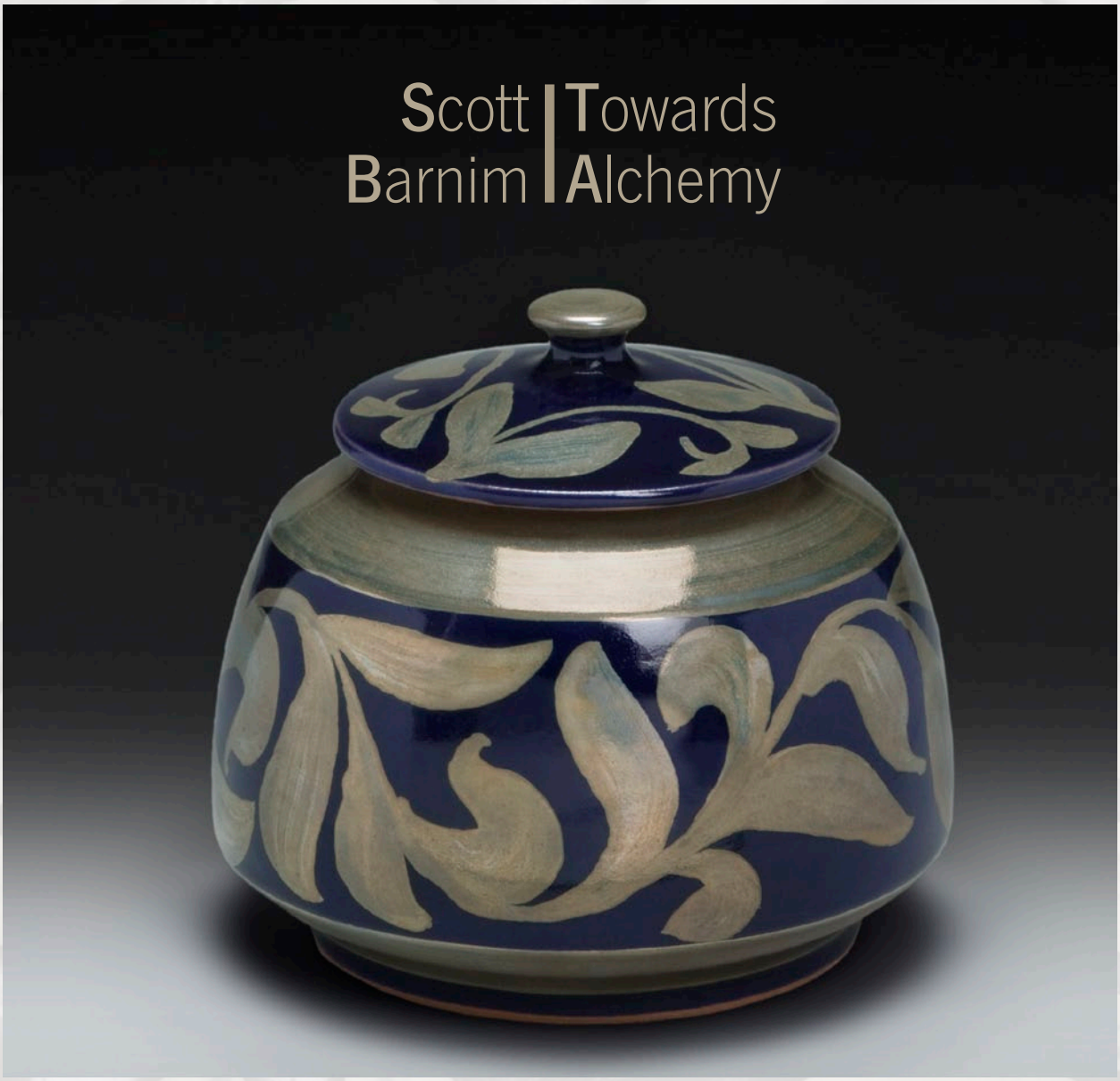
Scott Barnim | Towards Alchemy



It is not difficult to make a reduced glaze with a lustrous surface but it is difficult to make a good one. – Alan Caiger-Smith, 1985)

Dr Peter Wilson describes the lustre explorations of Scott Barnim

Biscuit Jar. *Cobalt glaze with silver lustre. 16 x 20 cm.*

SCOTT BARNIM HAS SUCCESSFULLY PRODUCED decorated stoneware pottery for more than 30 years in Dundas, Ontario, Canada. His work is sought-after and he is widely respected among the Canadian ceramics fraternity. Scott has explored several areas of production, his previous work was in salt glaze, inspired from the traditional ceramics of the European pioneers of Ontario.

Large Bowl. Copper lustre. 20 x 42 cm.

As long ago as 1979 when Alan Caiger-Smith visited Canada and undertook a series of workshops and demonstrations, Barnim was interested in reduced lustre-ware but, it was not until he went to the UK to undertake his Master of Arts degree in 1985 through the University of Wales, that he reconnected with him at Aldermaston and the two became friends. His thesis was entitled "The Recurrence of Roman Classical Form" (a survey of selected vernacular wares of Western Europe and North America). The friendship with Caiger-Smith piqued his interest in middle-eastern lustre traditions, much of which was based on the Romans' painting on glass. The ceramics sections of both the Ashmolean Museum in Oxford and the Victoria and Albert Museum, London, UK, proved to be excellent references in this respect. Australian Alan Peascod's work was also influential.

In 2000, feeling the strong need to change direction in his work, Barnim committed himself to the difficult research required to develop a new body of ceramics that was reduced lustre. This is an unknown path for the potter; time, energy and resources must be expended on the vision of a body of work. Smoked lustre is notoriously fickle and the loss rates are high. Most potters steer clear of such territory, preferring the quieter waters of the harbour, the safe but essentially boring work of the everyday in repeating the past. For this Barnim is to be commended.

Barnim sought to spend time with Caiger-Smith in his Aldermaston studio, working akin to the atelier system. It was suggested, however, that it would be more productive for him to discover the process for himself using the materials that were available in North America rather than those available in England. Instead, Caiger-Smith adopted a mentor

Barnim Leadless Glaze

Frit 3195	*17*
Frit 3124	*40*
Frit 3134	*20*
China Clay	*7*
Silica	*12*
Zinc	*4*
Zirconium silicate	*5*
Tin Oxide	*8*

A Caiger-Smith W/A Glaze (1060°C)

Lead bisilicate	*35*
Calcium borate frit	*38*
Zinc	*5*
China clay	*2*
Flint	*7*
Zirconium silicate	*3*
Tin oxide	*10*

Above: ***Persian Jug.*** *Copper red and silver/gold lustre. 17 x 36 cm. Facing page:* ***Ewer.*** *Silver lustre. 16 x 28 cm.*

role, advising Barnim from afar, assisting him with ideas, suggestions and alternative approaches to glaze formulation, decoration and firing without unduly influencing the development of his individual style of work. Similarly, Caiger-Smith's son Nick, an accomplished lustre potter in his own right, was supportive of Barnim's efforts.

Caiger-Smith's book, *Lustre Pottery,* is an excellent starting place for anyone embarking on this journey. A detailed and analytical history of lustre pottery is included, commencing from the earliest lustres produced in Iraq in the early ninth century, through Egypt to the Fatimid Period, Syrian lustres, Persian, Moorish, Hispano-Moresque and lustres from Gubbio and Deruta in Italy. It appeared that by the 18th century, fashions had changed and within the workshops producing lustre-ware throughout Italy and Spain, the production dwindled. Many factors contributed to this and Caiger-Smith explains that as a result of research in England, Wedgwood and others were developing simpler techniques that were proving effective. This involved using a preparation based on gold and platinum, dissolved in aqua regis (a blend of nitric and hydrochloric acids) and suspended in a resin medium which burnt away in the firing and reduced the metal compounds to pure metal (a brilliant film that could cover the entire vessel for a fraction of the cost) and fired in oxidation. These developments formed the basis of a resurgence of interest in using metals on glazes.

Barnim's research centred on four areas:

For successful results during the lustre firing, the glaze should begin to soften early over the temperature range so that it can yield to the transfer of the silver/copper in the lustre compound but not soften to the point where the carrier clay/ochre will stick to the glaze resulting in no lustre.

The lustre compounds (the proportion of metals to the carriers, their fineness and other factors). The ochres available in North America are inclined to fuse to the glaze surface. Barnim mixes the lustre compounds with mostly calcined kaolin, alumina hydrate and a bit of ochre or red iron oxide. The presence of the iron is important since it helps to protect the reduced lustre from re-oxidizing during the cooling cycle. The silver compounds are only mixed using yellow ochre and copper lustres with red ochre or iron oxide. This is useful in loading a lustre kiln since the silvers are more suited to the cooler, lower areas of the stack and the coppers tolerate the warmer regions at the top of the kiln.

The temperature at which reduction occurs. This is dependent upon the softening of the base glaze and must happen within the correct window of temperature. Barnim reduces the lustre ware at cone 020 with the top of the kiln getting as warm as 018. This temperature is critical: too cool and you have little more than a shadow of where the lustre decoration was applied; too hot and the carrier will fuse to the surface, giving a

Derek Emms' Glaze (fires 1060-1080ºC lustre reduction 680ºC)	
Lead bisilicate frit	*30*
Soft borax frit	*60*
China clay	*10*
Tin oxide	*10*

Barnim suggests that with the shift to leadless glazes to conform with new North American standards, aspects of traditional lustre are lost. Some of the glazes containing lead bisilicate would reduce the background, giving a dark mysterious halo behind the brush strokes of a silver lustre.

colour but no reflective surface. This is often a window of about 15ºC.

THE AMOUNT OF REDUCTION IN THE KILN. Heavy reduction is followed by a clear-burning cycle and continued for around 45 minutes within the narrow temperature band. Barnim reduces the kiln profoundly for about four minutes using thin strips of wood, followed by an oxidizing period of about four minutes, repeated for five to six complete cycles. Test rings are pulled after four reduction cycles or until the desired results are obtained. The kiln is then shut down.

Barnim uses a sprung arch downdraft, propane fired kiln. During the reduction he stokes the kiln with splits of thin cedar roofing shingles to create the intense reduction cycles required.

There are inherent problems in attempting to use a traditional technique in a modern context. Today's readily available and uniform materials can stifle the aesthetic integrity of the work. They are more refined and as a result there is a level of control and clinical purity brought to the work that was not available in the past, the lack of which gave the former works an elusive softness, beauty and sense of intuition. This is exemplified through Barnim's observations that with the wholesale move to leadless glazes, many such effects are lost. He states that one aspect of traditional lustre is the fact that lead bisilicate glazes would reduce the background giving a dark mysterious halo behind the brush strokes of a silver lustre.

It is important for the potter to re-interpret the technique and develop the forms, glazed surfaces and to develop intuitive effects such that they become their own, rather than attempting to repeat the past.

Barnim has embarked on a journey of alchemy, where he has developed his own forms and iconography to represent what is important to him, producing works that shine like the colours of the sun[1]. His works bear testimony to his boldness, perseverance and vision which Scott Barnim would describe as "amiably hard headed".

REFERENCES

Caiger-Smith, A. 1985 *Lustre Pottery: Technique, Tradition and Innovation in Islam and the Western World*, Faber and Faber, London, England.

1. Scott Barnim in conversation.

Dr Peter Wilson is an Australian potter who spent six months working in Burlington, Ontario.
Scott Barnim has his studio in Dundas, Ontario in Canada. He can be contacted via his website: scottbarnimpottery.com

PIGMENT MIXTURES The pigment mixtures are calcined to cone 020, then mixed with a strong vinegar (which helps to dissolve the metal into solution) and ball milled wet for at least eight hours (or as long as you can stand listening to a ball mill).

Orange-gold	
Cupric nitrate	*32*
Silver carbonate	*3*
Red ochre	*30*
China clay	*30*

Silver/Gold	
Silver carbonate	*20*
Calcined china clay	*64*
Yellow ochre	*12*
Alumina hydrate	*4*

Red-gold	
Copper sulphide	*19*
Silver carbonate	*2*
Ferric oxide	*16*
China clay	*63*

The china clay is calcined on its own, but the remaining ingredients are mixed, then calcined. Interestingly, calcining the yellow ochre individually turns it from yellow to red.

Strong Red	
Copper sulphide	*24*
China Clay	*42*
Red Ochre	*8*
Red Iron Oxide	*3*
Alumina Hydrate	*3*
Add Tin Oxide	*20*

In this formula everything is calcined but the tin, which is added in after. The mixture is then ball milled with vinegar for eight hours.