

Artist Yasmin Smith uses ash glazes to reveal the history of soil through the trees that have grown in it.

# The alchemy of ash

Yasmin Smith. Elise Fredericksen





# “There is value in understanding that we as humans are part of the ecosystem, that we don’t exist outside it.” — Yasmin Smith

**Susan Skelly** is a Sydney-based journalist who writes about art, travel and science.

Yasmin Smith is an archaeological ceramicist. She charts the environmental and human history of a place through its trees, turning their ashes into ceramic glazes whose colours tell the secrets of the soils in which they are planted.

Her glazes are a kind of chemical forensics. Yellow, orange or brown suggest an abundance of iron; green, the chemical application of copper; purple, the presence of manganese. More than 60 elements on the periodic table affect the colour and texture of inorganic elements retained in a plant’s ashes.

The process works like this: Smith collects plants from a location of interest; she cuts them into sections and takes plaster moulds of the sections, makes ceramic slip-casts, burns the original vegetation down to ash for the glaze, then applies the ash to the relevant ceramic replicas. Along the way, the ash is analysed to see which elements remain within it.

“What plants take up reflects not only geology and plant biology but human history,” Smith says. “Humans leave behind chemical traces of mining, heavy agriculture or just mass habitation.”

For example, ash from a celery top pine she sourced from a flooded forest near Tasmania’s Lake Pieman made a purple glaze. Did that indicate the presence of manganese dioxide from mine tailings in waterways?

Smith takes pleasure in understanding things some might consider obscure. She has travelled to France, Italy and China as well as remote parts of Australia in her quest for tree and plant specimens grown in soil that has a tale to tell. “I have a fascination for things that are really niche,” she says.

Her work is part of *Eucalyptusdom* at Sydney’s Powerhouse Museum. It’s also in the 10th Asia Pacific Triennial at the Queensland Art Gallery and Gallery of Modern Art, at the Museum of Contemporary Art Australia in Sydney, and in the Madre Museum in Naples. It has featured in two exhibitions at the Centre Pompidou in Paris, been showcased at the 21st Biennale of Sydney, and is part of the Art Gallery of New South Wales collection.

Next month, *Terroir* arrives at the Melbourne Art Fair. It’s an installation of 20 ceramic pinot noir vines with ash glazes derived from the TarraWarra Estate in the Yarra Valley.

The gnarled appearance of the roots indicates a past infection of phylloxera. The glaze’s satiny mushroom brown patina is a chemical record of the terroir.

“Each project is a history,” Smith says. “I can apply the same methodology from one place to another and get astonishingly different results.”

Smith’s approach was influenced by time spent at Hermannsburg (Ntaria), south-west of Alice Springs, assisting a local community of potters. The fence of the house she stayed in was decorated with branches. She re-created it as *Ntaria Fence* (2015), for a solo exhibition in Sydney, casting individual branches of river red gum, mulga and palm,

which were then attached to a makeshift wire fence. They were glazed with ash the colour of Twisties, courtesy of the land’s rich iron soil, collected from local fireplaces and cooking spaces.

But it was a beurre bosc pear from Shepparton, Victoria, with its dark cinnamon skin, that piqued her curiosity. While researching an installation titled *Open Vase Central Leader Widow Maker* (2017), Smith took a sample of a century-old pear tree and a much younger apple tree from domestic orchards and, with permission from Yorta Yorta Elders, collected fallen river red gum.

The glaze made from the ash of the pear tree had tiny puddles of green and analysis revealed six times the copper content of the apple and the river red gum. Smith asked the farmer if he knew why. “He told me that up until the 1970s the fruit of the beurre bosc was sprayed with copper oxide to turn the skin brown. If it wasn’t that coppery brown, supermarket shoppers wouldn’t buy them. That’s when the penny dropped, that’s when the excitement started. I thought, ‘Wow, this is like being a keeper of records.’”

Smith’s studio is in a bustling industrial estate in the Sydney suburb of Gladesville, among upholsterers, pole dancers, weightlifters and artisans who make tombstones and chopping boards. It’s an organised space, lined with buckets of liquid clay, jars of ash, gnarled, glazed branches, fat tree stumps and a couple of kilns. Today she is baking 260 tiles made from moulds of the forest floor of a spotted gum plantation in Sydney’s north-west, glazed with the ash of leaves Smith raked up.

The 15-centimetre caramel-coloured topographic squares are the “floor” of her installation *Stars*, part of *Eucalyptusdom*. Suspended above them is a “boneyard” of ceramic tree sections that show a shift of colour from the root of the tree to the tips of the branches. It’s a work that interprets the history of an experimental eucalyptus plantation, established decades ago for commercial oil.

“Yasmin is an artist and an innovator,” says Powerhouse curator Sarah Rees. “Her work exists within the tradition of various artistic disciplines and draws from pure and social sciences. It can’t be pigeonholed.”

Against a backdrop of heavy rain and the sound of power saws, Smith is brewing fragrant, organic mint tea. The 37-year-old grew up in Sydney’s northern suburbs. Her mother is Sri Lankan and her father is from Queensland. At school, Yasmin was sporty and musical, loved biology, and thought she might become a paramedic.

She ended up doing HSC art and proved good enough to be selected for ArtExpress, the annual touring exhibition of outstanding student artworks. She applied to the Sydney College of the Arts but missed the interview for the painting intake by a couple of days and enrolled in ceramics instead.

Smith had barely finished her degree when she came to the attention of Amanda Rowell, a gallerist and curator working at Roslyn Oxley9 Gallery. Smith impressed with an installation of 30 giant ceramic nails. When Rowell opened her own gallery in

2012, The Commercial, she took on Smith for representation. “Yasmin, even then, was a singular voice, with amazing energy and such a commitment to each project,” Rowell says. “The outcomes are extraordinary material objects that have textures and tactility I have not experienced elsewhere.”

Smith’s art is a combination of field research, community collaboration and studio work.

Kathryn Weir, a British-born Australian curator and museum director, first met Smith on Cockatoo Island at the 2018 Biennale of Sydney where, as part of her installation, Smith had set up a studio, a mediaeval-inspired salt furnace and a salt kiln. Among other things, Smith and a number of helpers had made hundreds of teacups from iron-rich sandstone dust excavated from the Barangaroo foreshore, glazing them with salt extracted from 2000 litres of harbour water.

“Her specialised ceramic practice combined with interdisciplinary research immediately struck me as original and interesting,” Weir says. “I was particularly drawn to how she makes visible the memory of plants. She finds unique ways of materialising the ecological intelligence of different species, combining ceramics with chemistry and environmental science.”

Weir, director of multidisciplinary programs at Centre Pompidou in Paris when she met Smith and now artistic director of the Madre Museum in Naples, went on to invite Smith to collaborate on projects that have since been shown internationally.

One was a commission for the Madre Museum, which partnered with Parco Arte Vivente in Turin. Overseen by Massimo Fagnano, professor of agronomy at Naples University, it centred on a plantation of 20,000 poplars in the Terra dei Fuochi, 30 minutes north of Naples, established to remediate soil damage caused by the environmental disaster that followed toxic waste dumping in the region.

Poplars are hyper-accumulators, cleaning contaminants out of the soil via the roots in a process of phytoremediation.

The first iteration of Smith’s work, the 20-piece *Terra Dei Fuochi*, was displayed in the Turin gallery last year. The full work, a 40-piece wall installation, for *Rethinking Nature*, curated by Weir with associate curator Ilaria Conti, was installed at the Madre Museum in December and will be on view until May 2.

Its glaze is a putty-beige which, Smith says, indicates that contamination has been contained. “The fertile volcanic soils of Vesuvius and Campania Felix have stopped toxic chromium from entering the tree. The lack of colour shows, in fact, that the soil has become a safety net.”

*Seine River Basin* was the second project Smith worked on for Weir. It was commissioned for *Cosmopolis #2: rethinking the human*, exhibited at the Centre Pompidou, and is now on display at Sydney’s MCA in a collection exhibition, *Perspectives on place*.

During a residency in Paris in 2019, Smith made moulds from cuttings of willows and other trees collected from the banks of the Seine, the Marne and the Canal Saint-Denis.

An ecologist, council arborists and a non-government organisation that cleaned local rivers helped to gather the specimens.

The high levels of calcium in the four creamy yellow glazes in *Seine River Basin* derive from the geological strata of chalk that was formed in the Paris Basin throughout the Cretaceous period by the calcium-rich shells and skeletal deposits of ancient marine creatures.

Smith’s installation in the current Asia Pacific Triennial is titled *Flooded Rose Red Basin*. It, too, is owed to a research residency, this one for *Cosmopolis #1.5: Enlarged Intelligence* in Chengdu, China, in 2018. Her ash glazes come from the flooded gum eucalypt (known also as rose gum, *Eucalyptus grandis*), tea plantations and bamboo.

Smith was drawn to the bamboo because its main chemical element is silica, abundant in Earth’s crust and indispensable in the ceramic process. Clay contains a large amount of silica, plus alumina and iron. “In glazes,” notes Smith, “silica is something that’s a really controlling factor – it dictates whether something is glassy or matt.”

The glaze from burning bamboo delivered an unexpected texture. “You think silica, you think glassiness; but when there’s an overload of silica it prevents the melting of the glaze and so you get this interesting textured appearance on the outside, like sandpaper.”

Smith is also interested in the potential of bamboo ash as a source of bio-silica for use in future technologies, such as ceramic electrical insulation, as an additive to cement, and for sensor development in satellite technology.

Flooded gums and tea shrubs cohabit reluctantly. Australian eucalypts were planted in China because they grow fast but they also need a lot of water, so they take nutrients from neighbouring tea plantations. Local farmers say they make the soil infertile.

Smith’s flooded gum glaze is a mix of copper, iron and manganese, producing an olive green colour. The tea shrub glaze is a matt chocolate brown “that does this thing called ‘crawling’, where it doesn’t stick together but forms puddles of glaze”. The tea glaze had a lot of alumina in it, possibly due to pesticides but likely due to the increased acidity from the presence of the eucalypts.

After this project, Smith is seeking insights into coal ash and the dams used as a landfill to prevent the release of ash into the atmosphere. Coal ash is made up mainly of silica and other minerals but can contain high concentrations of heavy metals and other contaminants. For a solo exhibition this year, Smith has been collecting coal ash from power station regions around Australia: Eraring, Vales Point, Gladstone, Mount Piper, Wallerawang, Yallourn, Hazelwood, and Loy Yang.

What she does, Smith maintains, is not traditional science. But the aesthetic evidence of the glaze and forms are alternative means of understanding and expressing knowledge. If the Anthropocene proves to be a thing, her work will be a twist on the way geological layers might mark the event of humanity.

“There is value in having another look at our relationship with the environment. There is value in understanding that we as humans are part of the ecosystem, that we don’t exist outside it.” ●