

Season 3



AUSTRALIAN  
POTTERY AT  
BEMBOKA

GALLERY NOTES

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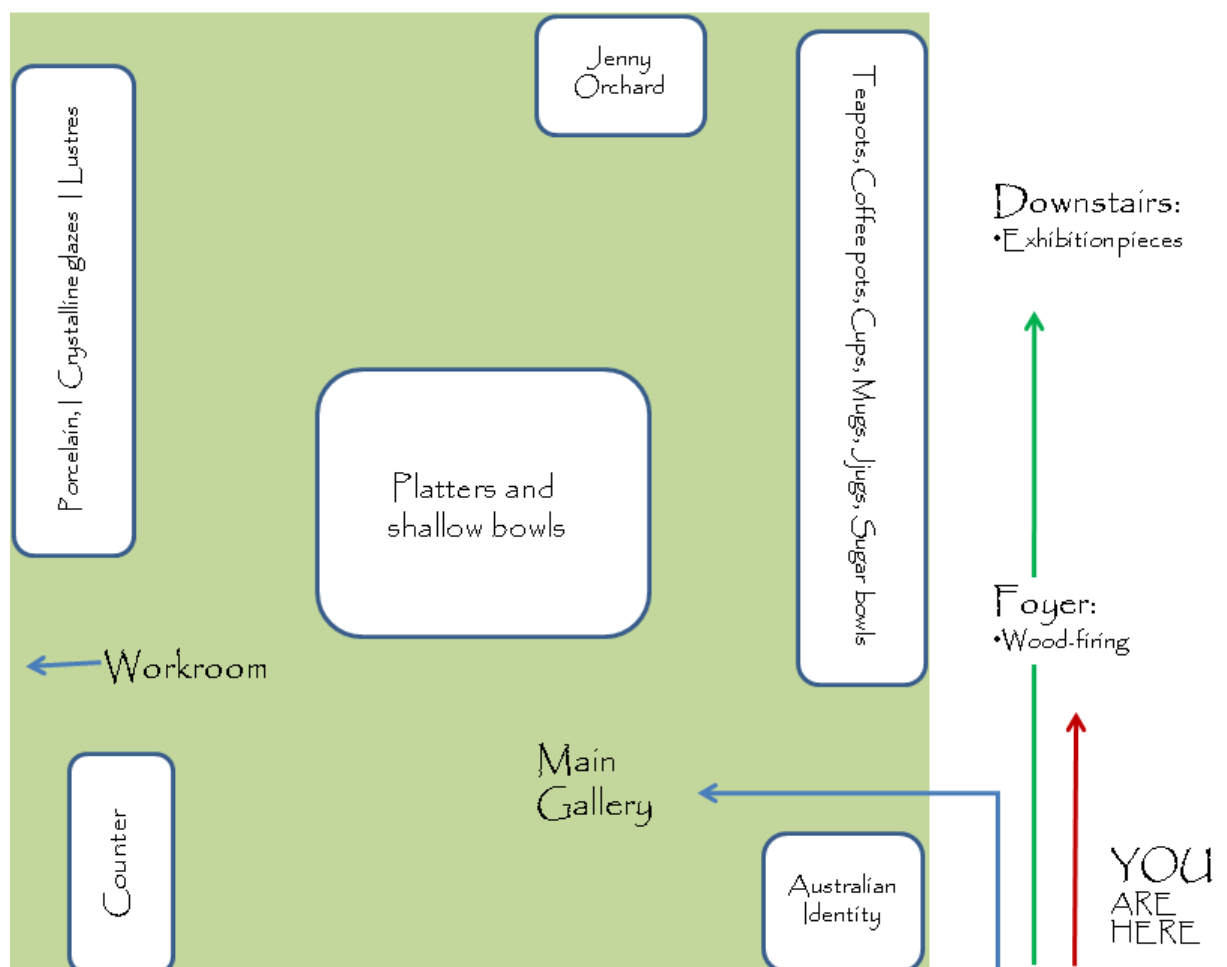
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# Welcome

BODY | FORM | SURFACE

This season we are contrasting the effect of flame on wood-fired works with the delicacy of porcelain and the bling of lustres and crystalline glazes. We have liberated a range of platters from the gallery drawers and one wall is devoted to teapots, mugs, etc. There are more works downstairs and in the workroom.





## WOODFIRING

Janet Mansfield, Blossom jar. C1980

The contemporary fashion in Australia is for glittery objects with multiple lustres or brightly colored glaze, or more recently for a more sanitary ware style, where stark white predominates. To the woodfirer's eye this work is one dimensional and easily read. See it once and you have seen all there is to see, in contrast to the gradually revealed character of a complex and subtle woodfired work which only reveals its true character over a period of time and contemplation (Owen Rye, *Australian woodfire survey 2005*).

Woodfired works range from irregular forms made of stoneware clays encrusted with ash, to perfectly-formed vessels with glazes made subtle and delicate by the long firing process. The effects achieved will depend on the glazes used, where the pot is placed in the kiln, how much it is protected, the wood used, and the length of the firing.

The flow of flame over a piece may cause flashing. The practice of stiling work on wads also leaves a distinctive blush of flame under the pots. A very long firing may result in heavy encrustations of ash. Organic materials such as shells will burn away leaving their imprint on the surface. Throwing salt or soda into the kiln near the end produces a glassy translucent effect with a slightly 'orange-peel' texture.

The length of the firing depends on the size of the kiln and may take anywhere from 48 hours to 12 days or more.

There are currently over 100 long-firing kilns in Australia.



# PORCELAIN

Rolf Bartz, Carved bowl, 1985.

Porcelain is a clay body with kaolin as a significant component. Kaolin in its pure form is a white mineral that lends its colour to the fired clay.

Porcelain requires very high temperatures to vitrify. The resulting surface is so hard that it does not need to be glazed to be impermeable to liquids. Glazes are mainly used for decorative purposes and to protect the surface from dirt and staining.

Thin-walled porcelain can be translucent, giving an appearance of great delicacy and fragility.

Because of its smoothness and tensile strength, porcelain lends itself to industrial applications, to painting and drawing on, and to techniques like piercing, etching, carving and colored clay inlay.

Porcelain can be difficult to work. Kaolin clays are not as plastic as other clays and special techniques are needed to manage the high firing temperatures. Additives such as ball clay can be used to increase plasticity and lower firing temperatures.

In Western Australia, Sandra Black engaged ceramic chemist Mike Kusnik to develop a porcelain suitable for the making of pierced forms.

In Tasmania, Les Blakebrough developed and trademarked *Southern Ice*, a highly workable porcelain clay now used by a new generation of Australian artists, and exported to America and Europe.



## CRYSTALLINE GLAZES

*John Stroomer. Bottle, 2006*

Matt glazes contain numerous invisible crystals that form in the molten glaze when the kiln reaches its maturation temperature. Crystalline (or macro-crystalline) glazes contain crystals that are visible to the naked eye.

The glaze must be quite fluid to form visible crystals so the ratio of silica and flux to alumina - the three main ingredients of a glaze - is much higher than in a normal glaze.

The crystals form best on porcelains and other fine clay bodies. The formed crystals are a combination of zinc (or sometimes titanium) and silicate. (Titanium creates smaller, more evenly distributed crystals.)

Factors that influence the formation of crystals include the thickness of the glaze, the firing time, the shape of the pot, the maturation temperature, and how long the kiln is held at that temperature. The largest crystals can take up to twelve hours to form and can grow to 10 cm or more in size.

Colours are created using oxides – cobalt for blue, copper for green, nickel for silver, blue or blue-green, manganese for lavender or pink, iron for gold, gold-brown or tan. Combinations of oxides will produce a wide range of effects.

The size and shape of the crystals can be controlled with experience, but not their number or where they occur. This makes it a difficult, serendipitous, but rewarding process.

The end result is like a hologram with shimmering shapes - fans, circles, rods and stars - floating in a smooth background.



## LUSTRES

Chris Myers, Lustre bottle, mid 1990s.

Lustres are extremely thin layers of metal on the surface of a pot. The metals used may be gold, silver, copper, platinum palladium, bismuth or tin. The layer may be opaque or iridescent, with iridescent lustres being the most difficult to create.

The simplest way of creating lustres is to include metal oxides in the glaze and to introduce a reduction atmosphere as part of the cooling cycle. This starves the kiln of oxygen and forces any free carbon to bond with the oxygen in the oxide, releasing the metal.

In Arabian or Persian lustre, the metal oxides are applied in a clay paste to the already fired pot, which is then refired at a low temperature under reduction. After firing, any clay residue is wiped off, revealing the 'transmutation' lustre. (This is the technique that fascinated Alan Peascod when he was first shown it in 1972.)

In resinate lustre, the metal oxides are mixed with resins or oils and applied to the already fired pot. These burn off in the refiring, using all the available oxygen and leaving only the metal film. Thus the kiln can be fired in an oxidizing or reducing environment. (This is the most reliable and predictable of the three methods.)

Lustres may be applied to a glazed or unglazed surface.

Decoration may be applied to a lustred surface using wax resist techniques and etching away the metal film with hydrofluoric acid.

Other ways of creating metallic surface effects include:

- Adding metallic salts to the kiln during the cooling cycle.
- Spraying molten-hot pots just taken from the kiln with stannous chloride or iron chloride to create a rainbow lustre.
- Gluing gold or silver or aluminium leaf to a pre-fired ceramic surface, then gently burnishing it to bring out the lustre.