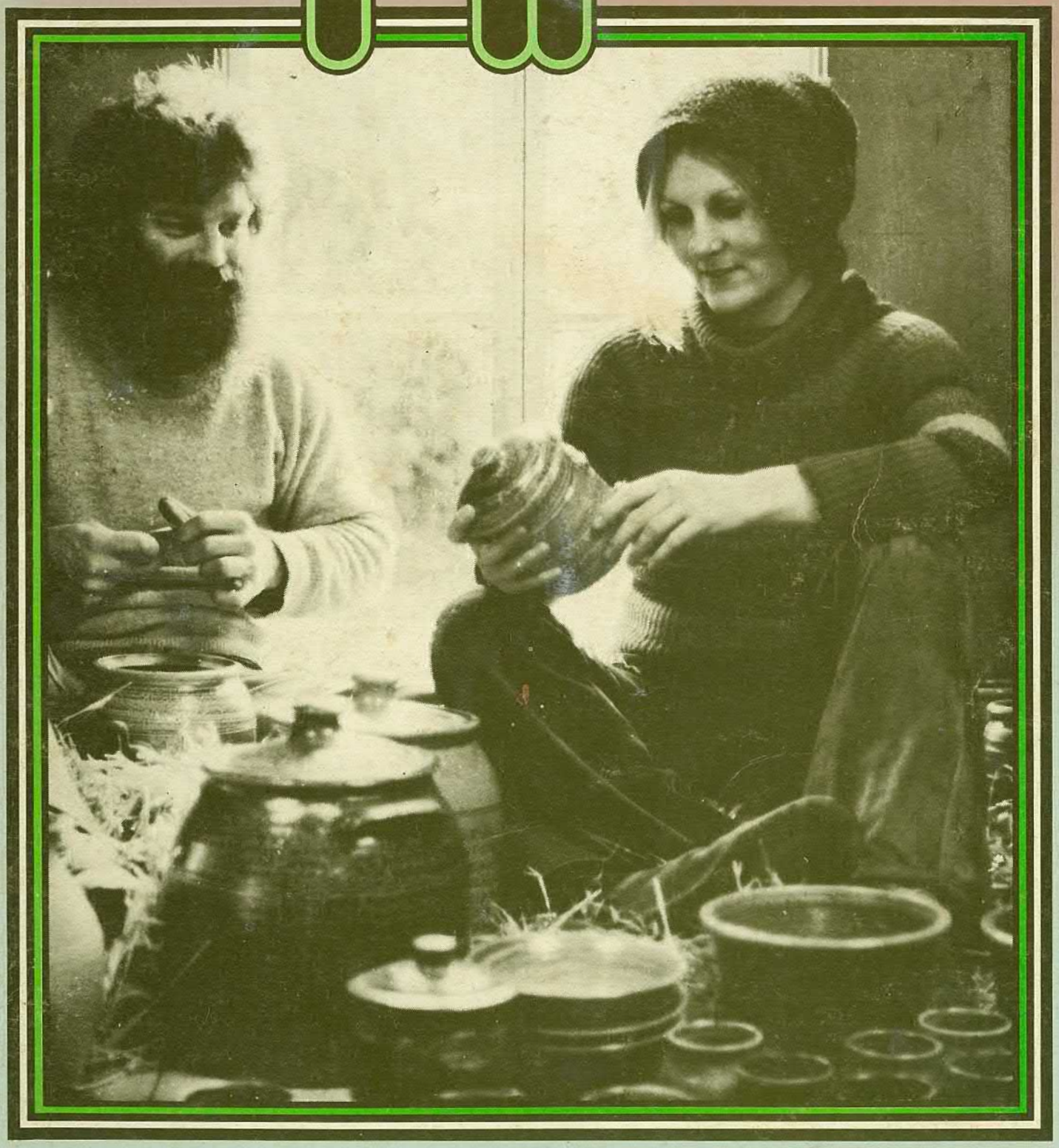
new zealand potter vol 19/2 spring 1977

Potter



COVER

Renton and Rosie Murray
at their Hillside Pottery.

photo: Campbell Hegan

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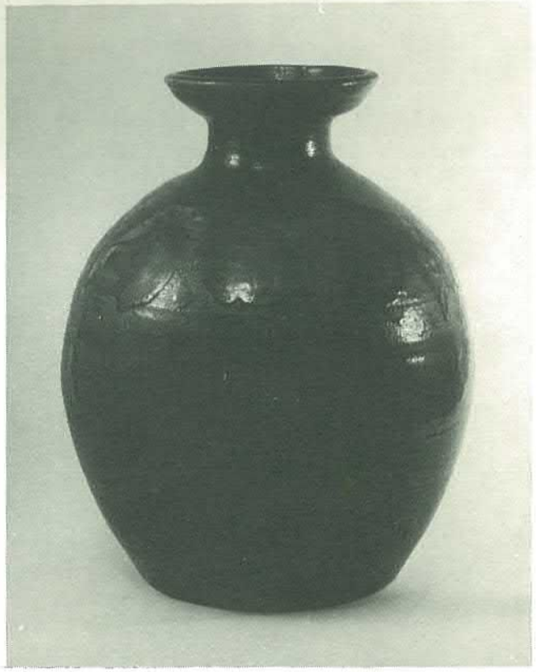
THE DUNEDIN FILE

The file opened last year when Betty Gill from the Otago Potters Group sent notes indicating enthusiastic activity among members. Then Christine Dukes sent long awaited news about what some of the graduates from the Polytechnic ceramics course were doing. We felt a full report on the entire potting scene in Otago was called for, so I spent a week in Dunedin in May. I met working studio potters, pioneer potters, tutors and students, struggling graduates, museum people: and built up the story from many points of view.

Margaret Harris

From: Dunedin Portrait of a City by Shona McFarlane —



Lawson Fraser 36cm high, brown glaze, spiral decoration on shoulders. He is a N.Z.S.P. member and when he finishes as head of the Art Department at the Dunedin Teachers' College he will be potting fulltime. He has helped Dunedin potters with technical problems.

potting in Otago

The past two years has been a period of growth for pottery in Otago, and much support has come from a more appreciative and discerning public. The Otago Potters Group now has its own rooms offering workshop facilities that were not available in its former rented premises. Although there are no regular classes here, the experienced members assist beginners and there are the usual weekend schools given by visiting potters. Otago potters have the added advantage of classes at the Polytech and the experience of Polytech tutors for workshop sessions. Potters acknowledge a debt to Michael Trumic, Alan Caiger-Smith, Christopher Vine, Bruce and Estelle Martin and Neil Grant who have contributed to the recent experience of the potters and perhaps because of these injections the standard of work shown at the last annual exhibition was much higher. The overall improvement in competence of exhibitors and more stringent selection criteria are setting standards for Otago potters that were previously out of reach of most.

On an individual level, where five years ago there were no full-time potters in Dunedin, there are now several. The first established was Beryl Jowett. Of the others most are graduates of the Polytechnic ceramics course who come from outside Dunedin and decided to stay in the area after completing the course. Richard Booker is working in Hampden, 50 miles north of Dunedin; David Cook is sharing his workshop and they have a shop in Hampden selling their own work and that of printmaker Barry Cleavin. Kevin Griffin has a workshop at Warrington. Rachael Cameron and several others share a workshop in central Dunedin, but work on an individual basis.

Nowhere in the country are there so many contributing threads to the pottery craft as there are in Dunedin. If the distinctly separate strands emerging from the Polytechnic graduates and the experienced potters from the group ply into a strong mesh there could be a springboard for development of national significance. Even Dunedin's comparative isolation has its own advantages to artists and craftsmen wanting to grow without influence, so long as they remember that pots are for people.

Otago Potters Group

The first Otago potters, digging their own clay, using homebuilt wheels and unpredictable kilns, formed a group, meeting occasionally at the library to share experiences. Oswald Stephens whose influence extended throughout Otago and Southland was the father of this group. Among early potters were Greta Graetzer, Ina Arthur, Isobel Brown, Nan Paterson and Lila and Bert Coker, all working in earthenware. The only potter making stoneware was Helen Dawson.

Then Maria Thomson built a small Barry Brickell type kiln and when she won control of it she started producing ware with chun and copper red glazes which she has continued to develop.

Into this group came Beryl Jowett bringing some potting experience. She adapted the kiln for stoneware firing. The group asked Beryl to lead a workshop and since property and finance were involved the group became an incorporated society and she was the first president.

Nineteen seventy six was a milestone for Otago Potters Group when it acquired its own headquarters. An energetic nucleus of members secured financial backing ($4,000 coming from QE2 and Sport and Recreation Fund grants) to buy a former builder's concrete block premises with workshop space, kitchen, all other amenities and parking for twenty cars. Energy generated out of need for support has stimulated member potters and brought in keen new people making a very active society of potters in Dunedin.

for cooks

Otago potters have collected a host of tasty recipes, soups, breads; and meat dishes that cook while you spend a day in the workshop with a clear conscience. If you would like the recipes, and at the same time help the Group pay for its rooms, send $2 to Beryl Jowett, Mosgiel, R.D. I. Otago.

Potters

At last an illustrated directory of New Zealand Society potters with marks and map and other useful information will be published early next year.

Anglo Saxon burial urn from Yorkshire, on display at the Otago museum
photo: Otago Museum

outlets

Connoisseur, George St, have the widest range of pots, from suppliers throughout the country.

The teahouse at *Lindisfarne* at East Taieri on state highway 1, south from Dunedin, has a small art and craft gallery selling quality local work. To maintain high standards the owners expect suppliers themselves to be selective. The display area is designed to show work to advantage in a building compatible with its wooded surroundings. The owners are prepared to extend the scope of the gallery if it is supported.

At the *Port Gallery* on the waterfront at Port Chalmers, Ruby Hanan runs a small shop with promising dash and flair.

Moray Gallery deals in paintings, but displays a few pots.

Dawsons downstairs in George St, sells some pottery but predominantly stocks sheepskin and leather.

Three Dimensions, Lower Stewart St, sells some pottery.

at the museum

The Otago Museum in Great King Street has a useful collection of pottery in a ceramics section and scattered throughout the ethnic displays. The collection is strong in Islamic pieces and early civilisations particularly the classical world. The Otago Potters Group holds its annual exhibition in the museum foyer and the museum always buys something, not always the best display pieces — sometimes it is a choice a potter might not agree with. Last year it was three coffee cups. Acquisition policy has been to secure pots that show all aspects of our potter's work.

It also collects colonial pottery concentrating on the Milton, Otago pottery to provide an important source of social history for pottery students. For the same reason it is building up on a collection of Crown Lynn ware.

The collection is used by the museum staff as a teaching reference and they will always provide access to whatever is on display or in store. This is an ethnological collection rather than an aesthetic choice, so the emphasis is different to that of the Auckland Museum.

Lectures given to students by Linden Cowell at the museum are:

- *Beginnings.* Neolithic cultures, modern, primitive and peasant societies. Early civilisations.
- *Traditions and developments.* The Islamic Empire and contacts with China and Europe.
- *China.* China and its influence on Korea, S.E. Asia and Japan.
- *China, Japan and Europe.* The decline of ceramics in China and the export trade to Europe from the east.
- *The Industrial Revolution.* Craft revivial movements from William Morris to Leach and Yanagi.
- *Time and Space.* A discussion of the value of museum collections for the potter. This will range from purely technical aspects through to patronage and the philosophy of the potter.

Museum hours:

Mon – Fri	*10a.m.–5p.m.*
Saturday	*1 p.m.–5p.m.*
Sunday	*2 p.m.–5p.m.*

Closed Good Friday, Christmas Day, Labour Day

Beryl Jowett

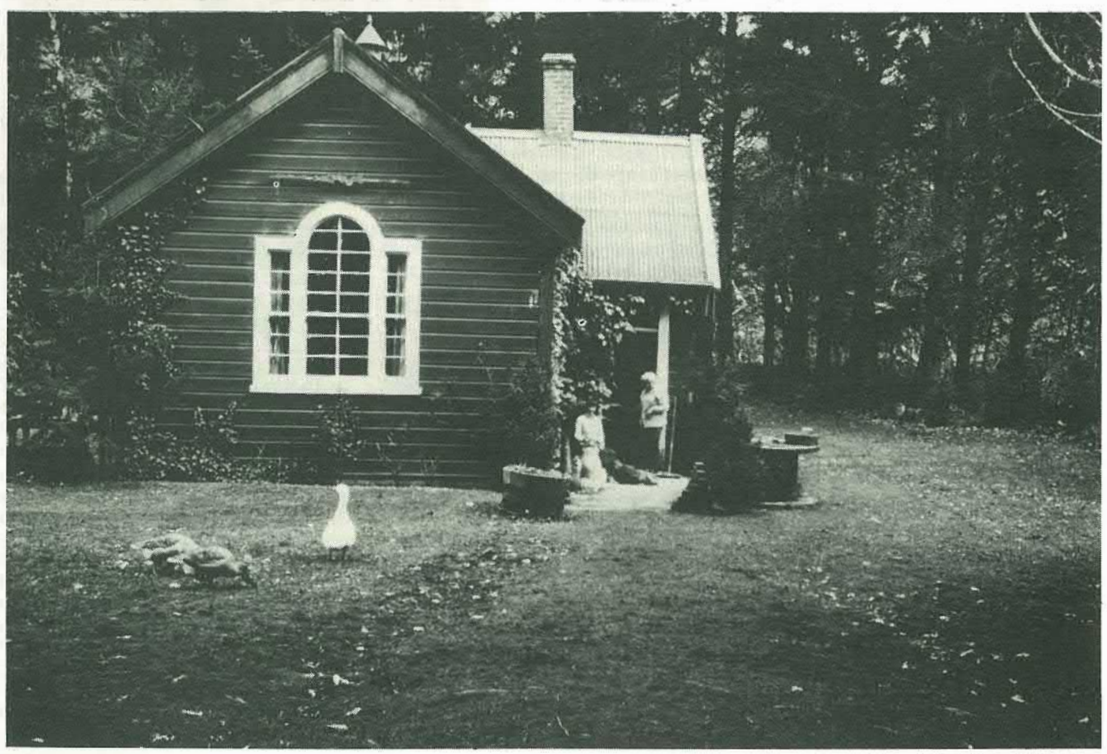
Beryl Jowett's outstanding contribution to potting in Otago and her leadership as first president of the Otago Potters Group were acknowledged last year when she was made a life member. The years of her presidency were a period when interest was stimulated to a wider circle, an active workshop set new standards to be attained and stoneware potting took root in an area which had previously confined itself to earthenware.

As Beryl's family grew up she had more time to further her own progress, working with local materials for body and glazes. Four years ago she established herself as a full-time potter at Whare Flat, in a forested valley near Dunedin. The workshop is a century-old former school and alongside is the school house lent to her daughter Peggy Stedman who has been working with her for the past three years. Peggy works mostly on moulded and decorated ware. Any potters needing help are welcome on Fridays of each week.

Whare Flat, on the edge of the Taratu coalfield, is rich in minerals and clays of various kinds alongside very pure fine, quartz sand, glauconite, schists and marls. Beryl uses these close at hand materials. She plans also to make use of the forest for fuel and will be experimenting with wood firing in the oil kiln that has a firemouth adaptable for the purpose. With her husband Geoff, Beryl has built several oil fired kilns at the pottery and at home near Mosgiel.

Most of Beryl's pottery sold through the showroom at the pottery, is domestic ware, individual in style and not consciously influenced by any other potter.

Many Dunedin potters have been taught by Beryl, encouraged by her sharing philosophy and particularly altruistic outlook.



The school, now Whare Flat Pottery, left, and above the schoolhouse. Milking nanny, one of four milking goats, a 5.30 am activity at home before spending the day at the pottery.

photos: Geoff Jowett and Michael de Hamel

Finding your own materials for the non scientific Potter

Beryl Jowett

When I came to New Zealand 15 years ago I wanted to make stoneware pottery — a change of country seemed a good time to make the change from earthenware to stoneware. Everybody said you had to make earthenware in the South Island except for Nelson which had everything for making pottery including the climate for drying clay. In Dunedin the pots would never dry — in fact they would freeze, "they" said; this did happen just once, and I took good care it never happened again.

The first thing for me to do was find a clay which would mature at the temperature needed for the glazes I wanted to make — glazes made from "found" materials. Glaze materials were certainly easy to find: they were all around me wherever I went — grits, gravels, sands, crumbly rock and clays.

In those days we had five young children and we loved camping, so when we went anywhere in our Volkswagon Kombi van, I put in my five dustbins. They went into the van before the children were allowed in. After that it was easy. As we drove along, every time I saw something I felt I could grind up in an old corn grinder. I yelled "stop". Sometimes this did not work, as by the time Geoff had collected his frightened wits, we would be way past and we *NEVER* turned back as a punishment for scaring the driver. But when we returned home we usually had the bins full. We collected everything which looked interesting, beautiful and easy to grind up. Sometimes appearances were deceptive as I found with lumps of pumice when I learned that it was glass of a sort.

Road cuttings are a valuable source of materials easily accessible and so are the beaches of freshwater lakes. Don't forget too, roadworks and quarries where there is machinery for crushing. Very fine dust from these machines is most suitable glaze mater-

ial and the quarry owners are usually happy to let a potter take some away. The same is the case with stonemasons. Usually these people are very interested and appreciate seeing later the results of your experiments.

When we got the materials home I or the children ground them up (as the children grew older it was sixpence a time). We ground them fine enough to go through an 80 mesh sieve. Later we built a ball mill also from found materials and this was the greatest asset I ever had in the pottery. I put a blob of the material mixed with water on a piece of old kiln shelf or broken bisque, and fired it to 1280°c maximum. If a glaze wasn't formed and the stuff did not melt, then I added ash in ever increasing proportions with 5% Hyde ball clay (also a local material here), to help the glaze stay on the pot and to help hold the glaze in suspension.

Eventually of course, I wanted to know what the materials were which we had collected and I had to get reading and asking questions. The children helped a bit with what they learned at school. I have had training in both Geography, specialising in Topography, and Geology, but at this time in a strange country I did not use these assets; my approach was entirely empirical and I am glad it was, because the family was able to join in at their own levels and help me and together we put two and two together. It was a voyage of discovery for us all and we learned to tie up vegetation and land formations with underlying material and often material content. The point I am making is that you can make glazes without knowing a thing about what they are. If you do know or can find out, then you can make an educated guess at how much of other things you are likely to need to make a good quality glaze.

One very important point; *ALWAYS* make a note of where you found the materials. Man can change landscapes drastically in a short time and materials can look different according to whether they are wet or dry.

As for the clays, until recently I have never found anything just on my doorstep. I have always had to collect different clays and mix them to make a stoneware body. At first I asked McSkimmings for help and they made suggestions which eventually worked, but I found that by the time I had collected all the different materials together, much travelling, petrol, time and labour were called for, so I turned to Ian McPherson's admirable clay bodies and have used them ever since to a large extent.

However when I started the Whare Flat Pottery and became a full-time potter, I promised myself that one day I would investigate the clays around my pottery. Three years later I am doing this. At first I noticed a very yellow plastic clay — "they" had said you can't use yellow clay — too much lime — terrible things happen. However Whare Flat is forested with exotics and the garden grows rhododendrons so I thought there cannot be too much lime, so Peggy and I tried a few bucketsful. We found a rubbish tip which had been bulldozed out and there was a huge mound of this yellow clay upturned. We asked permission to take it and found we could use it as is. It proved to be very plastic, a joy to throw, with a high wet to dry shrinkage, and we fire it between 1080°c — 1200°c according to whether we want a porous medium red planter, or an almost vitrified deep rusty red article. Sieved with 8% manganese oxide we have a good black slip, and Peggy is turning out some interesting pottery in black and red. All our planters and outdoor pots are made from this clay. We have a Codes Mark III pugmill and it takes us less than an hour to set off in the landrover, collect as much clay as we want and put it straight through the pugmill. A good 2½ cwts of clay is ready to use the next day.

Behind the pottery is a quartz pebble quarry, and the old inhabitants of Whare Flat got their own coal from nearby — you can see the lumps sticking out of the quarry face. This led me to look for fireclay in the area. We prospected noticing where the puddles stayed — as clay is impervious to water, and then we dug. Every time we came across small amounts we tested and found it was still very porous at 1300°c. We did some tests adding some yellow clay to bring down the temperature. We made small test bars using different percentages of yellow clay to white (or sometimes it was black). Each bar was 7 cms long with two lines drawn 5 cms apart marked on its face. The width of each bar 3 cms, the thickness 1 cm. These were measured between the lines in the wet, dry, bisqued (1000°c) and glost (1280°c) states, and the shrinkage calculated. We also noted any tendency to warping and tested for porosity by weighing the bars after firing at 1280°c, and cold from the kiln, then soaking in water for 24 hours and reweighing, and calculating the amount of water taken up. The sample we chose to use as our body had a total shrinkage of 14% and a negligible porosity. We still have to test for thermal shock and chipping, but this can be done by domestic usage. However there is so much quartz sand on Whare Flat and both clays have a good amount of it in them that we are a little cautious of going full steam ahead into ovenware until we have tested for thermal shock resistence. At present I am subjecting a casserole to the rigours of hot ovens and cold surface and so far I have reason to rejoice.

We put the clay mixtures straight through the pug mill as it is so clean, but if we have to dry, soak and sieve the clays it will no longer be a viable proposition for us as clay does not dry naturally in our wet forest and we do not have the room to dry the quantities we need artificially with heat.

The forestry people have become very interested in what we are doing and have offered to dig anywhere for us in our search for a reasonable quantity of fireclay. They keep turning up with interesting finds and we have discovered a local source of greensand for our brilliant red, enamel-like glaze. Opposite our gate is a deposit of weathered schist (crumbly, greeny, silky rock) which needs 50% ash to make a red black mottled glaze at 1280°C. This means that over the last year we have been able to make a totally local product.

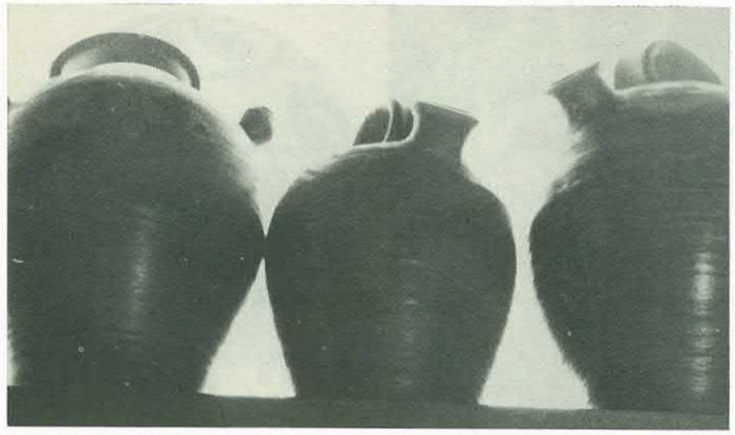
Collecting ash is easy for us. Neighbouring farmers cut down trees — burn them, and call us in to collect the ash, several sacks full at a time. In the early days we took the van to collect reeds or bullrushes because we needed ash from these plants for our chin glazes.

We do most of our firing now in an electric kiln and I find if we leave a fair amount of charcoal in the ash we can get similar effects as from the oil kiln in reduction.

As pottery materials become more readily available from suppliers, craft potters are doing less for themselves. I hope that this account of my adventures finding my own materials will help others to experience the excitement that comes from their discovery and use.

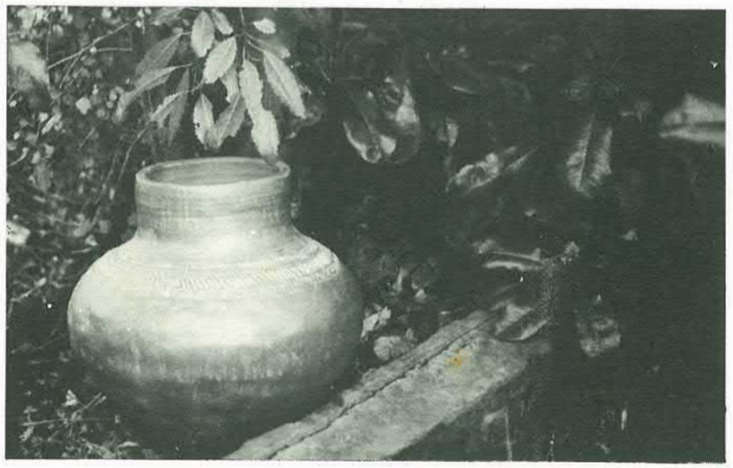
Being in close contact with the earth and its associated life, one becomes more and more aware of shapes, colours, textures, patterns and movement, which is bound to be expressed in your work as you become more skilled in the basic techniques of potting. You do not need a scientific background — only a consuming love for making pottery of the earth. I urge you to try it.

For the scientifically minded there is Jim Schofield's new book "Materials for the New Zealand Potter," reviewed on page 22. *Ed.*



Water bottles, red burnished slip decoration.
Below: red burnished pot, white and blue slip decoration, Ht 19 cm. Red burnished pot incised decoration, Ht 30 cm.

photos: Carole Church



Burnished pots

Jacquie Roberts

My interest in earthenware pottery began in childhood in Argentina South America where I lived until I was eighteen. In Argentina, Chile and Uruguay clay vessels were in common use in everyday life, and even dogs ate out of earthernware bowls. The pots used ranged from vessels and artifacts made by Indians in the Andean villages of Argentina and Chile to the domestic ware products from factories on the outskirts of larger cities. In Uruguay the influence of Spanish and Portuguese pottery bought by the colonisers in the 18th Century is very strong. There are many clayworks where bricks and "half round" roofing tiles are produced.

Because of this background it seems natural for me to work with earthernware clay. The ideal clay for my purpose is fine textured with a low maturing point. Small and medium sized pots are wheel thrown, the larger ones are coil built. Shapes flare widely from a small base, as this helps to show off the polished surface. Pots are ready for burnishing at a critical stage in dryness, when more than leather hard, but not quite dry. I apply a clay slip with a brush, a small area at a time, working from the base up to the middle, and rotating the pot as I work around — as the coat begins to dry the burnishing starts. This is done by running the surface with a smooth stone, with quick strokes, until a patina appears — the whole process is repeated until a good polish results. Finally I polish with a cloth wrapped in polythene.

The process of burnishing is best done under a hot sun. Decoration over the burnish is possible by applying slip. Firing temperatures must not exceed 1000°C or the patina will be lost.

Slip for burnishing:
4 parts ball clay) mix with water
3 or 4 parts of an oxide)

Put through an 80 mesh seive
Add enough water to make a medium to thin slip

Jacquie Roberts pots at home at Half Mile Bush on the outskirts of Dunedin. She is building up her workshop hours and is an enthusiastic member of Otago Potters Group.

Gillian Pope

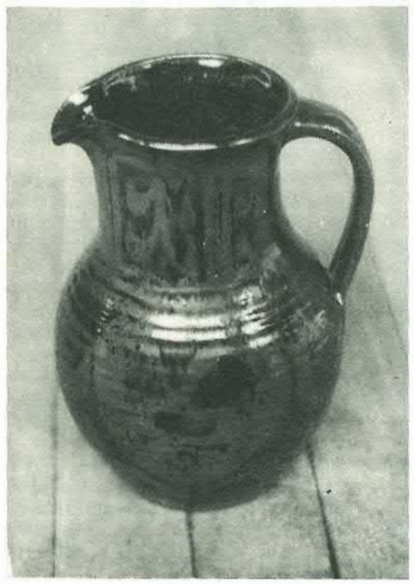
Gillian Pope is a studio potter living with her family on Otago Peninsula. Gillian does not make pottery for a living, nevertheless she is fully committed, with her own workshop and wood burning kiln, on a part-time basis.

Both she and her husband Chris have science backgrounds and a knowledge of local materials. Gillian makes her own stoneware body from Waikiwi fire clay and a local clay she digs sometimes from the roadside outside her property. She fires in a 30 cubic foot bark-burning kiln built to Barry Brickell's specifications (with some modifications), as published in Potter 16/2. She had an electric kiln before and keeps it as a standby.

Gillian's interest in pottery started when she was young, living with her family adjacent to McSkimmings brickworks. Later she attended Pat Perrin's classes at Avondale College in Auckland and then in Britain at the Colleges of Art at Belfast and in Bristol. Only over the past five years has she found adequate time for potting.

She is an enthusiastic worker for the Otago Potters Group and she attributes her recent progress in the craft to classes held for the group by Michael Trumic. Since decoration is her forté she found Alan Caiger-Smith's school an inspiration. What improvements in technique she learned from him enabled her to develop her designs with new freshness and flair.

Most of her pottery is functional. She particularly enjoys making bowls and items which lend themselves to decoration. The photographs are taken from a one man exhibition held in the Otago Museum foyer in May.



Opposite left: ball, slip glaze with design scraped through. Opposite below: jug, 280 mm high, rock glaze all over in brown and black, wax resist brushwork overcoated with ash glaze. The bowl, 260 mm wide, talc glaze all over, brushed with iron chromate, colour grey and deeper grey/green

Firing with wood

Gillian Pope

Our kiln started out to be a two burner, catenary arch, oil burning trolley kiln to a design of Lawson Fraser's. However with the inner arch built we went off to the Potters' Doo 76 at Driving Creek, Coromandel, where we were converted to wood firing. On return and after soul searching we pulled down everything and started again from scratch using the catenary arch chamber (0.85 cu metres) but with a Dutch oven fire box with step grate similar to one Barry Brickell had built at Port Chalmers and later described in detail in Potter Vol. 18/2.

One modification we have made is a perforated bag wall — an idea from the Lawson Fraser design. By adjusting the height of the bag wall and the size of the gaps in the wall we have gone from hotter on the top, to hotter on the bottom, and now have reached a pretty even vertical temperature with a slight fall-off at the lower back, (useful for planters). The largest holes are at the bottom at the sides (about one third of a brick in size), with smaller gaps (approximately 30 mm) every alternate brick increasing to one quarter brick sized holes at the sides.

We are working on the principle that if there is plenty of heat around the edges the middle will take care of itself. Note after a couple of firings only a crowbar will alter the bag wall so its advisable to leave larger gaps than needed — a small piece of brick in a large hole will greatly alter the flow.

The chamber has a checker of bricks as described by Barry Brickell (Potter Vol 17/1) over flues leading to a chimney 460 x 230 for 2550 mm which narrows to 350 x 230 mm gradually into a 230 diameter metal pipe 1500mm long making a total of 5.6 m. The wicket and back walls are built outside the catenary arch and braced together — this makes for very simple bricking up.

Initially we used bark (Pinus radiata) to fire with. This is free for the gathering from around the logging operations on Port Chalmers wharf. It is worth being choosey when gathering, as the bigger the pieces the better. Bark can be 30 — 50 mm thick and 300 mm or more long but more typically 30 mm and 130-200 mm long. A cone 8 firing takes about (150 cu ft) 4 — 5 cu metres of bark. Make no mistake bark firing is hard work. The fire needs constant feeding and the bark doesn't shovel well. A good pair of heavy duty gloves are a must as it is very abrasive. The resinous smell, however is delightful.

During a very wet autumn last year the bark became too sodden and we found a good supply of demolition wood. Demolition wood is almost exclusively rimu, very dry and is quickly cut into suitable lengths (approximately 760 mm), with a small chain saw. Stoking is much easier than with bark — nails, door hinges etc. all drop down into the ash pit. The step grate burns demolition dwangs and studs (100 x 50) very well right up to the end of the firing, mixed with some split 25 mm boards for the last hour or two, but we don't do much splitting.

Using the step grate with either bark or wood, all the fire bars should be kept clear of ash and charcoal buildup from below otherwise the bars get too hot and bend, and the fire doesn't go as well. We have found it best to fire with the primary air (i.e. the ash pit area) wide open and the stoke hole a comfortable size for feeding — about 200 x 200.

Our firing schedule is to light up at about 6am keeping a small fire going for several hours gradually building up until it is going as fast as possible without smoking, which usually takes till about 11am. The fire will smoke and steam like a normal household fire for the first hour, but after that with careful firing, not too much fuel at one time, it is possible to keep it smokeless. By 11.30am the top of the Dutch oven nearest the chamber is hot enough to cook girdle scones and Welsh cakes for lunch. As firing is very much a family affair with us, kiln cooking greatly adds to everyone's enjoyment. In the evening a few spadesful of glowing charcoal are removed from the ash pit to cook the steak on the barbecue. Foil wrapped potatoes, parsnips, bananas etc do well in the ash pit. We have yet to try it to spit roast.

Some 13 — 15 hours from light-up cone 8 is reached and the glowing test rings are drawn. A steady fire is kept up for a further hour to soak, then the firebox is left open for another hour by which time the kiln temperature has dropped considerably and the fire is a low mass of glowing embers. The Dutch oven is then bricked up and the fire is drawn from the base of the chimney. This hour open is important as our first firing was a failure when bricked up at full heat — everything came out very matt although the test rings drawn were glossy.

We feel wood firing is not a one-man job. The constant stoking and heat would be hard if not dangerous for one, but is a pleasure for two.

In loading the kiln we have found it best to place bowls close under the shelves and never on the top shelf. This avoids any gritty ash in the bottom. It may mean standing bowls on a brick or something well sprinkled with fine washed white beach sand. Ash build-up is naturally greatest in front of the holes in the bag wall and at the back (flue side) of the top shelf. It is best to put round shouldered things here. With lidded pots, extra care needs to be taken on these places to paint galleries well with alumina and not to glaze lids as near the edge as usual.

Cones should be protected from ash and the direct path of flame to get a true result.

Otago Polytechnic

ceramics course

It is five years since the ceramics department, offering the only full-time pottery training in New Zealand, was established in Dunedin. It is part of the School of Fine and Applied Arts, a school over 100 years old, now under the control of the Otago Polytechnic. Courses are provided in the following three categories.

The diploma students in stage one and two do three hours a week covering wheel and hand made techniques, kiln management, basic chemistry and geology. In the third year those who opt for ceramics as a major study do 18 hours a week.

Art School diploma students as part of their diploma course	Stage one Stage two Stage three	3 classes 2 classes 8-10 students who opt for ceramics as a major study
Part-time	6 night classes (18 per class) 5 day classes	
Full-time ceramic course	12 to 18 students	

The part-time classes are open to adults with a maximum of 18 per class. The day classes operate three mornings and two afternoons a week.

The full-time course operates over the entire school year and students are eligible for the full tertiary bursary. Applications are accepted each year and the successful applicants are notified late in November. At present the selection of the full-time class is on the basis of the information supplied by the applicant on the application form. Acceptance is flexible and preference is usually given to the older and more experienced, especially those who have some potting background.

Lyall Hallam's vision in 1972 convinced the Polytech of the advantages of building up a strong ceramics department and he secured sufficient funding to get good facilities and equipment in York Place. Lyall Hallam intended that professional potters would contribute teaching sessions, but it hasn't worked out that way. The first visiting potter was Michael Trumic who became committed enough to take a permanent post as tutor when Lyall Hallam departed. Michael Trumic, tutor-in-charge of the full-time course, has been an enthusiastic first leader during its critical infancy. A man of strong convictions he is an inspiring teacher who encourages his students to absorb, think and question so they develop on the broad front and not only on technicalities. "Pottery is a three dimensional media. Students must develop sensitivity to sculptural form and fluid line."

Geoff Logan, himself a graduate of the Otago Art School returned from study in Britain to teach and he specialises in moulding and semi industrialised processes.

This year Neil Grant, a potter of repute and an experienced teacher takes the position of tutor-in-charge of the ceramics department. He is emphasising aesthetics beginning with drawing. "You can't draw if you can't see."

With staff of this calibre the ceramics department has consolidated and is ready to expand the full-time course over two years— a period staff and students consider necessary for an adequate training with scope for specialisation.

Left: Michael Trumic 35 cm high, russet glaze with green and purple, from the Otago Museum Collection

photo: Otago Museum

Right: Michael Trumic comments on results from the exercise kiln: Neil Grant takes a drawing class for the full-time course Below: some students' work

getting established

Richard Booker

I came to this 90 year old homestead at Hampden, North Otago two and a half years ago and set up a temporary workshop in a room in the house and built a kiln outside. Subsequently I have been able to buy the property and am about to construct a permanent workshop some distance from the house because one can take clay in one's porridge for just so long. I was fortunate to receive an Arts Council Establishment Grant last year which is of great assistance, for the costs involved in such a project are considerable.

Today with costs ever increasing it seems a good idea to attempt a certain amount of cooperation and interchange with other potters in the area. This was the aim of five students from the first year ceramics course — to organise a group so that we could remain in contact and spend some time working together to exchange ideas and be stimulated by this interaction. From an economic point of view it seems realistic to fully utilise facilities and equipment. How many potters working by themselves, fire say a 30 cubic foot plus kiln more than once fortnight? So we developed a scheme for a workshop large enough to accommodate four potters working together at one time. Just over 1000sq ft of enclosed space is planned, about 700sq ft for the main workshop and about 400sq ft for the kiln area and clay mixing area. At present David Cook and I are working together here. David rents a house nearby and we make our own clay, mixed in a blunger we constructed and heat and air dried in a couple of large concrete water troughs. We are able to use local clays which make a good plastic throwing body. The relative sandiness is by addition as desired. It is similar to RMK 11 with a little more sand, but not so refined, with naturally occuring impurities — lumps of iron and quartz — which give it an interesting openness of texture, vitrifying at cone 10.

The kiln is a single chamber of approximately 30 cubic feet, diesel-fired with two stainless steel jet burners to cone 10 in nine and a half hours. We are constructing an 80-100 cubic foot wood and waste oil fired kiln, (i.e. it can be fired with one fuel or the other separately or in combination), and a smaller version of the existing kiln using the same stack.

Climate here presents some problems that require precautions to be taken because it is colder longer in Otago. You have to be sure that all generated warmth is retained so that pots don't take all year to dry out. This means well-insulated workshops with pot belly stoves and enclosed kiln spaces — with recycling heat from kiln to workshop by a system of vents. There are however long periods of hot sunny days when the breezes blow from Central and every window has to be open.

North Otago and Otago in general are well endowed with ceramic materials so there is the opportunity to experiment with local materials. The hills behind Hampden have an easily accessible ball clay of the same composition as the Hyde ball clay. The local yellow clay underneath forms from 10-20% of the stoneware body we make here. There are also the refractory clays from the numerous coal mines around Ngapara. Hampden had a brickworks in the old days but we have not yet pinpointed its location.

The Polytech ceramics course is a most worthwhile undertaking. However with such a concentrated course there are many questions left unanswered at the end of a year. If it could be extended to two years with a practical period working with a potter who could pass on his particular knowledge and experience, the students would benefit.

Melva Baird

is a graduate of the first full-time class, establishing herself as a domestic stoneware potter, and is selling as far afield as Wellington.

"During part-time classes at the Polytech I had a sense of frustration because I realised my desire to learn to pot competently was going to require much more concentrated effort than periodic classes could provide. So next year I was an enthusiastic starter for the full-time course commencing that year.

The students with ages ranging from school leavers to retired people, welded into one family through working closely together making clay, building kilns, learning and experimenting and solving problems. It was a liberating personal experience for me the mother of a growing family, and without a doubt the course provided the opportunity to gain knowledge and experience in one year that takes some potters years of trial and error. You learn from the mistakes of others as well as your own.

Anyone already with a commitment to pottery, not a beginner, stands to gain even more from the broad training in both aesthetics and practice of the kind offered in the course. To spend an academic year in Dunedin is not an impossible idea.

Many students from my year are working, improving techniques all the time. If it wasn't for the fact that to pot for a living requires money to get established, more of the younger students would be taking on pottery as a life style. Unfortunately there are few openings for working positions with established potters, which is the kind of experience they most need."

Oswold Stephens

"When you are old you run short on energy," says Oswold climbing surely to the upper floor of his 30 x 12 ft workshop where he spends part of every day. He makes no concessions to the zero temperatures outside — and inside. The keen sharpness and confidence of this octogenarian potter is remarkable.

Both Oswold and his wife are graduates of Otago University; the works of art and personal things they have chosen to have around them must have been considered avant garde in their day. Nature has been allowed to have its way in the front of the roomy Edwardian villa near the university precinct in central Dunedin. The back vegetable garden Oswold tends. He says he should have been a gardener. But he was a chemist, graduating Master of Science with first class honours in inorganic chemistry with a view to going into industry.

The chemistry of glazes for pottery has been an absorbing passion for fifty years. In the upstairs workshop hundreds of bottles and bags choke the shelves. The results of his experiments are tested and documented in the scientific manner, but "God knows if anyone could find his way around this maze."

As a ten year old boy Oswold recalls seeing Clem Beck, one of the first individual potters, firing pots in a round refractory container, like a big saggar, with burners underneath. It was an American Revelite kiln. He had also seen Harvey Miller at the Normal School, fire pupil's pots in a primitive trench with wood. So when he went to New Zealand Insulators at Temuka, and began testing materials, he was soon taken up with studying the effect of heat both as a job and a pastime. Oswold built a forced draught coke kiln to get up to cone 10 in an hour. He prospected over the South Island for raw materials and opened up a clay seam in Nelson.

In 1934 he suggested to the Education Department that pottery be part of the art curriculum in schools. This idea was not followed up, but by this time Oswold had decided to take up pottery himself. In his position as head of the chemistry department at the technical college there were colleagues to assist him with the design of equipment.

He built a wheel from a sewing machine, (still in use). A one and a half cubic foot electric kiln was imported, but it required a lot of modification and he altered it to take glo-bar rods and

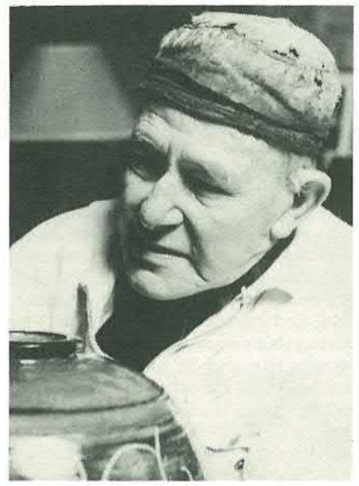


photo: Mervyn Jarvis

fired it every day. Then he built himself a kiln with the help of Stan Hughes of the physics department. Next came a small ball mill handling 16 lbs of clay a day, (also still in use).

"Had circumstances been right I would have liked to work full-time as a potter, but the climate for selling crafts in New Zealand in the '30s would not support that. I decided to do mould work so that I could use unskilled labour between weekends." (Yes me," says Ailsa Stephens). They both agree that Ailsa has put up with a good deal when domestic equipment like hotplates were spirited away to the workshop; and lids of Pyrex dishes disappeared to be ground up for ingredients.

His first earthenware clay body was of imported materials, Ball clay from Devon, China clay from St Austell, flint from France, potash feldspar from Norway. Such were the size of his orders that he is using them yet. For glazes he was constantly experimenting. He made mugs, vases, dinner plates and other domestic ware. Five or six shops bought his pottery and people also came to the house where a room was set up as a showroom, but his work was best known through exhibitions with the Otago Art Society.

It was Oswold Stephens who organised the first New Zealand Potters Exhibition in Dunedin in 1957 and then came to Wellington to talk with Helen Mason and others about ways to carry on the tradition he had begun. The committee to organise the second National Exhibition asked for subscriptions to send out a newsletter to keep the handful of potters informed. Because it was intended to publish useful information, there being so little reference material or literature at the time, the newsletter idea became instead a magazine, and so 20 years ago, in August 1958 Vol 1 No I of the New Zealand Potter was born.

In 1961 Oswold retired and took up stoneware potting. The new challenge of grappling with an oil fired kiln still occupies him.

Good news is that the long promised organisation of Oswold's wealth of information for publication may take place. Pamela Webster, finding Central Otago's winter too cold for working in the stone pub which is her Mt Ida Pottery, has offered to come and assist Oswold put his material into order. Good Luck. Ed.

Letter from Oswold

. . . . I would like to help you in your work for the journal even if only in a small way. There are three glazes that the Chinese thought highly of — green and blue celadon, chun, and hare's fur.

I have got fairly close to them so I thought for a start I would write a description of them one at a time —

Hare's Fur

First a thin coat of my No. 58	
Potash feldspar	*80*
White clay	*10*
Flint	*60*
Whiting	*25*
Barium carbonate	*25*
Zinc oxide	*6*
Calcined bones	*8*
Black iron oxide	*1*
This is a very viscous glaze	
Over this apply a medium coat of my No. 100	
Potash feldspar	*68*
Whiting	*22*
Red clay	*8*
Alumina	*1½*
Titanium oxide	*11*
Manganese oxide	*11*
and fire to cone 9 with reduction	

Experiments will need to be done to determine the thickness of glaze 100. If too thin — no hare's fur — if too thick it will run. Better stop the coat of glaze 100 a short way from the base of the pot as there will be formed an aubergine rim and the glaze will not run off.

96 Clyde St, Dunedin
8th Sept. 1976

playing alonga mud

Nicole and Erich Kolig

Nicole Kolig, a graduate of the first Polytechnic course used her experience to teach Australian Aborigines when she accompanied her husband on an anthropological field trip from the University of Otago.

Australian Aborigines traditionally lacked pottery. They seemed unaware that necessary raw materials exist in abundance in most areas of the Australian continent, and that simple forms of pottery production, for purely functional purposes, do not require highly refined techniques. Even along Australia's northern coasts where Aborigines in pre-European times, over centuries, had friendly contacts with pottery-producing Indonesian deep-sea fishermen, staunch cultural conservatism apparently prevented them from adopting pottery making.

In 1975, Nicole was commissioned by the Education Department of Western Australia, Adult Aboriginal Education Branch, to conduct an introductory course in pottery for Aborigines at Fitzroy Crossing, a small country town (European population c.50, Aborigines c.700) about 2,000 km north of Perth, in the tropical Kimberley region. It derives modest importance as an oasis, complete with petrol bowser and pub, within a radius of some 400 km of uninviting, parched bush land.

Prior to Nicole's assignment, we have spent three years in this town and surrounding area, carrying out anthropological research. Some of the Aborigines living in several reserves in and around the town, have been born on settlements and have had some elementary schooling, while others have grown up in the 'bush' and have only a minimal grasp of western ways. All live in a cultural and language medium very different from western civilisation. Our knowledge and understanding of Aborigines and their cultural background, accumulated over years of research, proved invaluable in overcoming the culture and language barrier in carrying out the task. The good rapport previously established with the Aborigines came in handy too.

The four months' pottery course was to give a broadly based introduction to gauge the response of Aborigines in view of the future possibility of establishing pottery as a cottage craft type of industry. Employment opportunities for Aborigines are few and reliance on the welfare system is high. Aborigines are trapped in a vicious cycle of lack of opportunities, poverty and listlessness. Any attempt to teach them to improve their lot by their own efforts must appear welcome. Sadly, the spearheading of arts and crafts among Aborigines, testing human feasibility and exploring natural resources, have received little attention up to now.

With this outlook in mind, the pottery course was started in November 1975 and continued into March '76. During this period approximately 150 persons attended for longer or shorter times. Some of them dropped in once trying their hand, never to return again, others developed both taste and enthusiasm. A few acquired the necessary skill to continue on their own after the course had ended.

Several courses were run simultaneously: one for primary school children, another one for boys and girls in their later teens, one for the local mission's girls' brigade, one weekly session for the nurses of the hospital, and of course adult classes. However, the workshop was open from morning to late at night, six days a week, and people were free to come and go as they pleased. Women brought their babies and toddlers along and sometimes the situation was pretty chaotic with all that happy family life unfolding in the workshop. In the evenings usually casual visitors dropped in and often they became so engrossed in their work that they carried on well past midnight until an end had to be called categorically. Apart from the majority of part-timers and others even more casually involved, a core-group of some dedicated disciples, five women and two men, formed. All of them had families and two were grandparents. Two of them had to walk three kilometres every day between their home and the workshop and the regularity with which they attended says something about their enthusiasm.

Pottery is still being made by a few of our students and sold through the Aboriginal Arts Board to outlets in Perth and locally in the store to tourists. One Aboriginal man, a trainee of Nicole's has since taught an elementary course in pottery to children in the local primary school. There is also a possibility now that Aborigines could mine and process clay for sale to pottery classes that are being established in schools in nearby coastal towns.

Prospecting in the 'bush' and setting up the course.

One of the foremost aims was to set the course up as independently as possible from outside supplies and to rely on local resources. From the beginning only local clays were used. In the alluvial flat of the Fitzroy River basin usable clay, both stoneware and earthenwar, is plentiful. (There is also a small quantity of kaolin). Suitable clay deposits had been located by us in previous years and other deposits were found during the course. Clay occurs in a wide variety of shades ranging from pure white (kaolin) to deepest red (saturated with iron oxide) with shades of grey, pink and even green in between. Test firings had proved some of the clays to be low-fire stoneware, firing somewhat densely to 1230°C. (Together with flint clay that is also found in the area, the vitrification range can be considerably extended). This was the clay mainly used in the course.

There is no shortage of wood for ash glazes and all sorts of rock minerals suitable for glazes abound. Immediately to the north of Fitzroy Crossing lie limestone cliffs and beyond are granite ridges with large deposits of decomposed material. Yellow and red ochre, suitable as colourants, are also plentiful. (Aborigines traditionally use them as pigments to paint rock surfaces, wood and human bodies, and therefore are familiar with most of the deposits).

We made numerous bush trips in our Land Rover to acquaint course participants with the area's basic geology and to explore resources. Rock samples were piled high in the car and initial tests later by the Ceramic Department of the West Australian Institute of Technology proved most of them promising. These bush trips were enormously popular among Aborigines. Exploring the land's resources relates directly to the way Aborigines experience the land. They feel a close affinity to it and take great interest in its plants, animals and minerals.

Somewhat less popular were regular trips to mine clay in sufficient quantities for the course. This was backbreaking work, digging and carting the clay to the trailer in the sweltering heat of the tropics. The point of the exercise was, of course, to involve Aborigines in the mining and preparation of clay

Above: Animal figures, a small finch pot and two water lily roots. Right: Under the watchful eyes of his family, George throws a pot. Left: Emily with her pots for exhibition in Perth.

right from the very start of the process.

The Education Department supplied an array of tools, although until they arrived we had to improvise with bits and pieces of wire, steel offcuts and fragments of asbestos sheets salvaged from the rubbish dump. Eventually the tools arrived along with a wheel. Unfortunately, it turned out to be an electric wheel and not a kick wheel as ordered. It overheated regularly after about 30 minutes of throwing, due to the tropical temperatures, and proved to be a continuing nuisance.

A concession to expedience had to be made for firing. A small electric enamelling kiln was used. This together with the electric wheel made us dependent on electric power supply which normally is not accessible to Aborigines. We did not really like it but experiments with New Guinea type of scaffold firing, using local woods, had been unsuccessful and we did not want to prolong the experimental stage. Experimenting with open firings or with fuel fired kilns would have meant poor or no results for some time. It was imperative to produce satisfactory, if not spectacular, results as quickly as possible to kindle interest, and keep it alive, among people who had no idea of pottery making and who were not highly motivated to engage in any craft. Unfortunately since the maximum firing temperature of the small kiln was only 1000°C, the abundance of local glaze materials could not be used with the exception of iron-bearing granitic schist and ochres.

mud-playing to expertise

Aborigines at Fitzroy Crossing had one thing in common: a total ignorance of pottery, its production, uses, commercial and artistic value. To them clay in the wet, plastic condition was just mud or simply soil when in dry form. No wonder in the beginning they referred to potting (in Pidgin English) as "playing alonga mud", thus expressing a good deal of good-humoured condescension for this childish activity. It meant an obvious profound reversal of attitude when later derision turned into admiration. Those who had persevered with the course and

had acquired some skill, were now, almost deferentially called "Maban (expert) belonga clay". Clay, totally unknown as a concept previously, had entered their daily vocabulary and no longer was just mud.

Pottery constituted a perfectly strange phenomenon to the Aborigines. Their world-view is conservative and impresses on them not to experiment. They prefer activities that are time-honoured and with which they are familiar. To set a precedent a distinct intellectual resistance, if not apathy, has to be overcome first.

To most, pottery may have seemed just another of the white man's whims, not worth bothering with. Some may have been covertly suspicious of our intentions at first, mellowed only by the years they have known us. Inertia was another stumbling block, which is hardly surprising considering that neither the economic potential of craftsmanship is appreciated nor is there any expressed desire for artistic self-expression. Much greater value is attributed to resting comfortably in the shade doing nothing, than busying oneself with non-essential activities.

At this difficult stage of starting off, Christianity came to the rescue. Missionaries encouraged Christianised Aboriginal women to attend the course. Suspicions as to the propriety of doing so, were allayed by our benefactors with the reference that Our Lord, too, was a potter. Presumably meant was the creation of Adam out of a lump of clay. It remains debatable whether theologians would agree with this exegetical point, but nonetheless it proved helpful. For some time, the course comprised children, adolescent boys and girls, and women. Men did not join at first.

It took some time until their curiosity led the men to participate. Aboriginal society is a distinctly male-dominant, one might say male-chauvinist, society. By virtue of Nicole teaching it, pottery was immediately 'stigmatised' as a female enterprise and Nicole had to work hard to change this image: mainly by showing books that depicted male potters at work. Erich contributed his part by ostentatiously trying his hand at clay every now and then. It was, however, not before pottery had acquired respectability in the eyes of the men — a few things had been sold to the local store and were on display there — that some of them began to show some interest.

Even such seemingly simple things as using decoration, turned out to be a major problem. Aborigines traditionally use beautiful designs which they either incise on religious paraphernalia of stone and wood, or paint on rock surfaces, wooden objects and human bodies. These designs (concentric circles and spiral ornaments being the main motives) are secret-sacred and absolutely taboo to women and children. Only men can use them and they must not be bandied about outside the ritual context. Women found themselves in a bind when it came to decorating, never being sure whether it was alright for them to use traditional designs. And men were equally hesitant fearing that they might give offence to other men. Some resorted to decorating their pots with flowers, which looked absolutely ghastly, and only very few circumvented the crisis by developing simple abstract non-traditional designs. One way out of the dilemma was by working with differently coloured clays for pattern effects. Marbling became rather popular, not only because of its often startling effects, but because it was a solution to the decoration problem.

Co-ordination and planning ahead was also a sore point with Aboriginal students. Some never got used to the necessity of turning or finishing pots at the right time and not just when they felt like it. Pottery dries quickly in the warmth of the day and dozens of pots had to be recycled every week because they had not been finished in time. Another headache was how to impress on our students that clay has to be mined and prepared well in advance and that it does not help much running around in circles when one has just used up the last lump. Another unexpectedly tricky matter was how people who do not know the clock or don't have a watch or both, should supervise kiln firings. To add to Nicole's desperation, at times everybody disappeared, virtually overnight moving to another place for an important ceremony, only to turn up again after a few days quite as unexpectedly. Everybody loves the old ways best. Given this difficult human factor one wonders how on earth the course managed to have any success.

Nicole concentrated on teaching elementary skills and on giving students a 'feel' of the clay, avoiding complicated or confusing issues. There was only one way of tackling the task and that was by demonstrating every single move at length and not leave anything to theory or speculation. The course managed to go through the whole variety of pinch, slab, coil and wheel work, marbling and carving methods, testing clay for lime, mining and preparing and kneading of clay, bisque firing, waxing, glazing and glost firing. Once Nicole had demonstrated something down to the smallest detail Aborigines were fairly quick in carrying it out independently.

Illiteracy was, however, a remaining problem hampering working with glazes. Apart from making pots in all shapes and sizes, Aborigines took great delight in making small sculptures of animals from their natural environment, in particular lizards and goannas. Emily, an elderly lady, specialised in drop-shaped bulbous things which represented water lily tubers, a traditional staple food. By far the most talented and diligent of them all was Butcher a man in his sixties, who soon had the knack of everything. He seemed a born potter, and, as mentioned before, taught pottery in the primary school for some time after the course had ended. George was talented too, but his wife became jealous of all the time he spent in the workshop. Maryanne, who had eight children, welcomed additional cash and was a zealous worker once she had realised that her products could fetch good prices.

It did not take long before our Aboriginal trainees were selling their pottery to the local store and in the nearest coastal town 300 km away. The tourist industry provides a booming demand for Aboriginal arts and crafts and assures Aborigines of a steadily growing market. A tremendous boost of morale came through an exhibition in Perth. Every year the Ministry of the North sponsors this exhibition to display and sell arts and crafts from people of the north of the state. Despite a great many technical difficulties a selection of about 20 pieces was hurridly put together and sent to Perth and all sold very readily. The Aboriginal Arts Board which buys arts and crafts from all over the state and maintains various sales outlets, has also shown interest in the fledgling pottery at Fitzroy Crossing. This ensures that Aboriginal products will be realistically priced a reasonable standard is maintained and craftsmen will not be robbed by unscrupulous entrepreneurs.

In winding up the course we have emphasised to the West Australian Education authorities the continuing need to encourage Aborigines. One or the other of the most talented Aborigines should be given scholarships to study at Perth or perhaps at Darwin's famous Bagot Aboriginal pottery. It would also be of enormous benefit if another enthusiastic potter would take up the challenge to provide follow-up training at Fitzroy Crossing.

Fletcher Brownbuilt

Pottery Award

This year there were a small number of superb pots on display besides the excellent winning entries and a few entries of indifferent merit. An unselected offering was shown since the award was not well supported.

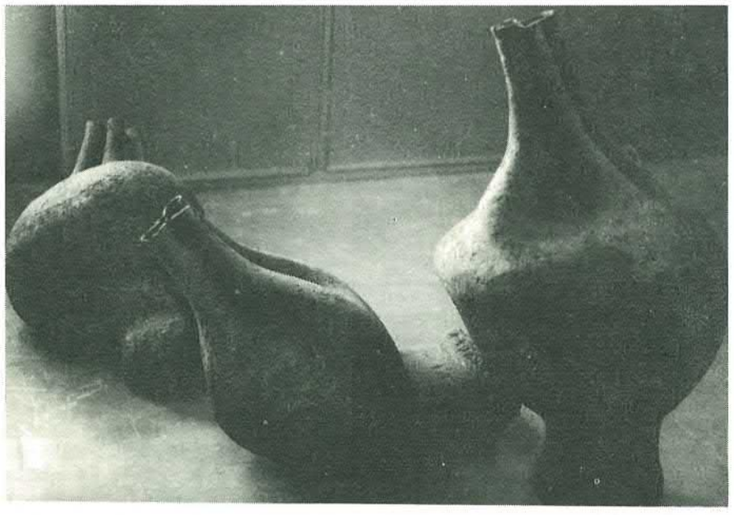
The winning piece chosen by Les Blakeborough from Australia, was by John Anderson. Merit awards were given to Brian Gartside and Lawrence Ewing.

Perhaps one of the reasons for the poor response by potters was doubt about the idea of sponsorship, even though it has been accepted for years in other sections of the arts. The New Zealand Arts Council Chairman was quoted recently as saying "Local government and private enterprise should share the responsibility for financing the arts." Sponsorship is one way private enterprise can do this. And why not for pottery? This award is a genuine attempt to assist potters and in particular the local Auckland Studio Potters Centre, which, with the change in Government in 1975, found itself without promised funds.

Aside from monetary considerations, an exhibition such as this provides a framework for the interchange of ideas and concepts between potters and public. It also provides a challenge and incentive to potters to excell in their craft through such participation.

It is hoped that next year potters will put aside their personal reservations towards sponsorhsip and enter into the spirit of presenting to the public a high standard of exhibition pottery, and at the same time support a potters cause initiated so generously by a business firm.

Warwick Lidgard



Above right: The winning entry, pot bellied stove in salt glazed stoneware by John Anderson, Wellsford. Below right: Brian Gartside's exhibit won a merit award. Above: Three sculptural forms based on the Nikau palm by Neil Grant

RECOLLECTIONS

by R.N. Field

There was little evidence of any pottery as an art craft in New Zealand when we arrived in 1925. There were, no doubt, potters of highly skilled craftmanship in ceramics factories whose work was confined to cups and saucers and utility lines for domestic use.

W.H. Allen and I were brought to New Zealand by the Education Department specially to teach painting, drawing, sculpture and art crafts. So our main contribution has been in education and having the opportunity to return to England for two years in 1932, I decided to study pottery at the two main pottery schools in London. Returning to New Zealand in 1935 I brought with me equipment with the firm conviction that high fired stoneware was the thing to aim at.

It has been interesting reflecting back on 52 years since I came to this country. I am not much given to looking back, the present being so very interesting and luckily full of activity of a creative nature. I have the conviction that to give everything you've got to whatever you are doing is the most satisfying way to live.

I was privileged to have five years of Royal Exhibition Scholarships at the Royal College of Art, South Kensington, London; three years in the painting school and two in the school of sculpture under Professor Derwent Wood. Henry Moore and Barbara Hepworth were fellow students. My intention was to become a portrait painter like my great-grandfather John Coombs.

At the college in those days a great amount of our time each day was spent in drawing, both from life and from resources of the great Victoria and Albert Museum and in other nearby places, museums and galleries. It was a time of great artistic stirring, the names of Archipenko, Ganier — Brezeska, Zadkine, still ring like bells from those days. London, slowly recovering from war and depression began to come alive in the art world with startling exhibitions of Jacob Epstein who shook contemporary complacency with an intensity he never lost. But job vacancies were few in 1924-25. One day W.H. Allen, a fellow student, called my attention to the student common room notice board, to an invitation to apply for two teaching positions at the Dunedin School of Art, New Zealand. August 1925 found us on our way to Dunedin.

At the Art School at Kind Edward Technical College as it was then, we found only five junior students left from what had been a school of standing. Contact between the Antipodes and the great world was poor and slow in those days compared to now, art patronage coming chiefly from successful warehousemen and millowners, excellent men, but confounded by any new movement in the arts overseas, who naturally took refuge in what they thought they knew. Roads, railways, the establishment of towns and the farming industry had of necessity taken most of the strength, imagination and time of most people.

Allen and I found ourselves stranded artistically with only the remnants of an art collection housed in the Early Settlers Museum. We just had to start from scratch. Soon after our arrival, encouragement came with the great New Zealand South Seas Exhibition in Dunedin. This gave us among other things a new building for the Dunedin and Otago Art Gallery which was the exhibition hall. It also gave us work setting up displays, which was a great help as we felt our way along in our jobs.

Coming to New Zealand in connection with the exhibition was Captain Russell. He brought a display of English craftsmanship in the form of "Jacobean" oak furniture. Over the years we have sat regularly at one of his tables and on his chairs with as much enjoyment as we did in 1926. Captain Russell's daughter, now Helen Sandall of Waikanae, as a young lady of eighteen, came to the School of Art one day to the basement where I endeavoured to teach pottery. She had found an old craftsman at Lambert and McSkimmings pipe works with a potter's wheel that needed hand turning, a process that we could take in turns. This was a golden opportunity. Mr Batt was seventy years old with sixty years in the trade behind him, with severe arthritis, but very willing to do all he could for us. The kilns at the works were mainly salt glaze, but our little pots came out very encouragingly. On one occasion a great flood overtook that part of Dunedin swamping the kilns and everything within reach. The results for us being some exciting orange skin glazes, to our great surprise and delight.

About this time a small body of enthusiastic students, like Toss Woolaston, had collected at the art school and we formed the 6 and 4 Club meeting at our house every Saturday and bringing a project along. I carved a small piece of Mt Somers limestone, and a merry time we all had fortified by my wife Marion's pikelets and usually a meal together followed by dancing, music and lots of talk.

In 1932 my father died and I was granted leave to visit Britain. It became clear to me that the study I could most profitably undertake in London was pottery, so to that end I enrolled at the Central School of Arts and Crafts Southampton Row, and later at Camberwell School of Art whose reputation in pottery was first class. Staite Murray was the leading exponent of the branch of pottery that interested me, (stoneware and fine glazes), at that time. It was a time of great personal stimulation and as I was wholly directed towards being of value in the New Zealand Education scene, I concentrated on gathering information and equipment and developing techniques. We made many pots, some of which were recently acquired by the Hamilton Museum of Art (bought by the Motor Cycle Club there).

I knew it would be difficult to acquire a suitable muffle kiln and a potter's wheel back in Dunedin. I dismantled a kick wheel and bought a Morgan Crucible (high firing clay) muffle and these were the basis of our first efforts in 1935.

Back in Dunedin, my main work was teaching sculpture and drawing, but we made a small beginning as an extension of the sculpture department and pottery became incorporated in the evening class as a subject and also

From the Waikato Art Museum's collection of work by R.N. Field.

photo: Keith MacMillan

to some extent in the daytime classes. We built a kiln in our own garden to start with — just as well we were young in those days. Firing with wood and coke out in the open had its excitements and occasionally perils as when we set the bush on fire late one night.

I think with gratitude of the students of that period — Alma Sutherland and Ngaire Bardwell, Isobella Scoon and Stewart MacLennan (late of the National Art Gallery), and others.

In 1945 we moved to Auckland and were fortunate to be able to establish a pottery department at Avondale College, a new large secondary school in a growing industrial area where the clay industries had been paramount for a long time. Gardner's potteries were the longest established I believe. Miss Briar Gardner was well known as a potter. Crum Brick and Tile were also founded early on, and Crown Lynn began to expand in a big way bringing technicians from Royal Doulton and other British commercial firms. So with all that clay round us and with the wholehearted interest of these firms we soon established an embryo school of pottery. Patricia Perrin was one of the first students to take the craft seriously, then followed Len Castle and Peter Stichbury. At this time Barry Brickell, although not a student, was developing along his own lines. Patricia Perrin joined the staff and soon we were able to add to our equipment and cater for a flourishing pottery class with the sympathetic support of the principal, Les Titheridge.

I am utterly astounded, however, to see the enormous response to the craft which has overflowed into every New Zealand town and remote country district. May it attain the objectives we hoped for in stimulating healthy interest in craftmanship and developing latent aesthetic sensibility. Your own magazine is not doubt also directed to this end.

Development of

Craft Weaving

by Iris Hughes-Sparrow

The original Blick house, Brook Valley, Nelson made of Cob which housed the loom in 1860. – Photo Nelson Provincial Museum.

For the purpose of this not too serious article, it is suggested that the difference between art and craft is that art has its beginnings in man's philosophical and emotional needs and craft in the practical requirements of everyday living. To become a whole person art and craft are essential parts of man's evolution.

No-one knows for certain who came first — the artist or the craftsman. In the sites of the prehistoric lake dwellings in Europe, pieces of pottery have been found. Some authorities believe that the men who shaped these vessels by pressing them into moulds of woven reeds were also the artists whose drawings adorn the walls of the first galleries at Altimira and other cave sites in Europe.

The Maoris, when they discovered and settled New Zealand, brought music and weaving with them — an art and a craft. In their music they enshrined the history and traditions of their race and there is symbolic singificance, as well as usefulness, in their intricate weaving patterns. It seems strange that the Maoris with their skill in weaving and carving should have no tradition of pottery; stranger still that they should not have been tempted to experiment with the wealth of clays that abound in New Zealand from which they procured some of their colours. Their weaving shows an ability to choose and adapt materials to a wide variety of articles that exhibit a high degree of skill and artistry.

It is also recorded that the navigators who circled the globe in their small ships always took with them musicians and artists. Music was essential to the physical and spiritual wellbeing of the sailors and the artists were constantly occupied making exact and often beautiful representations of the places, people and flora and fauna discovered on their journeys.

During most of their first century in New Zealand the white settlers showed little interest in the abundance of clays available, except as the raw material from which bricks and drainpipes were manufactured in increasing quantities. Later, crude cups and saucers and roofing tiles were added to the list of useful articles produced. Was it because life in the colony was in so many ways, primitive and hard that the early settlers turned to their homelands for those fragile and exquisitely beautiful examples of the potter's craft that their descendants treasure today? And did the young Briar Gardner, experimenting with clay in her father's brickworks towards the end of that first hundred years envisage an increasing number of men and women whose skill and dedication would raise the shaping and firing of clay to an internationally acclaimed art? Was it the proximity of commercial kilns that encouraged the experimenting with clay by people whose artistic instincts saw through bricks and tiles to the aesthetically satisfying — as well as functionally pleasing articles we are accustomed to use and enjoy today?

The story of weaving in New Zealand is somewhat different. There was again the basic raw material — wool, and a man with the knowledge of what was required to convert the wool into cloth but, unlike the kiln which was made from the same material as the bricks, much more was needed before the wool could become cloth. A loom was needed.

Thomas Blick arrived in Nelson in the 1940's, a master weaver lacking all the tools of his trade. He saw the need for cloth in the young colony and decided to build a loom. Suitable materials from which to build one were so difficult to obtain that the first attempts at loom making failed and Blick almost abandoned the undertaking. But the need for good strong cloth was urgent so he persevered and in 1847 the loom was finished. Blick's loom was the first. It was powered by a bullock and for some fifteen or so years the only weaving mill in the country. Importing yarn even from Australia presented great difficulties. The country

was going through a depression and this helped to solve Blick's material difficulty.

There was a German Lutheran settlement in the Moutere, a farming district near Nelson. The women folk, all skilled spinners, had brought their wheels with them and they were glad to earn a little extra by spinning wool for Blick. He paid them a shilling a pound, and a good spinner could spin a pound of wool a day. So the famous Nelson cloth came into being. It was rather drab in appearance but was extremely strong, hard wearing and water repellant. The Governor had a sports suit made from the cloth and all the gentry followed his example. The Government bought Nelson cloth for uniforms for the constabulary and, with orders pouring in, Blick needed more yarn to keep his loom going. The German women asked for an increase in wages; Blick refused; the women stopped spinning. Blick closed the mill.

In 1858 Blick imported machinery from Sydney and began weaving again. There was a steady sale for the cloth till the mid 1880's when the first commercial factories began production. Blick's mill could not compete, and operations ceased in 1885.

Little more was heard of hand loom weaving till the end of the first World War, when Josephine and Sylvia Mulvaney returned to Auckland from England. They had taken lessons in hand loom weaving as it was then called, to distinguish it from factory produced work. The sisters had studios in different parts of Auckland. Their reputation as weavers was tremendous, but they don't seem to have done much teaching. However from that time on, there are reports of women weaving, and at the end of the second World War the Health Department brought a highly skilled weaver here from England to train their occupational therapists.

During the Second War spinning groups sprang up all over the country for the express purpose of providing seaboot stockings, jerkins and other garments for the armed forces. Many of the spinners never learnt the finer points of spinning and, with the coming of peace, discarded the fruits of their spinning wheels in favour of the vat dyed, more easily knitted factory wools. Others kept their spinning wheels and began to explore the wonderful possibilities of natural fleece.

At this time a sudden interest in weaving occured. In Nelson alone there were more than a dozen imported looms but, possibly due to a lack of experienced teachers, the craze faded, and when Ilse Von Randow came from China in 1950 very few women were weaving.

Mrs Von Randow's arrival seems to have marked the beginning of a revival of interest which has increased to the point where weavers are now numbered in their hundreds. There has been a desire for instruction and greater perfection. Overseas tutors, of genuine standing in their own countries, have been brought to New Zealand at considerable expense to those taking the instruction provided. Visits overseas by enthusiastic New Zealanders to attend conventions have helped to foster a keen and growing desire for knowledge and the perfection it brings. To this end the School of Weaving established at the Nelson Polytechnic Institute during the past three years, has made a significant contribution.

Undoubtedly the greatest single factor in the great improvement in the standard of weaving has been the New Zealand Spinning and Woolcrafts Society since its inception eleven years ago.

For most practitioners weaving is still a craft, fascinating and engrossing but every year sees more people whose skill allied to an imaginative vision of the highest order, is creating work, when judged by the most rigorous standards, must be accepted as art transcending craft.

Craft work sells so readily now in dozens of specialised craft shops throughout the country that it is not easy to imagine how sales were made without these outlets to a clientele not as accustomed to handmade accoutrements as we are. Miss Sparrow says "The Mulvaney sisters had shops in various parts of Auckland; in 1920 they were in the Strand Arcade – but they are the only weavers I know of who had studios outside their own homes. Hilda Wiseman, the Auckland artist, has had a studio attached to her home in Ranfurly Road for many years and she sold the crafts of friends as well as her own work. Some department stores like Smith and Caughey and Ballantynes seem to have specialised in fine hand work of people who were masters of their particular craft. I can remember my father buying my mother sets of exquisite underwear – French crepe de chine, beautifully embroidered and completely hand made. Women did this work in their own homes. In Christchurch the Magdalen sisters of the Good Shepherd Convent supplied hand made trousseaux to Ballantynes. A Christchurch weaver used to put small ads in the paper quoting tweeds – hand-made from seven and six a yard, but I think the output of handloom weavers at that time would have been extremely limited and was probably sold by word of mouth."

The Nelson Weaving Course

In the period between 1865 and 1965 there were only two weavers in Nelson who might be called professionals. Louisa Josephine Curling, English trained came to Nelson in the 1920's and worked there for about 25 years. In the 1940's Elise Voller also English trained, came to Nelson. Both these women were meticulous weavers and though their output was limited, beautiful examples of their work are still treasured.

In the 1960's Anna Correa Hunt arrived. She had been trained in Germany and was a weaver by profession. Her love and enthusiasm for weaving was greatly increased when she secured from Germany her loom and a considerable amount of equipment.

A few interested amateurs were fired by Anna's vital enthusiasm and before long she was trying to interest the Education Department in the possibility of starting a school of weaving in Nelson. In 1974 the first full week's course was held at the Nelson Polytechnic and was extended to a fortnight at the urgent request of those taking it. A series of fortnightly courses on basic weaving expanded into courses on linen and double weaving.

From these beginnings the Nelson Polytechnic Certificate in handloom weaving has evolved. All this showed the need for longer courses and beginning with backstrap weaving until sufficient equipment was procured the courses were extended from 2 to 11 weeks, running consecutively. It is hoped that it will be possible to enroll for a full year's course with parallel courses for those wishing to pursue weaving professionally or as a leisure or therapy craft. At the moment all the classes are full and there is a waiting list. Classes continue from 9am to 3.30 or 4pm 5 days a week and every aspect of spinning and weaving is covered, even to finishing the cloth, washing and drying. Anyone wanting further information should write to the Nelson Polytechnic.

Iris Hughes-Sparrow

with May and Harry Davis, Izcuchaca, Peru

All at once plans and efforts are coming to fruition and the Taller de Ceramica is approaching the state of being self supporting. The big three-chamber kiln has been fired with complete loads, i.e. glazed ware and crucibles in the first chamber, and biscuit, flower pots and roof tiles in the other two. The first firing contained lots of tests on local materials, both clays and glazes, and it also contained saggars, kiln props and shelves. During the firing which took 42 hours, and in a state of total exhaustion from coping with teething problems, gloom prevailed, but in the event it was a fantastic success — terrific quality in terms of strength and glaze fit and some really nice glazes from local sources.

The crucibles were duly delivered to the mining company, and they were delighted with the price and quality. The imported ones have soared in price, and the only other Peruvian source is of lower quality and higher price so we have a regular output assured. This firing also saw the last of an order for 27,0000 flower pots for the International Potato Research Centre, and though it was valuable throwing practice we were all glad to see the last of them.

Roof tiles are now up and we have a greatly increased area under cover. Our small showroom has been busy. There are so many side-lines that one can make in a country such as Peru. Apart from pots and crucibles we make bells. We have orders from FAO for electric fence insulators and we have made electric junction boxes.

We have been selling only in our showroom and village markets, but recently we launched the glazed ware on the Huancayo market by means of a one day stall in the central plaza. The small village markets are often a rewarding experience. The sight of an old woman, wearing traditional dress, holding an unglazed pot lovingly, and obviously thrilled with it, and with the knowledge that in all probability she will put sugar in it, she needs it and can buy it at a price that she can afford to pay, is very satisfying.

One of our concerns has been the question of the ultimate management of the group, so it has been a real relief to learn that the Government has realised that craftsmen are a national asset, and is prepared to assist. A.N.T.A. groups, (Association Nacional de Trabajadores de Arte), have to be a group of at least 12 people. We have been resident long enough to know who among our Peruvian acquaintances understands and sympathises with our objectives, and we have been lucky to get the co-operation of some very fine people.

Peru is now on the inflation wagon — a late starter but making up for it fast. Rising costs do not hit us too badly as our dollars rise in value as the sole drops. We still have funds from Harry's New Zealand/Australian lecture tour and his later North American tour. Also the New Zealand Government has given us a second year's grant, and of course the income from the pots and crucibles is increasing all the time.

I returned to New Zealand in January and Harry was here after his American tour for an all too brief three weeks in May. During his absence a very able and versatile New Zealander, Steven Scholefield and Australian Laurel Hall were in charge. Harry is now back in Peru for what we hope is the last stint.

May Davis

Materials for the New Zealand potter

by J.C. Schofield Price $3.75

Department of Scientific and Industrial Research, Wellington. (information series 118)

In recent POTTERS we have had most useful contributions from Barry Brickell on "A New Zealand Potters' Geology". Now from J.C. Schofield a practising Auckland geologist with a keen interest in potting, comes a work that for the first time brings together the presently available information on New Zealand clays, and derives from a series of lectures given at the Auckland Studio Potters Association.

The book is a modest 81 pages. The author first offers an "Introduction to Geology" that gives an excellent brief background which although oriented a little towards the potter is of general interest also. Nine further pages are devoted to the mineralogy and chemistry of clays and to the basic clay properties. These two sections form a most useful contribution for all potters whether they wish to pursue their art or to marry art and science.

In his own introduction Jim Schofield expresses the hope that his book will be of use not only to the studio potter but also to the ceramic industry generally. The longest chapter on the nature and location of clay deposits in New Zealand clearly has this dual purpose in mind. A great deal of work has gone into this account making use not only of the author's own information, but extracting relevant clay analyses from all the available literature. There is a great deal of specific detail, but much of the general text is straightforward and eminently readable.

The last chapter on natural glazes, frits and oxides includes an interesting exercise in formulating thirteen "substitute glazes" using local materials that match very closely selected glaze formulations given for example in Daniel Rhodes "Clay and Glazes for the Potter". Some of these formulae involve lead oxides and there is a timely warning on health hazards of lead glazes prominently featuring at the beginning of the work. This chapter will perhaps find a narrower audience. Even those potters anxious to try out local materials such as "average pumice" feldspar sand, pure limestone are going to have difficulty with "nepheline syenite from one mile south west of the summit of Mt Alarm, Kaikoura Mountains."

Potters should be grateful this work exists for although not everyone will wish to abandon the old fashioned terms like ball clay and fire clay, yet for the first time a sound technical base on New Zealand clays and ceramic materials is provided that can be referred to as needed. It should be on every potter's bookshelf.

J.W. Brodie

HILLSIDE POTTERY

Renton & Rosie Murray trained as potters in Britain. Renton is a New Zealander. Rosie is English. They have given their Pottery a name — Hillside Pottery in order to underplay their own personal identities in line with their belief that all conscious thoughts of artistic expression need to be put to one side, and the interests of craftsmanship served first.

There is an atmosphere of tidy efficiency in their workshop in the forested Waitakere Ranges with a view that extends to Auckland city.

Rosie and Renton Murray

I arrived back in New Zealand at Xmas '74 after spending nearly four years in England training and working in potteries. I started learning pottery under the inspiring tuition of John Erland at Chelsea, who helped me to go to Harrow. Rosie had been similarly encouraged by Joanna Constantinidis and had spent two years at Chelmsford and Colchester Art Schools before being accepted for the Harrow Course. We were among the 16 or so students lucky enough to be at Harrow in the final year of Mick Casson's leadership. There always seemed to be a good cross section of nationalities in our two years there.

The Harrow Course was designed initially by Mick Casson and Victor Margrie as a vocational potters training school. It was considered necessary because the old style apprenticeship at country potteries had died out with the potteries, and the existing 'newer' potteries like St Ives or Winchcombe (Ray Finch) and others could not keep up with the demand for a workshop training. The staff were all well known working potters who came in for one or two days a week (or a longer block period) to teach the students their own methods of running a workshop and techniques of making pots. The accent was on working as a potter making 'good useable domestic ware' rather than a more precious approach to 'The Pot' found at other Art Schools. It was a very intensive two year course covering all aspects from building your own wheel, developing a clay body, repetition throwing to shapes set each week, handbuilding, glaze chemistry and all types of firing.

There were also Mick Casson's fascinating art history lectures. The experimental kiln site was a real hive of activity with salt, soda, sawdust, gas, climbing, multi-chambered and even rubbish tin kilns belching away all week. Most people had made their own burners and used 'jumble sale' vacuum cleaners as blowers. Sights like one particular student loading his very large dishes into a red hot Raku kiln with a longhandled shovel, amidst his ever increasing pile of shards, can't be forgotten. Harrow under Mick had a marvellous atmosphere of hard work and exuberance. His optimistic personality and love of making pots brought out the best in everyone and filled us with enthusiasm. We worked most days from 8am (or earlier) to 9 at night and even climbed over the wall on Saturdays to unload our kilns. There were always stories at Harrow of people hiding in cupboards to stay there (working) all night – or living on the premises in a Bedford van in the carpark.

The holiday between first and second years was a chance to put all the learning into practice and most of us found jobs with potters – probably the tutor whose work they liked the most. It was considered a privilege to work for a practising potter as they gained little in the few months, and board, keep and hopefully some pocket money was ample reward for the student. I was lucky enough to work for Danny Killick and David Leach and Rosie for John Maltby. We both really benefitted from these working holidays and certainly gained much experience and confidence. We worked strict hours 8 or 9 'till 6 with set tea breaks making the standard domestic ware of the pottery, mixing clay and glazes, glazing, packing, firing etc and helping in the showroom dealing with the endless succession of visitors.

At the end of the arduous second year each student had to mount an exhibition for his Diploma. This had been worked towards throughout the last year and consisted of an entire integrated range of domestic ware plus their individual pots.

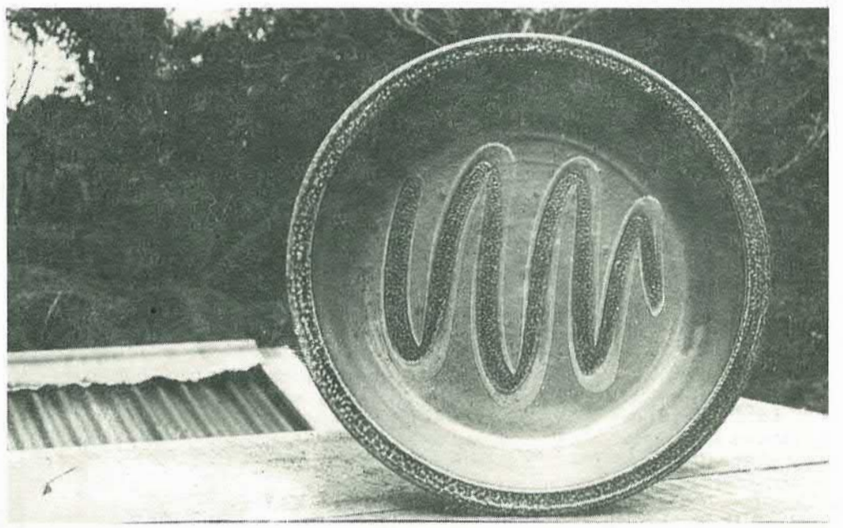
After this Rosie left for Scotland and worked for an ex-Harrow student, Zelda Mowat – a salt glazer – and I was extremely fortunate in spending some time with Richard Batterham and his family. His attitudes, output, work cycle and pots I really admire. His very large four chambered climbing oil/wood kiln which he fires about five times a year is something to behold let alone fire. Another kiln I helped to fire which was also very impressive was Ray Finch's 120 cu ft. wood kiln which fired to 1300 in 12 hrs and used very little wood (less than two pallet loads).

Rosie and I decided to return to Auckland and set up our Pottery in the Waitakere Ranges where I had bought a small property before leaving New Zealand. Our idea was to develop a workshop (not a studio), along traditional lines and not be too involved in expressing the individual personality but more with a larger constant flow of work – the Hillside Pottery. We had hoped to develop a Hillside range of pots but this hasn't quite happened. We do have a range but have not integrated our styles. Rosie and I make our own pots with a small overlap but as both styles appeal to different people we couldn't see the point of abandoning any of the pots.

We like our pots to be used and to look good in a kitchen setting. Our range is based loosely on traditional English and French country pots. We're both really excited by these straightforward and direct pots with their charming old names which we use where possible e.g. the largest of our range of jugs is based on the old Devon pitchers 4 pint; pinchgut, 5½ pint; gulleymouth, 7 pint; thirtytales but not yet the Long Tom at 2 gallons! We feel that the essence of these slipped earthenware

small, medium + large sized casseroles (112–200m high), green glazed tops. Below: stove jars from jampot to breadcrock, various slips

cane handled teapots (same sizes also done with back handles.) small 162 mm, medium + large 212 mm high



pie dish 275 mm diameter, apricot slip finger wipe decoration

Renton

photos: Campbell Hegan

Jugs from ½ pint to 10 pint

pots easier to try and capture in salt glaze using slips, and their decorating techniques like combing and finger wiping can be used to good advantage. Many of the French pots we like were and still are salted. Accepting that we try to make pots with the same vigour and simplicity of the country pots we admire, then we feel that raw salt glazing is the only way to glaze. Applying slips to leather hard pots is much more fun and one doesn't have to be too crisp with demarcation lines – just quickly to wipe away excess slip with a finger is sufficient and preferable to messing about with wax. This is too contrived and totally unnecessary as the salt blends over the whole.

The previous remarks over simplify the type of pots we make. We don't just make pancheons and pitchers but we do use the simple methods of these potters and hope that our pots are as direct and robust in feeling. However one of my reasons for not accepting a job as a real country potter making flower and chimney pots at Wrecclesham, Surrey (the last of the true English Country Potteries) was the need we both have for occasionally making some special pots (cut sided teapots etc) and perhaps this is the unavoidable influence of St Ives on all of us. Rosie feels this need, more strongly than I and if not checked can become 'too self indulgent with her imagination' (her words). However the arrival of our son William Reuben has meant our work routines have altered and there seems little chance of Rosie making many pots at present, and for me this year has largely been spent on rebuilding part of the old house.

We eventually hope to have a student or proficent thrower helping us but are too busy at present to cope with all the problems teaching and employment would entail.

We started the pottery from basics, cleared the bush, levelled the site and built the main workshop with invaluable loft (storage-showroom) above. Kiln, kiln shed and clay shed followed. This took much longer than expected to build ourselves, in fact it took ten months before we had our first firing. The first two firings were unglazed garden pots and then we started salting. The clay, (recipe kindly donated by Peter Stitchbury), is mixed in a dough mixer and after ageing for at least a month if possible is very plastic – almost too plastic. It is very different from our English clay body and we have had considerable difficulty working out new slips and firing patterns.

All pots are thrown on Leach type kick wheels. Making is quite straightforward but as all pots are raw glazed we are constantly dipping into slip buckets and glazing insides. (no spraying). This provides some entertainment value with larger crocks but although slower we much prefer dealing with leather hard pots than biscuit. We use many different clay combinations for our slips but our early attempts at using local clays have met with only partial success to date.

Loading the kiln is lengthy, we pack as tightly as possible, pots can touch each other as shrinkage is so great from raw to fully fired. All pots are wadded from the shelves with an alumina/china clay mixture (6 alumina to 1 china clay and 1 part clay flour to bind) and all lids are wadded from the pots. We wash the kiln with a similar mix to prevent salt attacking it. Silicon Carbide shelves are preferable but Acme Marls Alumina are quite satisfactory for 1300°C firings.

The kiln is a slightly enlarged version of the one Rosie used in Scotland and has about 65 cu ft of packing space (between bag walls and front and back walls) with two oil burners (horizontal Cowan type) in opposing corners. The blower is a high speed/high pressure one and is driven by a ½hp motor with standby petrol motor for power cuts (many in this area) and has saved one firing to date. After ten salt firings the kiln is beginning to fire consistently well and we are also learning to fire it! With raw firing we take the first part very slowly as often there are quite a few wet pots and fire with two gas burners for 6-12 hrs. I don't know how hot the gas gets the kiln, no colour at all but it bites a hand if inserted. The pots are thoroughly dry though. We then wood fire for about two hours to keep the oil burners alight in the early stages and then up to 1000 before we start reduction. Then there is a long slow climb to 1280 and back to oxidation and in with the salt. We use 1lb salt to 1 cu ft of kiln and it goes in gradually in 6-8 applications which takes about one hour. With a clean soak to 1300 (or more) the firing is over. It has taken from 26-30 hours with 16 hrs on oil and has used about 80 gals of diesel fuel. Salting a larger kiln is quite different from a small one and not all pots can be as rich as the 'really salty crackers' as less of them are exposed to flame and direct salt. Reduction is critical and if too heavy all colours turn to brown. Unpacking and grinding off the wad marks takes about two days.

We sell the majority of our pots from our stall in The Mill and also from the Pottery. Although time consuming we enjoy selling and last year took part in local craft days and also had an open day which we'll repeat this year.

In the words of George Curtis 'bigware' thrower of Littlethorpe Pottery, York 'there's naught I can tell you lad that you won't learn for yourself. Get y'self a Boulton double cone wheel and get started – the sooner you start the sooner you'll get over your problems!'

We haven't the double cone wheel but we sure are ready to start!

vase/jars with feet (175x125mm high) blue + green slips + glazes

Rosie

lidded soup pots – reddish brown slip, medium sized store jars (162mm high) glossy brown slip

set of stacking serving/baking dishes (200, 237 + 280mm diameter). Apricot slip inside

group of small bottles (62 + 87mm high), various colours of apricot or pink with pearly beige tops. Some with

PORCELAIN

John Reeve

This is the third and final article on Porcelain by Canadian potter John Reeve, first published in Canada by the Canadian Guild of Potters. We are grateful to John Reeve for sharing his knowledge and his philosophy which comes across so well.

Plasticity (1) Ageing the Clay

Ageing clay to improve its workability is rather out of fashion. We are too busy, living in our NOW-world of instant coffee and instant mashed potatoes and dreaming of taking the Concorde to San Francisco. Most studio-pottery clay-bodies in England are based on ball clay (with a bit of sand or grog for texture), and many of the English ball clays are so plastic that the benefit to be derived from ageing is not very apparent. Many such bodies are too plastic. Porcelain, which is unlikely to contain much more than 50 per cent of a clay which is not very plastic anyway, plus a bit of the slightly-spurious plasticity derived from Bentonite needs all the plasticity it can achieve for workability. The benefits to be derived from ageing are unmistakeable, and will convince the most sceptical.

To mix a clay-body as slip and then dry it out to a plastic state is undeniably a superior method of mixing clay and wooing plasticity. The clay particles are thoroughly mixed and wetted and the body altogether more homogenous. It is a slow method of clay-mixing, extravagant of time and space and many potters are no longer willing to do it. But whether porcelain clay is mixed by slip-and-slurry or by such expedients as the dough-mixer, it will benefit enormously from a period of ageing. With a little less indifference and a little more organisation it ought not to be beyond the capability of a craftsman to put down next year's porcelain clay this year. Unless the clay has been prepared and sealed in completely bacteria-free conditions, the ageing process will continue satisfactorily if the clay is wrapped in polythene, the Potter's Friend.

Plasticity (2) Beneficiation and the pH

Beneficiation is a word which sounds a bit like go-thy-way-in-peace. In fact, its meaning for clay could have that kind of connotation, but has a more mundane explanation. The Acid/Alkali balance of a clay-body has a direct effect on its plasticity. The slip-caster deflocculates his slip in order to break down the electrical attraction between the particles, giving the maximum fluidity with the minimum water-content. This is done by increasing the alkalinity, and diminishes the plasticity. The potter, on the other hand, can flocculate his clay so that the electrical charges attract one another for maximum plasticity. This (the explanation is over-simplified) is done by adding an acetate or a sulphate to the clay and is called beneficiation.

During a natural period of ageing, the bacteria which form in the clay (and are acidic) accomplish this perfectly well by themselves without any help. It is only when the potter tries to destroy time by making instant clay from materials which have been carefully denatured that he should beneficiate his clay to compensate. The old-timers, telling us how to mix our clay, said to use rain-water rather than well-water, to use the same water over and over, and even (Heaven forbid!) to pee in the clay. How quaint: we thought the folk superstitious. Did we realise that they were describing the natural ways to insure acidity in the water we use?

Most naturally-dug clays, brick clays and ball clays are naturally inclined toward acidity. Many china clays are alkaline. To combine an alkaline clay with a feldspar which is slightly (if slowly) soluble and giving off alkaline fluxes almost guarantees a deflocculating effect on porcelain clay. Acetic acid (vinegar) added to the clay will neutralise the alkaline condition and allow the clay to be much more plastic. I have never added vinegar by precise measure, but add a generous cupful or slosh to a 200 lb batch of clay. The results are good. Within a few weeks the vinegar smell is gone, the surface is covered with a fine mould, the clay has a good earthy smell, and the plasticity is greatly increased. Beneficiation can also be accomplished by adding magnesium sulphate (Epsom Salts) to the water. I have not tried this in a clay-body, but use it regularly (about 0.5 per cent) to flocculate glazes and prevent their settling in the bottom of the bucket. To be pedantic about beneficiation, or if you have a pH tester for your garden or swimming pool, maximum plasticity should occur in the region of pH 7-8, although the figure, I am told, varies with different clays and is difficult to measure. Singer makes the straight-faced observation that "values obtained by different observers are not necessarily comparable".

Because the materials like feldspar, and particularly nepheline syenite, will continue to leach out alkalis at a slow rate, a permanent pH figure must be difficult to achieve, much less measure, but I don't think that this fact ought to cause the potter any anxiety. As the clay ages, millions of tiny bacteria will work night and day to balance it, without any outside help.

Avoiding distortion

A porcelain clay which is well vitrified can be expected to have a total shrinkage in the region of 17 per cent — about 7 per cent from plastic to biscuit and 10 per cent more from biscuit to glaze. This means, of course, that there is an immense potential for distortion. It has been suggested to me that I should solve this problem by firing to a lower temperature. This, which is to say make your porcelain distort less by making it less porcelain, is a kind of Nescafe solution which I cannot accept.

But if we accept the inherent distort-ability of porcelain, what can we do? The same as we would do with wood or steel or concrete or polythene — learn the material's capabilities and limitations (and our own) and work within the material's characteristics. Don't make the equivalent of a saw with a wooden blade or a bridge built of polythene.

The teacup is an excellent example of the ingenious lengths to which potters are driven to satisfy a convention. The Chinese never put these curious appendages on the side of teacups until handles were required by the export trade for incomprehensible foreign devils who had, presumably, very tiny fingers, and poured tea down their throats which was too hot for their hands to hold. Of course, an asymmetric heavy appendage on the side of a porcelain cup will pull it out of shape in firing unless the cup is very thick. The ingenious Chinese learned to fire teacups upside down, with unglazed rims sitting in a specially-made porcelain setter-ring which would hold the cup round during the firing. The rim was polished smooth afterwards. Porcelain teacups are still fired in this way, and have unglazed rims or in the more pretentious manner have fine banded ring of subsequently fired gold or coloured enamel to cover the rim.

Aside from such obvious causes of distortion and complicated ways of dealing with it, pots usually distort either because they are made in disregard of simple structural considerations, or because they are set in the kiln in such a way that their movement during the firing distorts them. An unsupported horizontal plane of any flexible material will sag if it is thin enough. This applies equally to an empty hot-water bottle, a porcelain dinner plate, and a bowl turned just-too-thin at the foot. If broad enough and thin enough, the plate needs more support than a single foot-ring such as a clay prop in the middle of the foot-ring, either left in the turning or put in for firing and removed later. Larger plates often have two separate concentric foot-rings. If any part of a pot is too thin to support the weight above it, it will sag. A spherical form is essentially (by its form) stronger than a flat form. The bottom of a porcelain pot will tend to take the shape of whatever it sits on in the firing. A warped shelf produces a warped pot. If the heating is uneven from side to side on a pot, it may well lean into the fire and distort.

Perhaps it is unnecessary to state any of these elementary principles. They are quite constant and predictable, like gravity or rain on summer weekends. Distortion is what the potter does or allows to happen, and has nothing to do with malicious and malevolent djinns which inhabit hot kilns. Porcelain has an immense shrinkage in the kiln during vitrification. If the expansion rate of a pot is different from that of the surface on which it sits, e.g. a kiln shelf, the pot necessarily slides or drags across the shelf as it vitrifies, and again as it cools. This is an important factor in porcelain-firing which can cause considerable distortion in the foot-ring for it often catches on the shelf as it shrinks, and twists out of shape. This distortion is often transferred to the rim, distorting it even more.

Further, because the vitrifying clay will slightly fuse to the shelf, the contraction during vitrification or cooling often pulls chips of the clay-body from the circumference of the foot, leaving a ragged and chipped edge to the bottom of the pot.

The way to avoid this distortion and sticking-down is to fire each pot on a separate disc of the same clay, as porcelain-makers have done for centuries, so that the pot does not slide across the shelf, but the disc does instead. The pot and the disc retain a constant size relationship through heating, vitrification and cooling. The disc should be made of the same clay-body as the pot, biscuit fired, and used only once for pieces prone to distortion. If the discs are thoroughly bat-washed, there will be no sticking down or tearing off chips from the feet.

Too much trouble, I have been told: too fiddly for the artist-potter. What is there to say in the end? If you want to make vitrified translucent porcelain you will have to do those things which the technique requires. If you find it too tiresome, then fire it lower, vitrify it less, use alumina-matt glazes — it is far less trouble. For that matter, making pots is altogether too much trouble, and no one in his right mind, seeking ease, would do it anyway. After all, Woolworth's sell perfectly good plastic plates — and who can tell the difference?

hand sculpture

by Owen Mapp

"I have always whittled objects but have been seriously carving ivory and bone sculpture for four years. I consider my work hand sculpture — to be held and fondled.

Childhood associations with Maori elders kindled my interest in Maori culture and early Maori animistic beliefs have most influence on the design motifs. I use only hand tools. Being a firm conservationist I will not use ivory or bone from commercially killed whales.

Although I've exhibited at home and abroad, I prefer to sell locally because the opportunity my work provides for dealing with interested people gives me most enjoyment."

Owen and his wife, ceramist Anneke Borren, are at present travelling through South and North America.

Making porcelain bodies

by Adrian Cotter

The recent articles on porcelain by John Reeve have given a comprehensive picture, and for those potters interested in making their own porcelain bodies, I have some notes on the practical aspect of developing a body with good translucency.

John Reeve suggests that bodies can be developed using formulae and analysis, but from my experience this is not very satisafactory as some china clays develop good translucency whereas other china clays with similar chemical analysis do not. Therefore the best method seems to be through trial and error experiment.

The first step then is to test as many china clays as are at one's disposal for their degree of whiteness when fired to approximately 1300°C. It is possible to develop porcelain that is fired both higher and lower than 1300°C, but I think this temperature is a convenient point for most potters.

The chemical analysis of the china clay is not particularly important so long as the iron content is not too high, say 1% Fe_2O_3 maximum. The alumina-silica ratio can vary widely from an ideal china clay of 36% Al_2O_3, 48% SiO_2, to a fireclay of approximately 25% Al_2O_3, 65% SiO_2.

Having selected the whitest china clay the next step is to blend a test batch to a rough recipe, say 30% feldspar, 20% silica, 50% china clay, to get some idea of the vitrification and translucency of the body. To measure the translucency it will be necessary to make some test bars and for this purpose I have made a small plaster of Paris mould to take a slab of clay measuring approximately 100 mm long by 25 mm wide, tapering from 8 mm to 2 mm. When the test batch clay is thoroughly mixed to a firm consistency, a small piece is pressed into the mould and levelled flat across the top. It is then taken out and stood on its side in a gentle curve so that it will stand on edge. When fired its degree of translucency can be measured against any other test bar by holding two tests side by side and seeing at what thickenss of clay the translucency is still apparent. A good porcelain body will be translucent right to its thickest end.

It will also be necessary to do some tests to measure the warping of the body and for this purpose I again use the clay test mould, this time I slice the slab in half lengthwise and lay it flat on a board to dry. It will probably curl up at both ends during drying so it may be necessary to turn it over from time to time to keep it flat. When ready for firing it is placed in the kiln with one end resting on a piece of brick and the other end hanging free. In the firing the free end will probably droop and you can compare the amount of sag from one test to another. This is an important test because as a porcelain body becomes more translucent, it also becomes more glassy and vitreous and more inclined to warp. I have had some porcelain bowls come out of the kiln as a completely flat disc firmly glazed to the shelf on which they sat.

From your first fired test you should be able to see which direction you need to alter the body to develop maximum translucency. If the test is not very translucent and not warping much it will be necessary to increase the feldspar content while keeping the amount of silica constant. You could go up to 40% feldspar 20% silica 40% china clay. Increasing the silica content retards the vitrification of the body and therefore reduces the translucency and the only reason for increasing the silica is to make a compatible fit be-

The dinner plates and casseroles are made of a porcelain body similar to the recipe mentioned in the article. i.e.
30% nepheline syenite
20% silica
48% Ultrafine china clay
2% Webb's bentonite
The glaze is clear
20% Ultrafine china clay
42% potash feldspar
15% calcite
23% silica
decorated by a blue pigment made up from
20% cobalt carbonate
20% white tin oxide
10% black manganese oxide
10% talc
5 % red iron oxide
35% ball clay
plus a little glycerine for easy brushability, all ground fine with pestle and mortar.

Photos: Steve Rumsey

Some bowls are stoneware and some porcelain. The stoneware body is

*1 bag 25 kg Koclay GM 20**
1 bag 25 kg Huntly fireclay AF 30
½ bag 12½ kg Hyde ball clay
10% potash feldspar

The dish left foreground is stoneware 18½ inches diameter, black Tenmoku glaze with Shino glaze trailed over it. The large dish above is stoneware, white glaze, wax resist pattern with blue washed over it. The square platter is press moulded 22 inches diameter, Coal Fly ash glaze, coloured orangy-yellow turning greeny-black where it has puddled. The recipe is

49% Coal Fly ash
22% potash feldspar
9% calcite
18% china clay – 5% rutile

The small bowl below is black with white Shino trailed over it. The porcelain bowls are either blue and white or brown decoration from iron pigment under clear glaze. The iron pigment is made from 90% iron scale from a sand blasting factory plus 10% bentonite calcined in biscuit chamber and ballmilled for several hours until very fine.

** Koclay described in test.*
** Coal fly ash is a fine deposit as found at Mere Mere power station.*

tween the body and the glaze. If the silica content is too low, the glaze will craze, so all your tests must be glazed to get some idea of glaze fit and compatability. If the body is too low in silica and you try increasing the silica content of the glaze to overcome crazing, you can run into a problem with the glaze chittering on the edges of pots, so its is best to maintain an adequate level of silica in the body to prevent crazing with a normal type of glaze.

As far as the feldspar goes, it has been my experience that a mixture of soda and potash feldspars has more fluxing power than a straight potash feldspar without unduly increasing the warping so a mixture of 50% potash and 50% soda feldspars or 100% nepheline syenite is the best to use. If nepheline syenite is used it will be necessary to increase the silica content slightly because nepheline syenite has a lower silica content than feldspar.

As far as other fluxes are concerned, calcite, dolomite or talc are not suitable as the temperature range over which they melt is too short and they are therefore likely to induce sudden slumping. They are more powerful fluxes than feldspars as 1% of calcite is equivalent to about 5% of feldspar, but even 1% of calcite in a porcelain body can be enough to cause sudden slumping.

Fineness of silica is the next consideration, and 200 mesh seems to be good enough and finer ground silica may even retard vitrification.

It is not necessary to ball mill the clay batch, as simply mixing with a high speed or low speed blunger is adequate. Perhaps a high speed blunger is more efficient, and it is certainly faster than the old fashioned slow speed blunger, so I think it is preferable for mixing batches.

I have tried several New Zealand china clays as a basis for a porcelain body and some seem promising, but unfortunately the range of commercially available china clay is small. Clays and Minerals produce a good cheap china clay marketed as Koclay, which will produce a good, white vitreous body but will not develop enough translucency. Mt Somers china clay is promising but is not available commercially. New Zealand China Clays produce three products from basically the same source. These are known as Tepene, Premium and Ultrafine. The Tepene is 60% clay and 40% silica and will produce a good porcelain, but is completely unworkable due to the high silica content. The Premium and Ultrafine are the same except the Ultrafine is air floated and the Premium is not and therefore does not break down completely in blunging. The Ultrafine is 95% clay and 5% silica and is a very white firing clay which develops good translucency. In producing this clay it is treated with sodium hexametaphosphate to aid in particle dispersion during blunging and when the powdered clay is packed into bags, this chemical is still present in the clay. Sodium hexametaphospate is a defflocculant and cuts down the water content of a plastic clay and also makes the clay plastic, but at the same time it unfortunately becomes floppy. To counter this you add a flocculant, such as aluminium sulphate, approximately ½% to the clay content of the porcelain body. As the body is only 50% clay this would approximately 4 ozs per 100 lbs of body. More than this can make the body fall apart.

Most porcelain bodies having got down to a 40-50% clay content have become unthrowable so it is normally necessary to add bentonite to improve this condition. Bentonite is not really plastic, but it is sticky and fine grained and helps bind the body together. Most bentonites have a high iron content and therefore tend to obscure translucency and decrease the fired whiteness of the body so the amount should not exceed 3%. Wyoming bentonite is considered to be the best available and it is certainly plastic but it is also very refractory and so retards vitrification and translucency. Webb's New Zealand bentonite has a low iron content, is quite plastic and suitable for inclusion in a porcelain body, but it will tend to bloat slightly if the body is near the upper limits of vitrification.

Apart from bentonites, some china clays are very plastic and some ball clays are white firing, so it may be desirable to include either or both of these in a body.

An Australian china clay marketed as Cresta China Clay from Puggoon, is very white firing and plastic, and a 10% addition of this clay to a porcelain body works wonders for its workability. Some English ball clays (e.g. Devon ball clay) are very white firing and plastic, and a 5% addition of these to a body in place of some china clay can improve throwability without obscuring translucency too much.

Some china clays have a tendency to form splits in the drying pots due to expansion during drying and porcelain bodies made from New Zealand China Clay's Ultrafine clay have a tendency to form spiral cracks in cylindrical forms during drying. The cure seems to be the inclusion of some white firing ball clay or other china clay or bentonite.

Some potters like to add some sort of chemical to improve the plasticity, like vinegar, hydrocholoric acid or tannic acid. Of these vinegar has no lasting effect, hydrochloric acid has a weak effect and tannic acid is expensive. A cheaper chemical sometimes used in industry is sodium-lignosulphanate which may be obtained from firms manufacturing concrete additives. This substance definitely helps to sour or rot the body, but the quantity added must be carefully controlled. About ¼ pint per 100 lbs of body seems to be enough — too much absolutely wrecks the clay.

However, having gone to all these lengths to prepare your porcelain body, I think the best way to improve the plasticity is to wrap it up and leave it for about a year before you use it. I have read that some people like Daniel Rhodes think that a few weeks is all that is needed for a clay to age, but in my experience porcelain clay that is a year old is definitely superior to new clay.

So to the subject of firing the porcelain, and here again I have found a definite firing schedule is best for developing maximum translucency. This is a total firing time of approximately 24 hours taking 18 hours to get to 1000°C and a strictly oxidising atmosphere up to 1000°C. From then on maintain a light reduction up to 1300°C. When maximum temperature is reached, turn off the burners and blow down the kiln to about 1000°C or let it cool as rapidly as possible if you are using natural draught. Then clamp down the kiln and let it cool slowly to cold. The reason for blowing down is to hold the porcelain in shape at its maximum vitrification without it slumping due to a long vitrification at maximum temperature, and also to help prevent crazing. If the wall thickness of the pots is kept below about 5 mm translucency should be obvious in ordinary daylight.

There is not much literature published on making porcelain — the best article I have read is by O.S. Rye in "Pottery in Australia" entitled "Porcelain Bodies and Glazes", and I can recommend it to anyone keen to develop his own porcelain bodies.

Making your own porcelain demands considerable technical expertise, but I think the finished article is ample reward for the effort involved and represents the pinacle of ceramic achievement.

Adrian Cotter's designs for a high speed blunger will be published next issue. Other potters with experience in making porcelain may like to contribute notes to increase our understanding of the subject. Ed.

Luke Adams pottery

Luke Adams in front of the shop in Colombo St and the coal fired bottle kiln in the yard.

Photos: Lent by Bert Adams

Times past

Many of us brought up in Christchurch knew Luke Adams pottery because schoolroom clay models were taken there for glazing and firing. There were three colours to choose from, honey brown, leaf green or blue; or we remember the beautiful miniature clay building bricks. The coal fired bottle kiln in the yard was a south Christchurch landmark. With its scrubbed floor boards and counter, the shop remained unchanged from the time the pottery was established in 1881 in Colombo Street, Sydenham, until comparatively recently.

Two generations operated the family business over 80 years. The surviving son of the founder, H.R. (Bert) Adams, now in his 90th year, recalls that a small output of original colonial wares was kept up.

"In the vintage years, 1890-1920, two throwers as well as Luke Adams were kept busy supplying teapots, jugs and household containers like beer jars, demi johns, preserving jars, bread and cheese crocks. Some of these items were moulded or cast mostly to my father's designs. In those days there was a continuing business supplying factories with storage jars. For Haywood Bros pickles and Sharpe Bros ginger beer, Luke Adams provided a jar with a bright glaze like azure blue with a rubber stamp label printed in ceramic ink under the glaze. Sometimes the labels were simply impressed with metal type on damp clay."

Nineteen twenty was the end of an era for domestic pottery because glass vessels took the place of earthenware. By 1925 when Bert Adams took over, the business had gone back and he had a struggle to get it back on its feet. Production was varied and even included small jars exported to Malaya for the Tiger Balm ointment industry. "In 1930 throwing ceased, I looked to the growing electrical business and we branched out into supplying ceramic requirements for this industry. We sought new clay supplies from the Mt Somers pit belonging to South Canterbury Minerals which opened up at this time. Previously our clay had come from sources near Balclutha belonging to the McSkimming family."

The hope expressed by Bert Adams in his booklet "80 years of Luke Adams Ltd 1881-1961" — "and now having arrived at the company's 80th Anniversary, it can be said that we have a soundly based and prosperous business to pass on to our successors when the time comes for the next generation to take over. Let us hope it may long survive — unfortunately did not materialise and the pottery was bought out and closed down in 1965 and demolished soon after. The moulds that had been the mainstay of the domestic ware business in the earlier period of the firm's activity and even up to 1965 were still ranged on the shelves and racks, were dumped.

Miss Annie Adams

Customers at the pottery shop will well remember Miss Annie Adams who for 25 years until her retirement looked after the shop. Here she presided over shelves of jugs, teapots and other household necessities, not forgetting milk cletterers (glazed discs that went in the milk warming pan to prevent boiling over). The well known miniature "kiddibricks" first produced in 1894 were dispensed from a tub next to the counter.

There was a time when the rest of the shop was occupied as living premises and here Miss Annie would entertain friends in an atmosphere quite the opposite of the rather spartan shop.

Luke Adams the founder died in 1918 leaving four sons who in varying ways continued to contribute to the business. When the company was reorganised in 1939 Miss Adams was appointed secretary. Although the bulk production of domestic ware had already declined a small output was continued for sale in her shop.

Salt glazing the nitty-gritty way

Barry Brickell

Just about lost and gone forever now is another old fashioned craft — the firing of a large industrial coal burning salt glaze kiln. Recall those richly mottled orange-peel-glazed succulent and delicious drainpipes, traps and "mushrooms"? The modern ones are not salt glazed and are drab by comparison. Come to the last firing; grime and soot, rich aromatic smells of burning: Westport bituminous coal caking up like bubble gum, gently popping and crackling in the front of the firebox arch. Getting sweaty and dirty is a thing of the past, especially if one is employed by a boss — the union wouldn't have it. And what of the environment. Well that disgusting black smoke and final drift of salt vapour may just somehow have caused the grass to grow greener and the birds to sing louder under that innocent layer of beautiful pure carbon. (If carbon was only white!) Economical too — not one imported raw material.

Some kilns were round, some rectangular, each with a dozen or so narrow deep fireboxes. Under black, rusty tin roofed sheds they mouldered, with a handsome tapered round or square somewhat stubby brick stack, giving the show away. The kiln wall thickness was amazing, about a metre, a seemingly waste of bricks to my innocent mind, especially since their immensely wide crown arches were seldom more than one brick thick. As for size, they were like a small vaulted church. Heavy steel bands with mighty buckles held the round ones together. The square kilns being braced with heavy steel rails and screw tie bats across the top. The older well-used kilns bent their massive steel supports with bulging walls of bricks like strained muscles.

Amazing were the underground works associated with each kiln, their beautiful arched brick flue tunnels leading from under the checkerwork floor, to the stack base sometimes many metres away. There were as many bricks under as above ground level. I know of places where knotted tree trunks and roots and delicate ferns pass around and through and intermingle with ancient salt-glazed internal walls of kilns whose arches have collapsed long ago. Such places are sacred and I take only my non-violent friends there. Multi-layered but simple sprung arches abound in such kiln architecture. The formal beauty of this unembellished brickcraft is inaccessible to the eye and mind of the more hurried generations.

The drain pipes were stacked floor to crown arch, cheek-to-jowl in each kiln setting up to three or four metres high in the centre. Any gaps on top were filled with the bends, junctions, traps and other more delicate industrial handcraft items. Some of these were not so industrial either, rather more "studio", in the form of individual thrown pots sneaked in by co-operative workmen at the very last. (Recall those early Len Castles?) A brace of cones housed in a small clay shelter completed the picture, with a bung hole opposite left in the luted brick door wicket.

Little mercy was spared during the warming up when those induced-draught fanned fires really got under way. After 24-30 hours the firemouths were slicked right over by each stoking of coal. This caused all draught to enter via the firebars now fanning the coke to a searing incandescence.

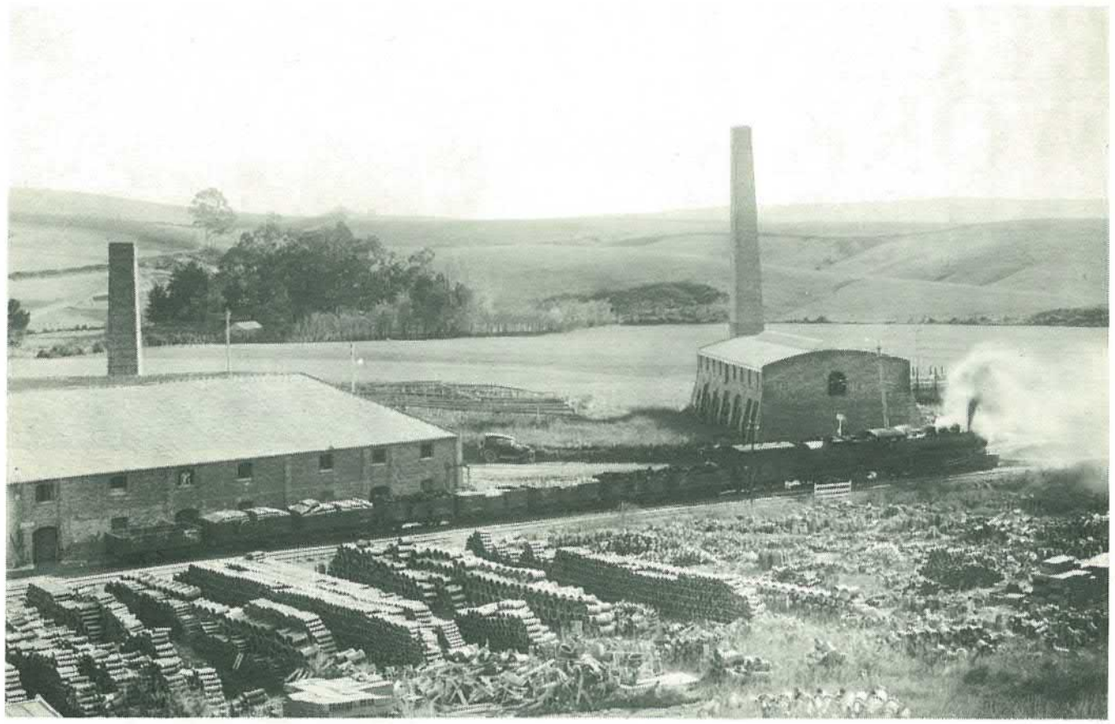
On the 8 hour shifts one man was expected to handle all fires, maybe a dozen of them. Woe betide an unfortunate if he left behind him, poorly burning clinkered up fires. Out with the heavy iron slice bar with sweat rolling off singed legs and arms. On big kilns it was always teamwork. Sometimes the coal was rubbishy, full of slate and dross. Each stone was potential clinker trouble. At 3 a.m. in the halflight you'd just stoke on as best you could with the prospect of a cuppa coming up soon.

When working up heat the telltale ghosty glow down the vertical damper slot at the stack base was always exciting to my youthful eye. It was a dream world down there with tunnel bricks aglow like pink ices. It was good too if the induced draught fans were switched off and one could at last enjoy the peace of the gently rushing air sucking into the stray gap, or the faint booming of the flames in the flues.

Just before salting, the barrow was filled and iron-rods made ready. I would follow behind timorously as the fireman placed each shovel of salt deep into the glowing mouth of the shallow-burnt fires. Smartly he would throw on a shovel of coal to block the mouth again. On cones down, a test ring might be drawn, then she's clammed up and the damper is set.

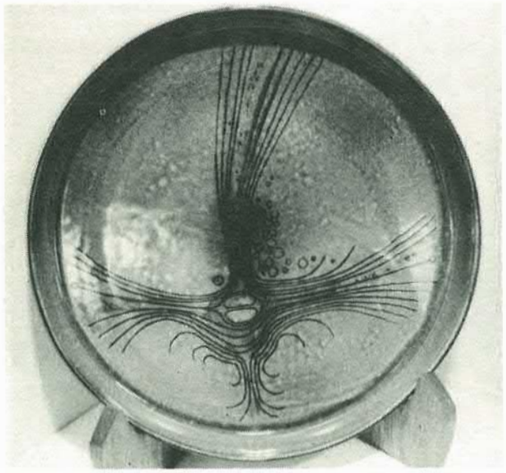
In later days the heat-drenched kilns were cruelly chill-cooled with screaming mobile electric fans parked in front of the wicket and firebox. At one place they even tried oil-burning in the coal boxes, with bars removed. Now the rot has fully set in. Its all neat and tidy with gas or oil fired automatic tunnel installations, white coats and formica staff cafeteria.

No doubt one can still explore and find a disused kiln maybe with stack and flues intact. A small boy's paradise are those meandering tunnels. Even the ash dump is a rich place — a gold mine of clinker jewellery. It was the interior walls and arches of these old salt-glaze kilns which was so captivating. The evidence of fire and heat in the sparkle and spangle of myriads of glaze droals in the torchlight, the infinite range of iron glaze colours and the dignity of dry humoured work, work, work with the nitty gritty.

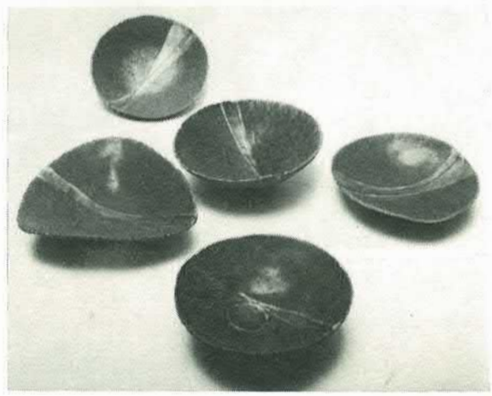


McSkimming's brick and pipeworks at Benhar, Otago, as it looked in 1920. These photographs are from the company's historical records

RECENT WORK



Decorated plate by Howard Williams from his exhibition at Alicat Gallery, Auckland

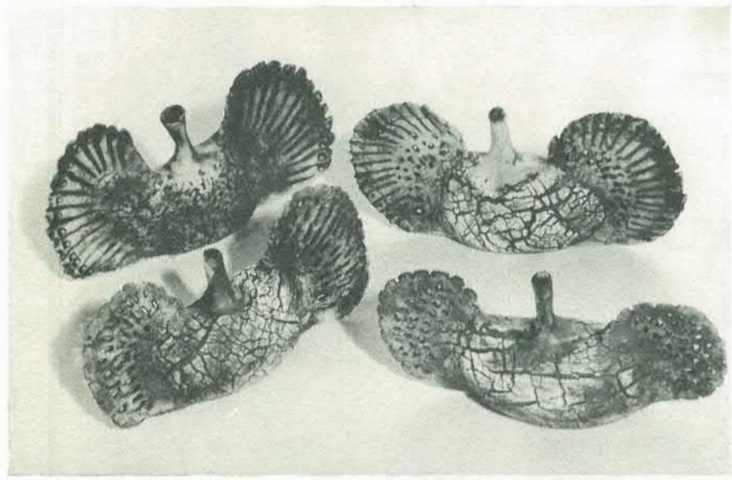


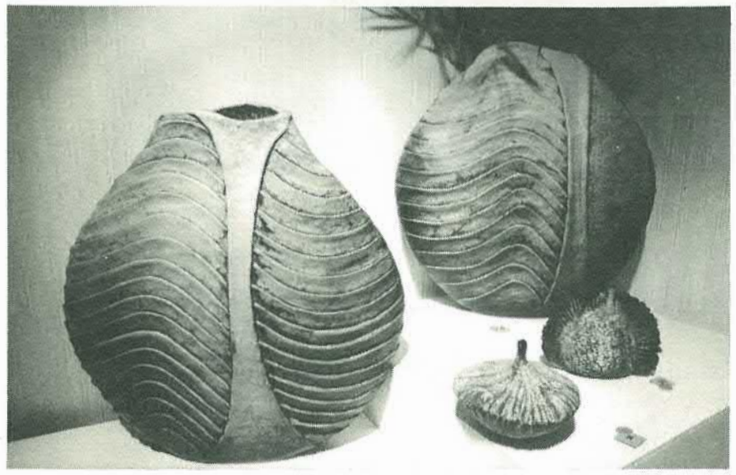
Containers for indoor plants, was the theme for an exhibition of Tui Morse's work at Country Arts, Muriwai

From an exhibition of porcelain at Media, Wellington the work of Henrietta Hume, above, and Keith Blight
Photos: Ans Westra

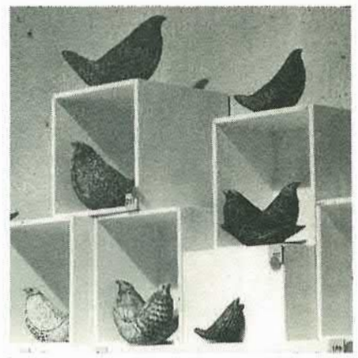
photographs of recent work

Good photographs are welcomed for our exhibition pages. Prints for reproduction are best made on a black and white unglazed, glossy single weight paper. An average size is about 5 inches across.





Rosemarie and Roger Brittain assembling work for their exhibition at Alicat Gallery, Auckland. His are the big pieces, hers the small, where she is working in porcelain extending her subject "wings"
photos: Larry Olive



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PUBLICATIONS

Craft Australia in full colour is the only magazine solely devoted to craft activity in Australia, is published by the Crafts Council of Australia, 27 King Street, Sydney, N.S.W. Australia and costs $10 for four issues.

Glaze Recipe Book

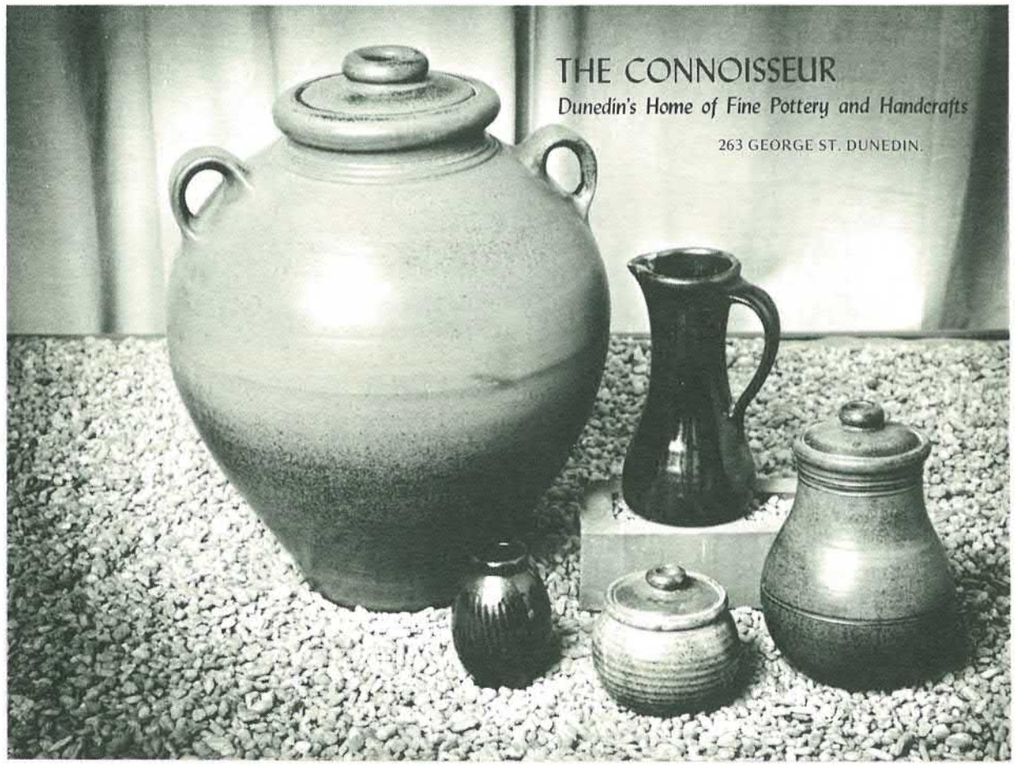
The Ceramic Review Book of glaze recipes contains over 100 well tried and tested recipes from professional potters for oxidised and reduced stoneware, earthenware, porcelain, raku, saltglaze as well as for more exotic experiments with Egyptian Paste and lustre glazes.
'Glaze Recipes' is the first of a series of handbooks prepared by Ceramic Review, from Ceramic Review Books, 17a Newburgh St, London W1 US$4.

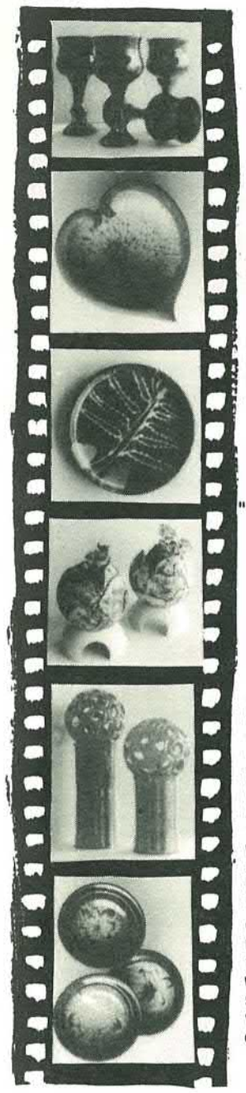
to subscribers

Four rises in costs in a year through increases in paper and printing charges, and now postage, means that subscriptions must be raised. N.Z. Potter will therefore be $4.00 pa from 1978. If you take out a subscription through the year state the volume you wish to start with. If its number 2 pay another half subscription to bring you in line with annual subscriptions for which there is a reminding renewal slip in the second volume each year.

correction

Frank Sharpley's pugmill, Vol 19/1 page 16, for plug read lug throughout. Page 36 "Over hard clay will make the belt slip". Not best slip. Apologies to author and mystified readers.





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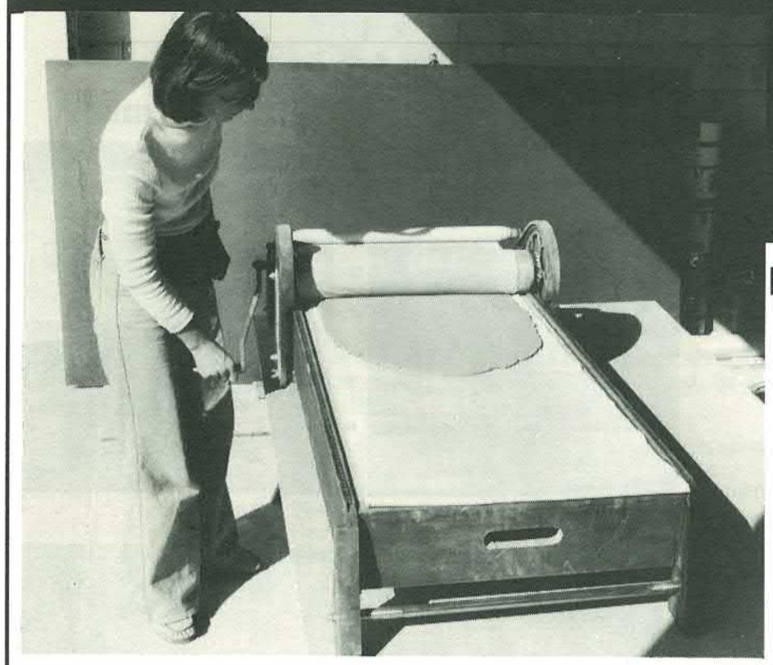

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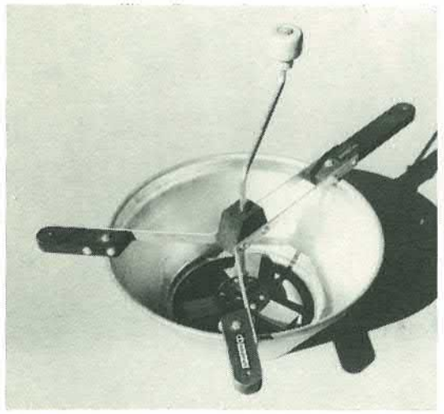

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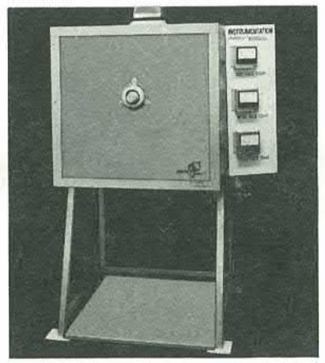

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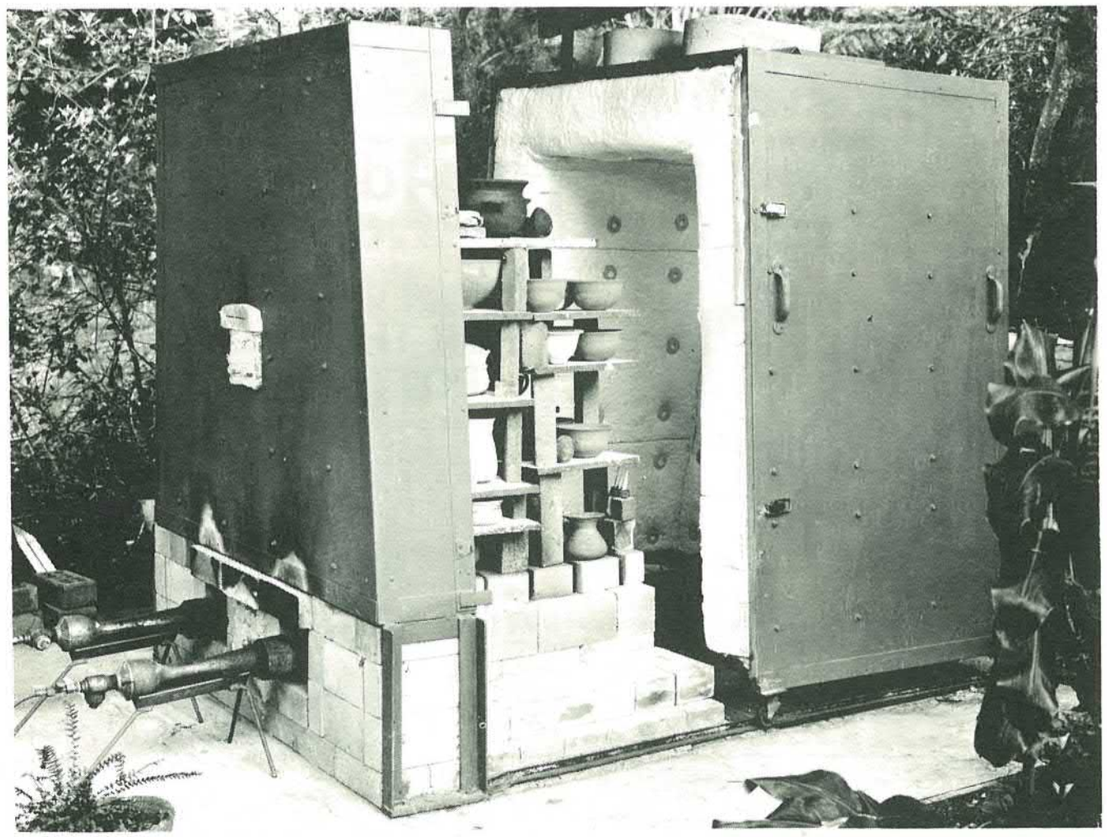

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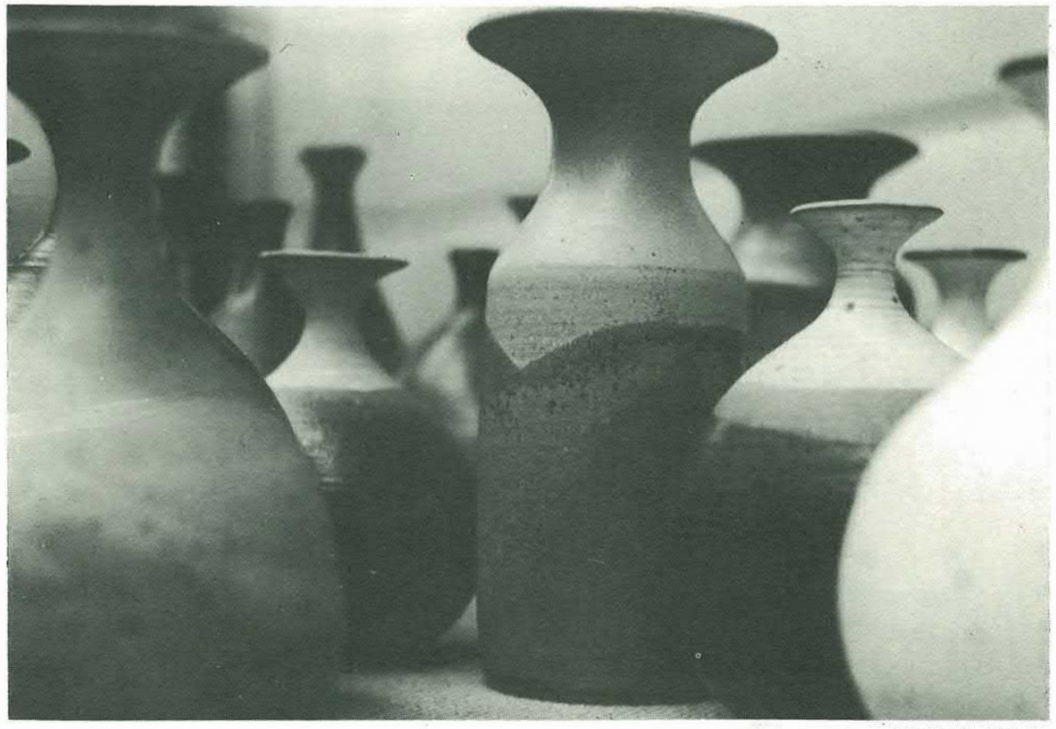

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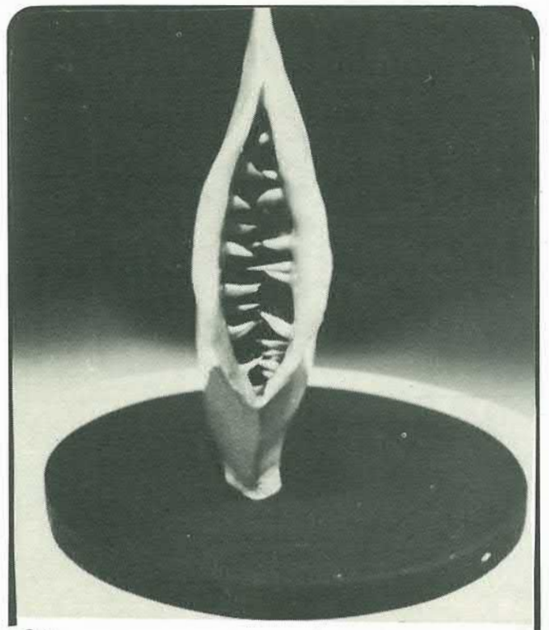

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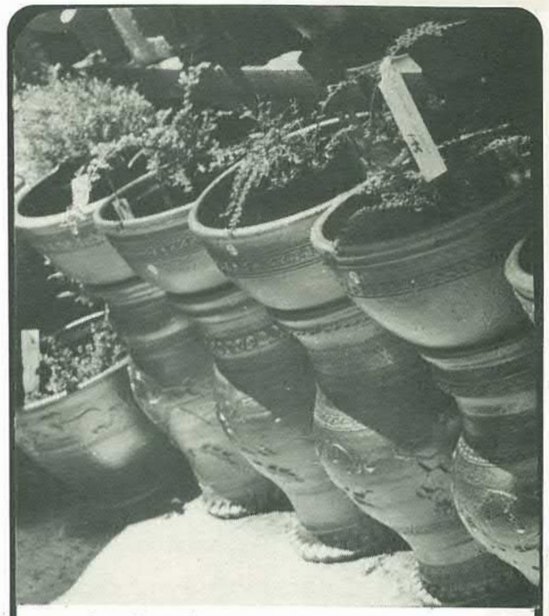

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