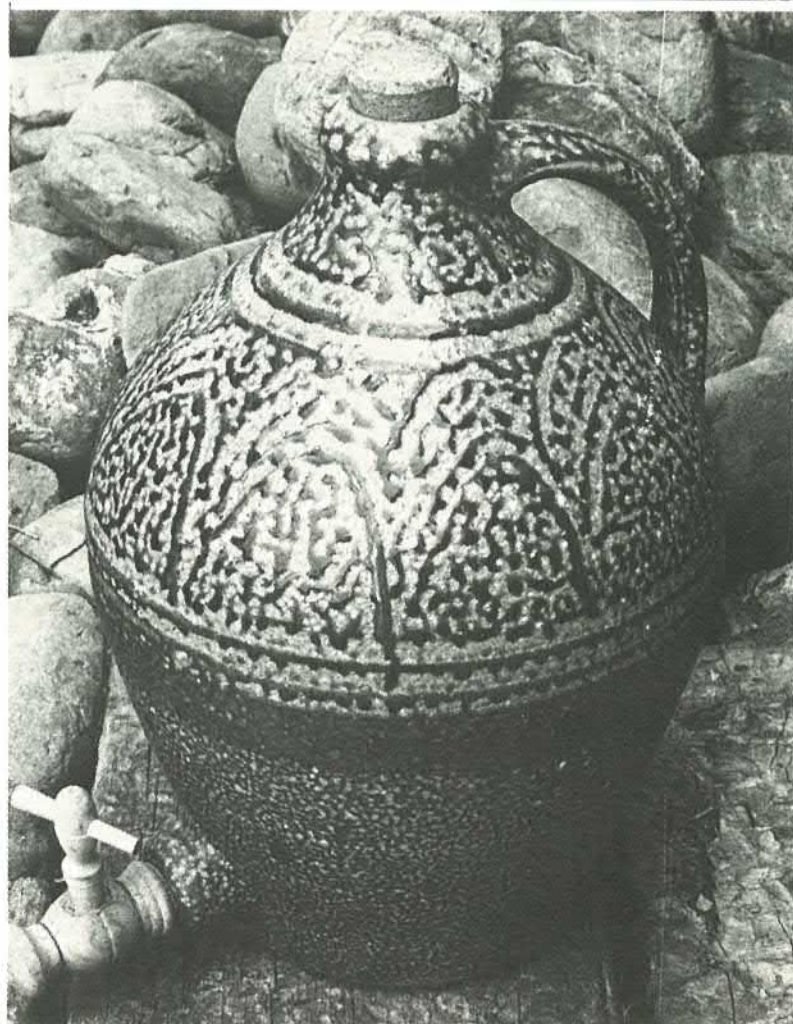




New Zealand Craftworks

At New Zealand Craftworks situated in the country at Te Horo, Jan and Alastair Pain have plenty of room to develop into the garden areas ideal for displaying outdoor pots. Totara trees are a feature of the Te Horo countryside and N.Z. Craftworks sits snugly among these handsome hardy trees on the main road 72 kms north of Wellington. The stylised Totara tree has been incorporated into their graphics. Indoor space provides display for the best of handcrafted pottery and glass, with a selection of weaving and woodwork on the same lines as their former Spectrum Gallery. The new development is the 300 sq. m. outdoor display area under a pergola and a further much larger wooded area with ferns and medicinal culinary and decorative herbs. The outdoor areas provide the venue for special exhibitions and events when visitors can sample Alastair's carrot and sultana Flor Fino dry type sherry and a sweeter Madiera type wine. Future plans include building a winery and their own workshop where they can pot as well.

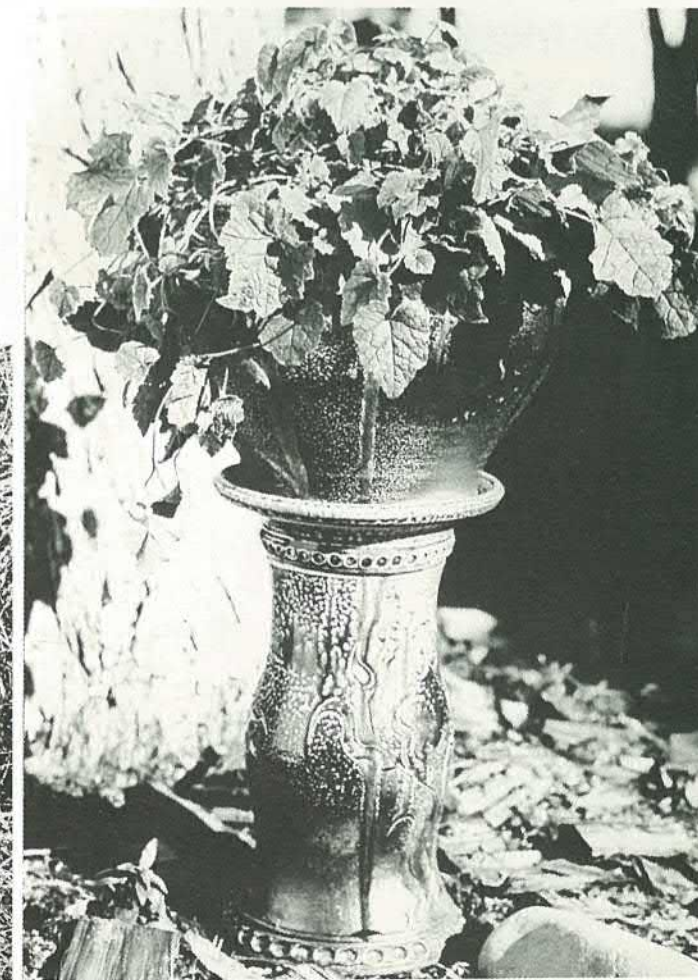
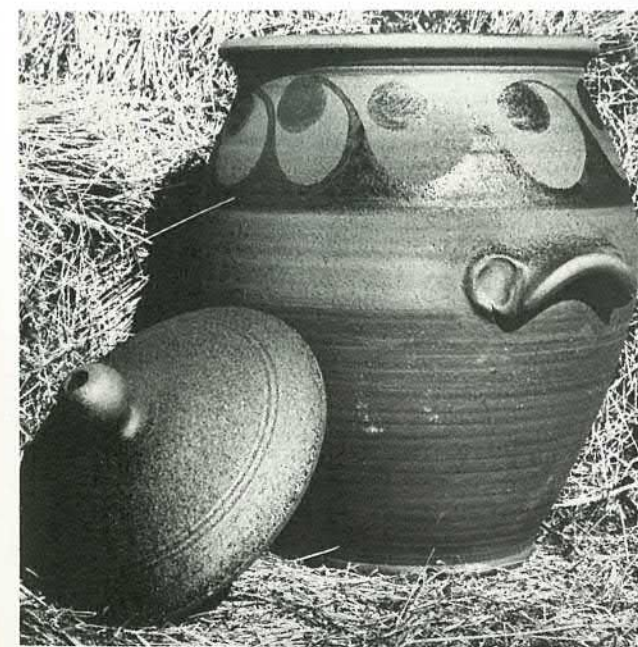
This is the first article on pottery outlets. An article on your craft shop/gallery will be considered if you provide first class photographs of your best work and some information on your gallery's particular characteristics.



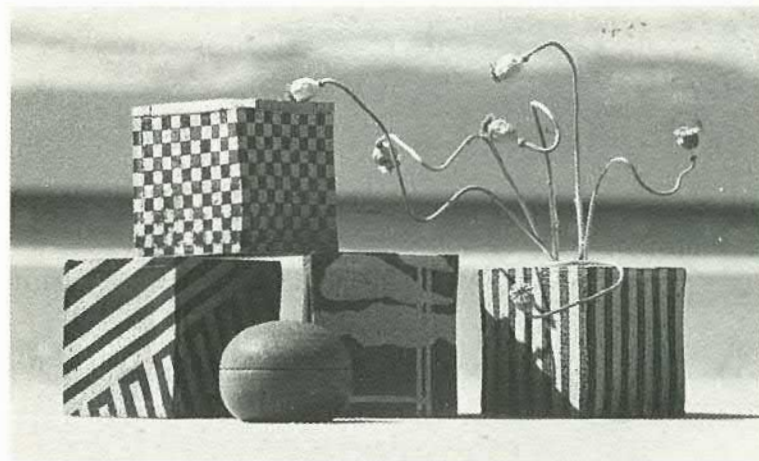
Opposite page and above: Containers by Nicholas Stather 45 cm tall down to 13 cm.

Below left: Storage jar 45 cm tall by Wayne Porteous. Right: Plant pot on pedestal by John Anderson is 65 cm tall.

Photographs: Richard Hendry



Recent work



Above left: Slab-built stoneware boxes by Rachel Cameron, paper resist decoration white feldspathic glaze on iron slip.
Above right: Stoneware paperweights commissioned from Fairlie Rowe for presentation at the World Aberdeen Angus Breeders Conference in Christchurch.
Left and below left: Work from students at the Waikato Technical Institute. Teapot by Val Gordon, stoneware yellow glaze breaking and Faucet, slab built with oxide stain and tenmoku glaze by Rhonda Craig.

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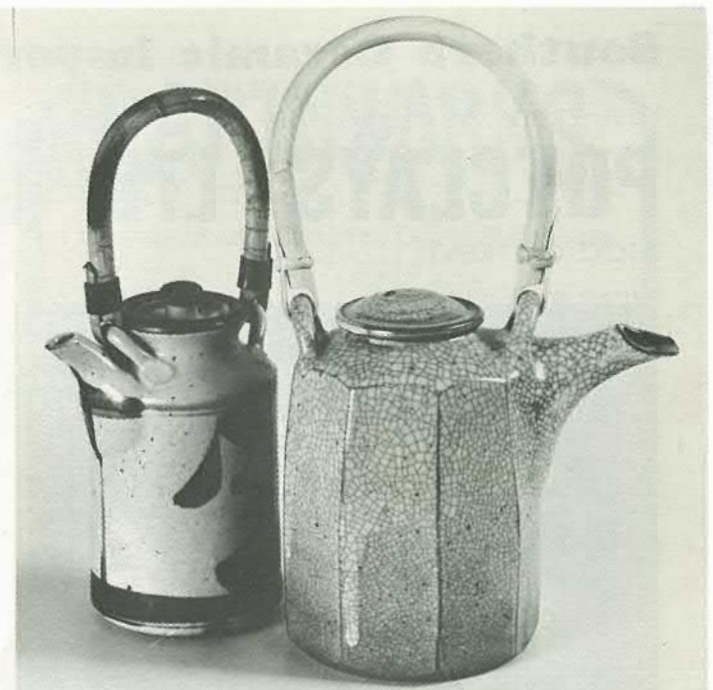
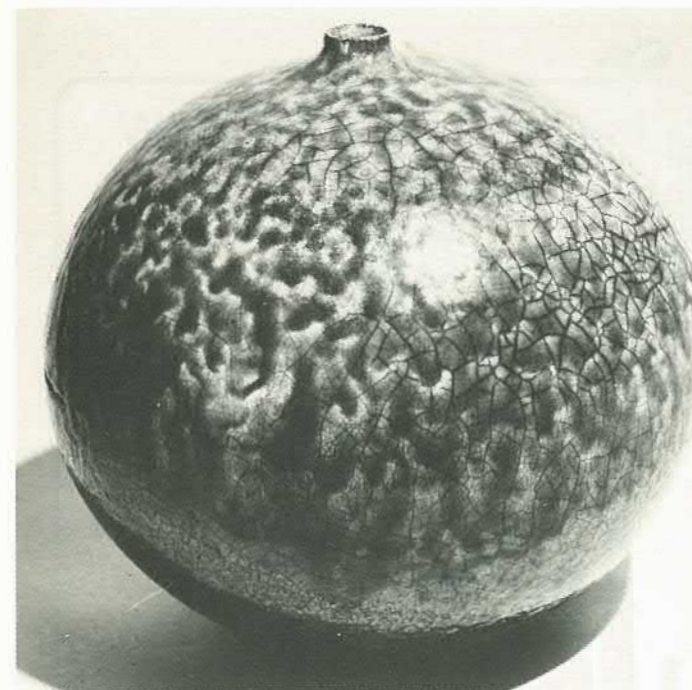
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Work photographed at the Auckland Studio Potters Exhibition by Howard Williams. The ASP exhibition is usually one of the biggest and best in the country. The last was no exception. Above left: Raku bowl cobalt blue crackle glaze, Chris Cockell. Above right: Teapots by John Sweden and Campbell Hegan, blue and white porcelain and shino. Middle: Blue and white decorated plate, John Sweden. Below left: Judy Dickson "breakfast piece", porcelain with transparent glaze. Below right: "purse" porcelain, by Andrea Barrett.



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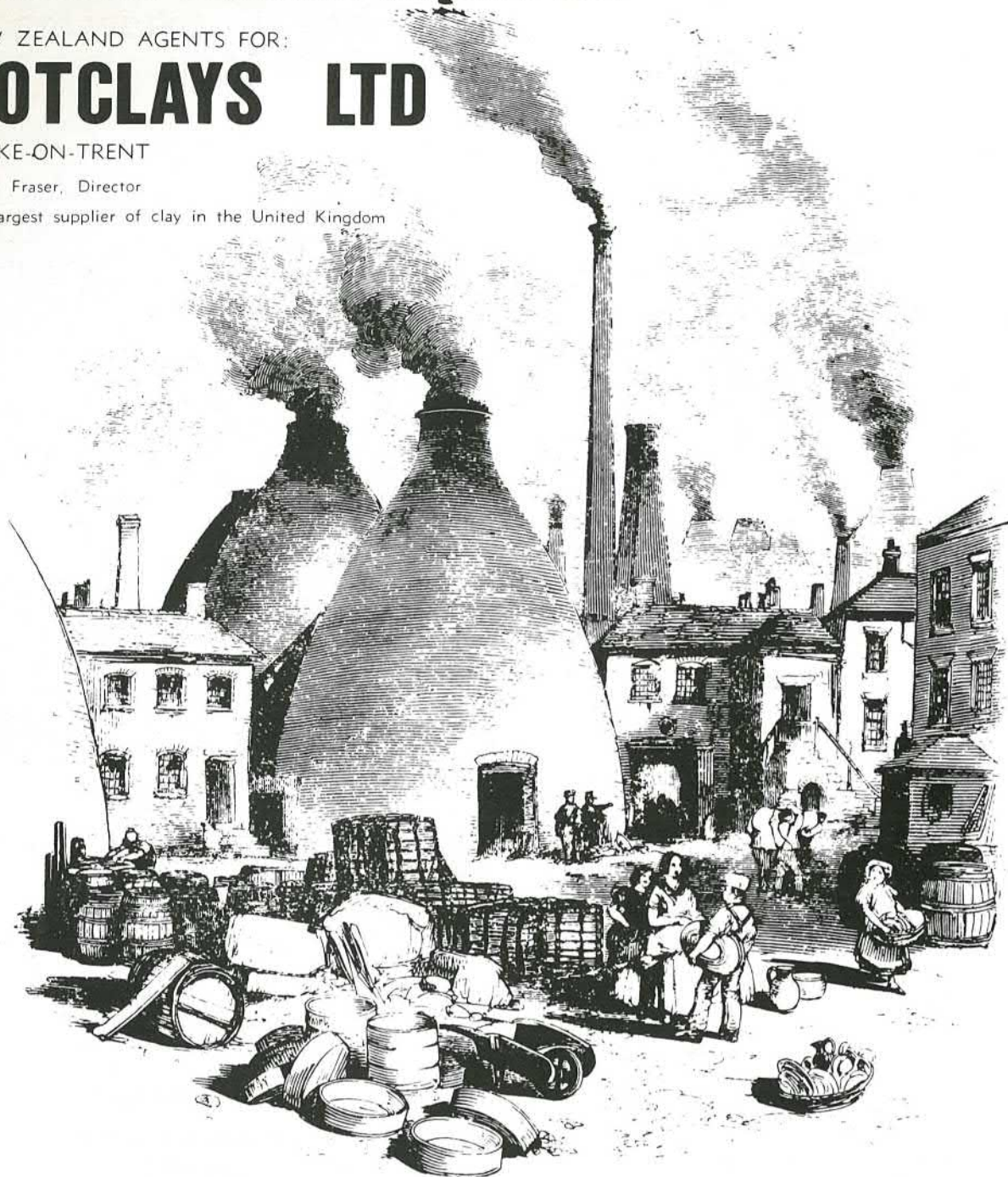
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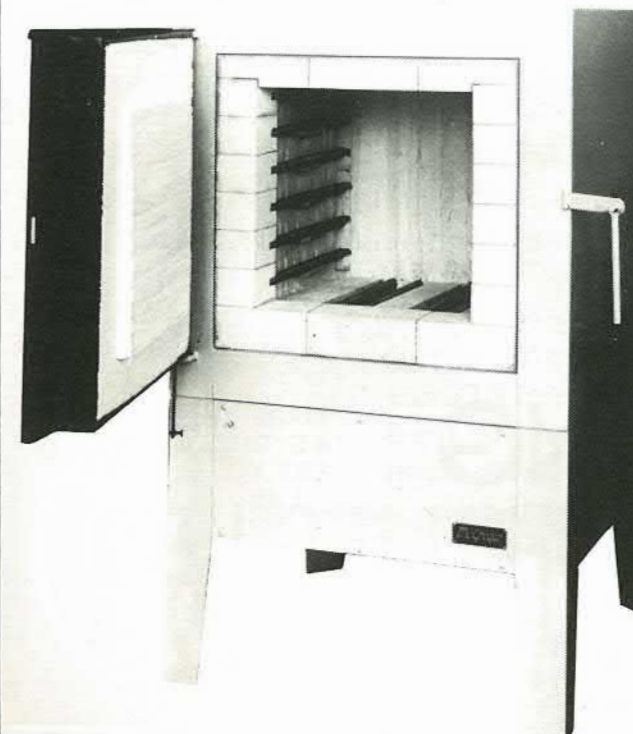
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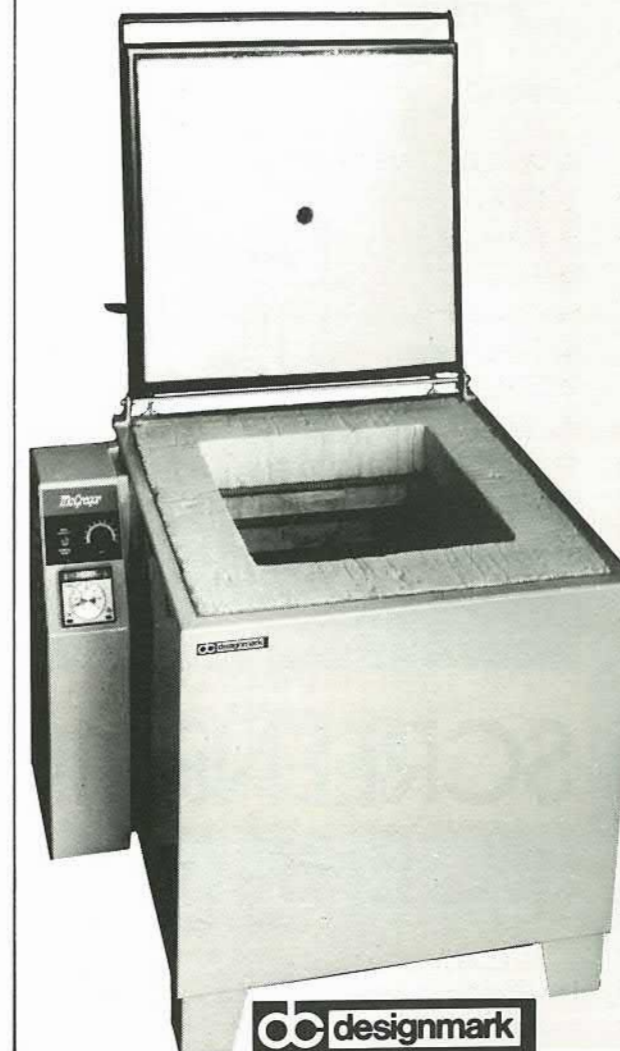


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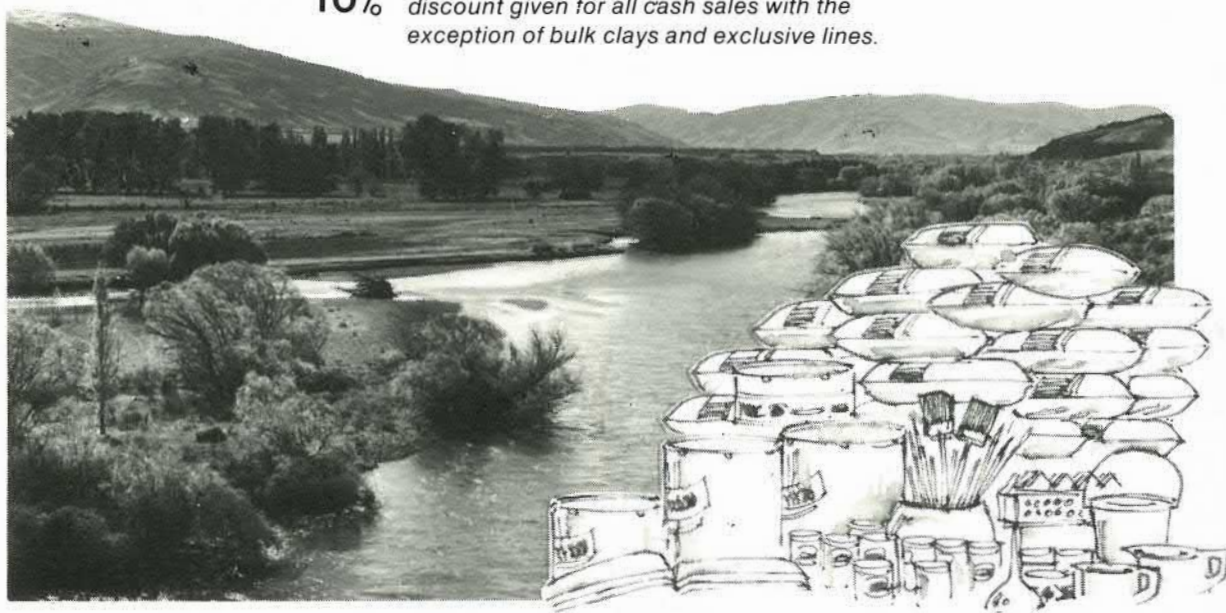
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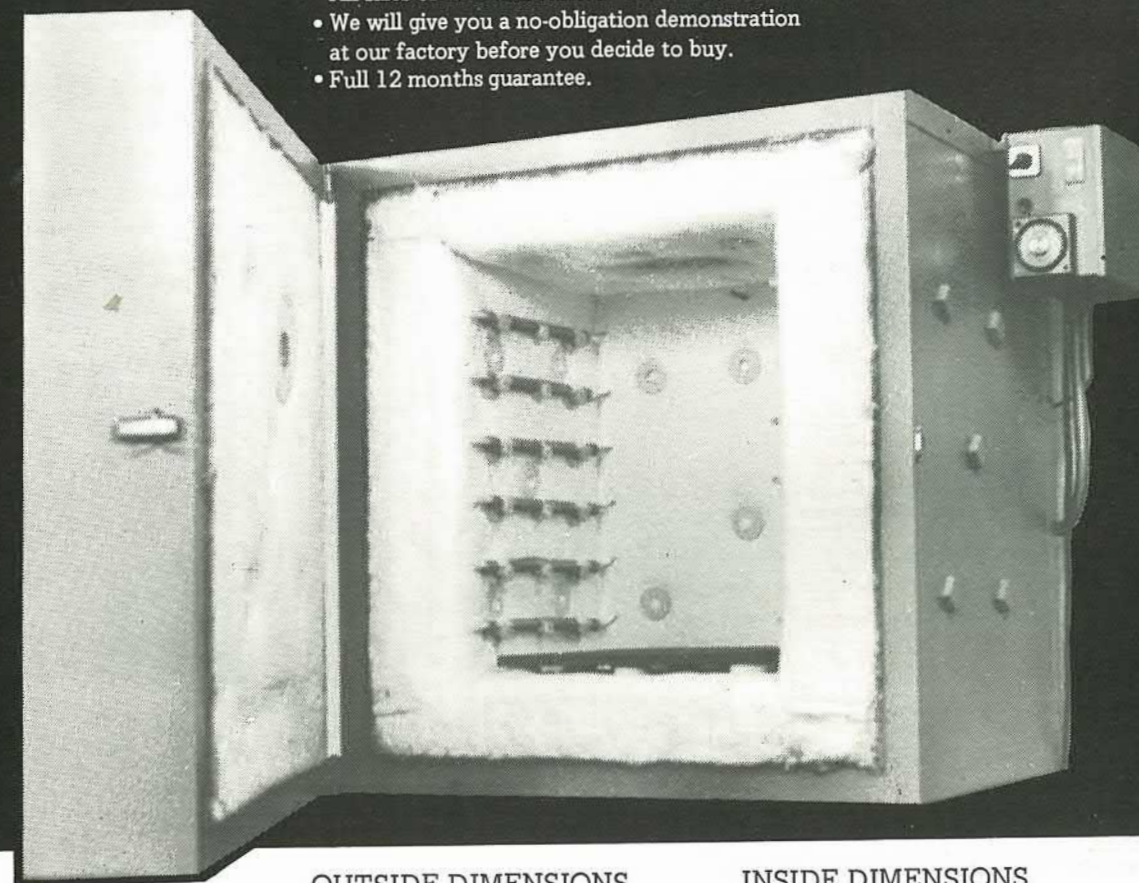
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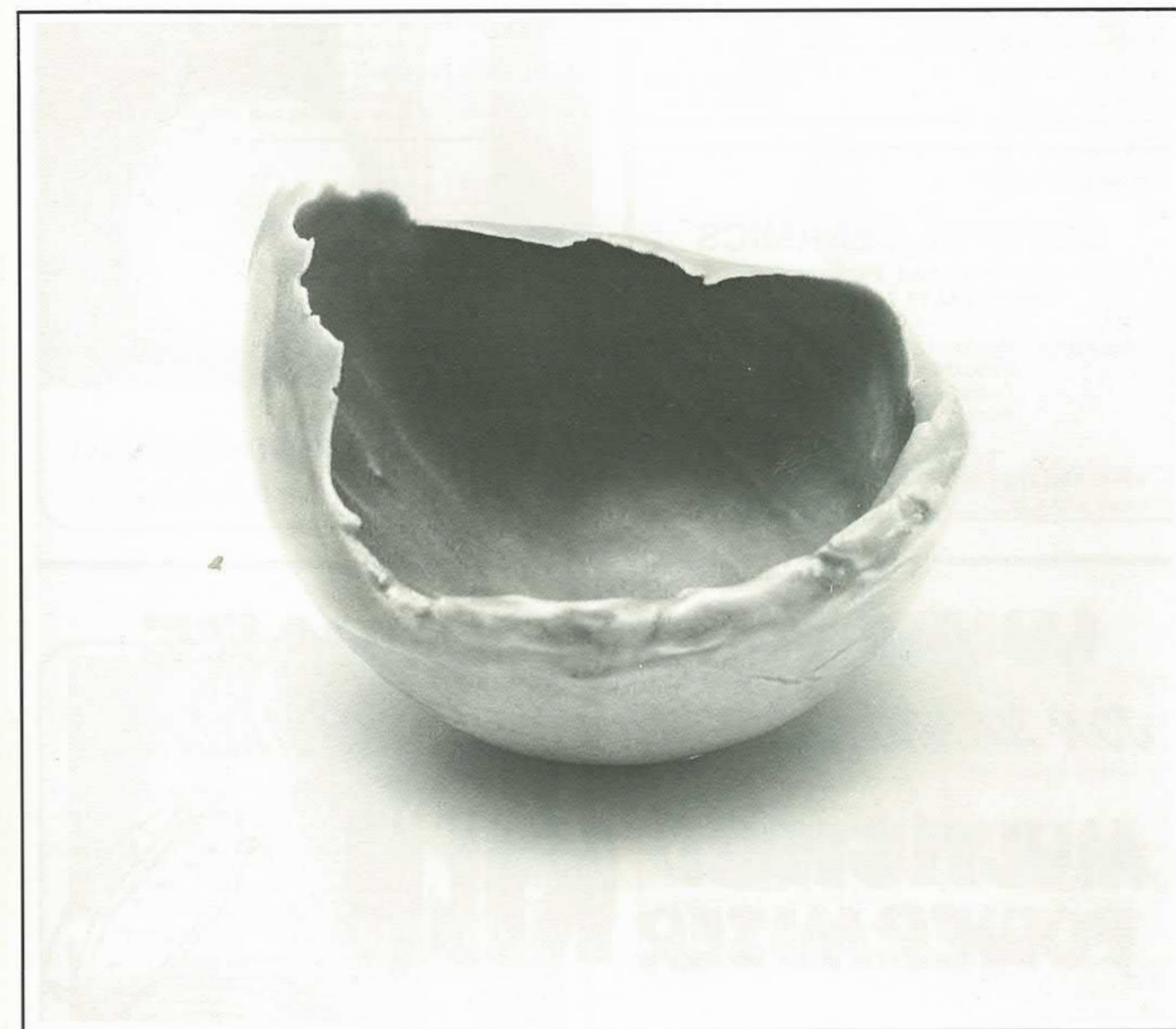
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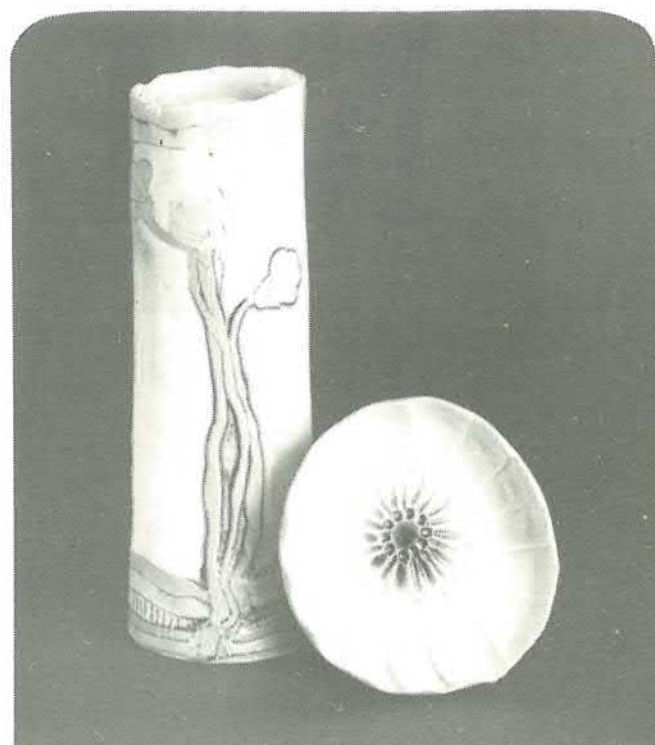
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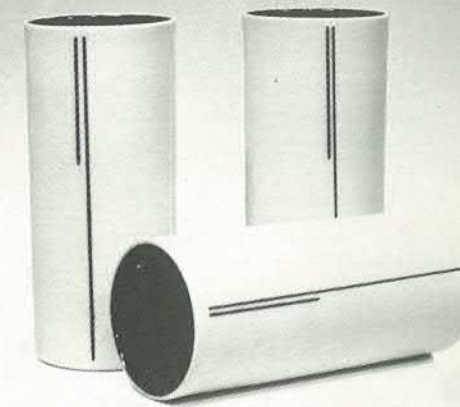
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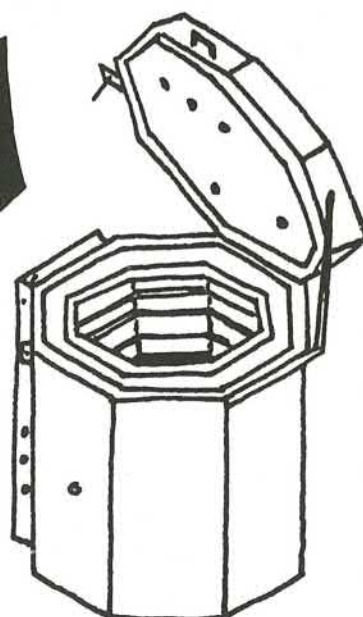
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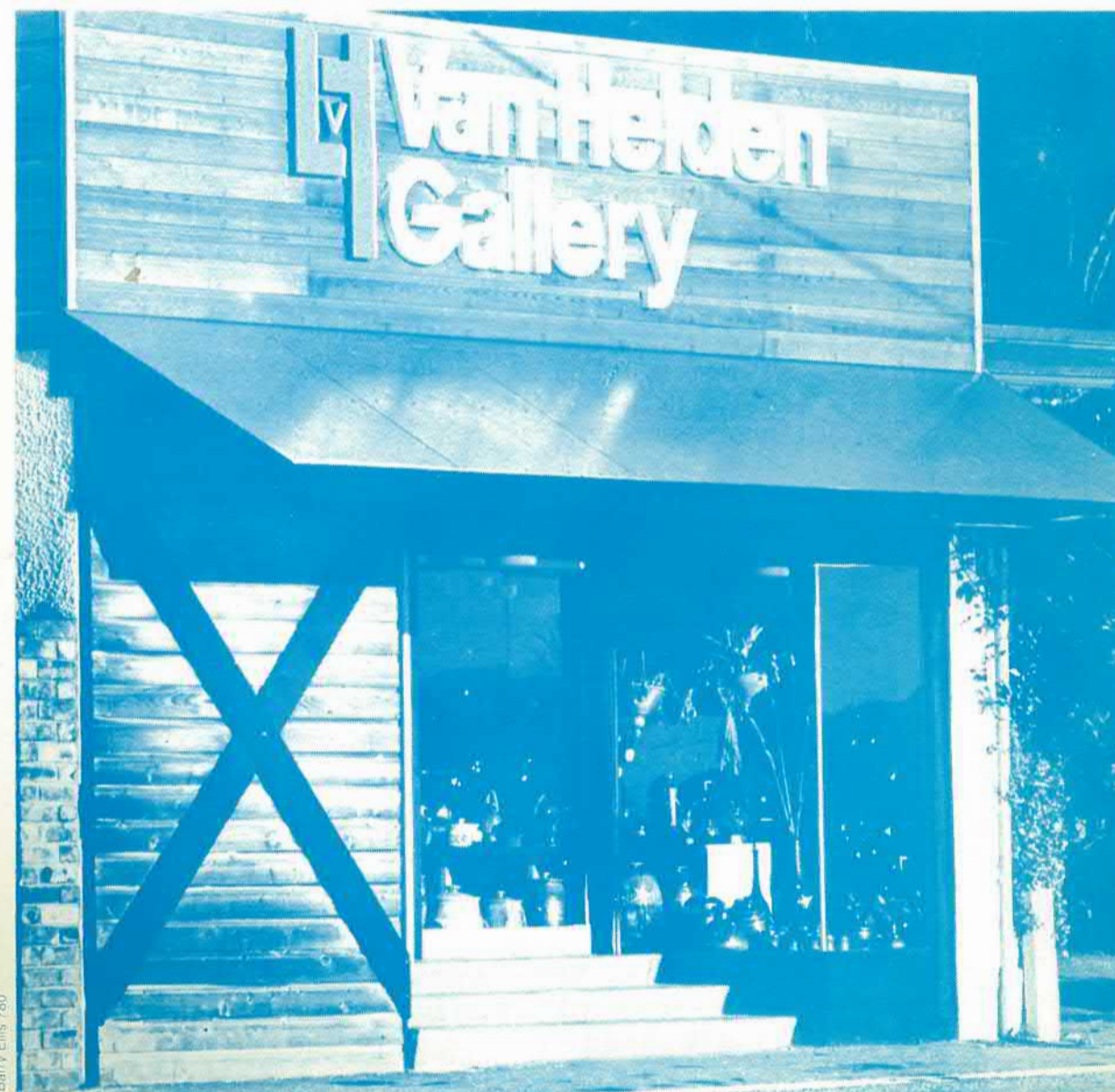
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