

Jonathan Keep's studio in Knodishall on the outskirts of Leiston appears to conform to that romantic idea of the potter – hand painted wooden sign pointing to a crumbling outbuilding that various weeds seem to be trying to reclaim. Inside, shelves of teetering pots and cups, a battered old kiln looming in the corner, everything coated in an unearthly white dust.

But in the centre of the studio, rather than a wheel, is a spindly robot arm, busily constructing a porcelain cup layer by layer. It seems to be operating rather spookily on its own.

"I promise this isn't some lazy way to avoid getting my hands dirty," Jonathan smiles. "This 3D ceramic printer isn't intended to replace traditional pottery. It's another approach to working in clay."

Jonathan soon disabuses me of any dystopian visions of robo-potters by showing me the work his self-built 3D printer – named DIY Delta – has created.

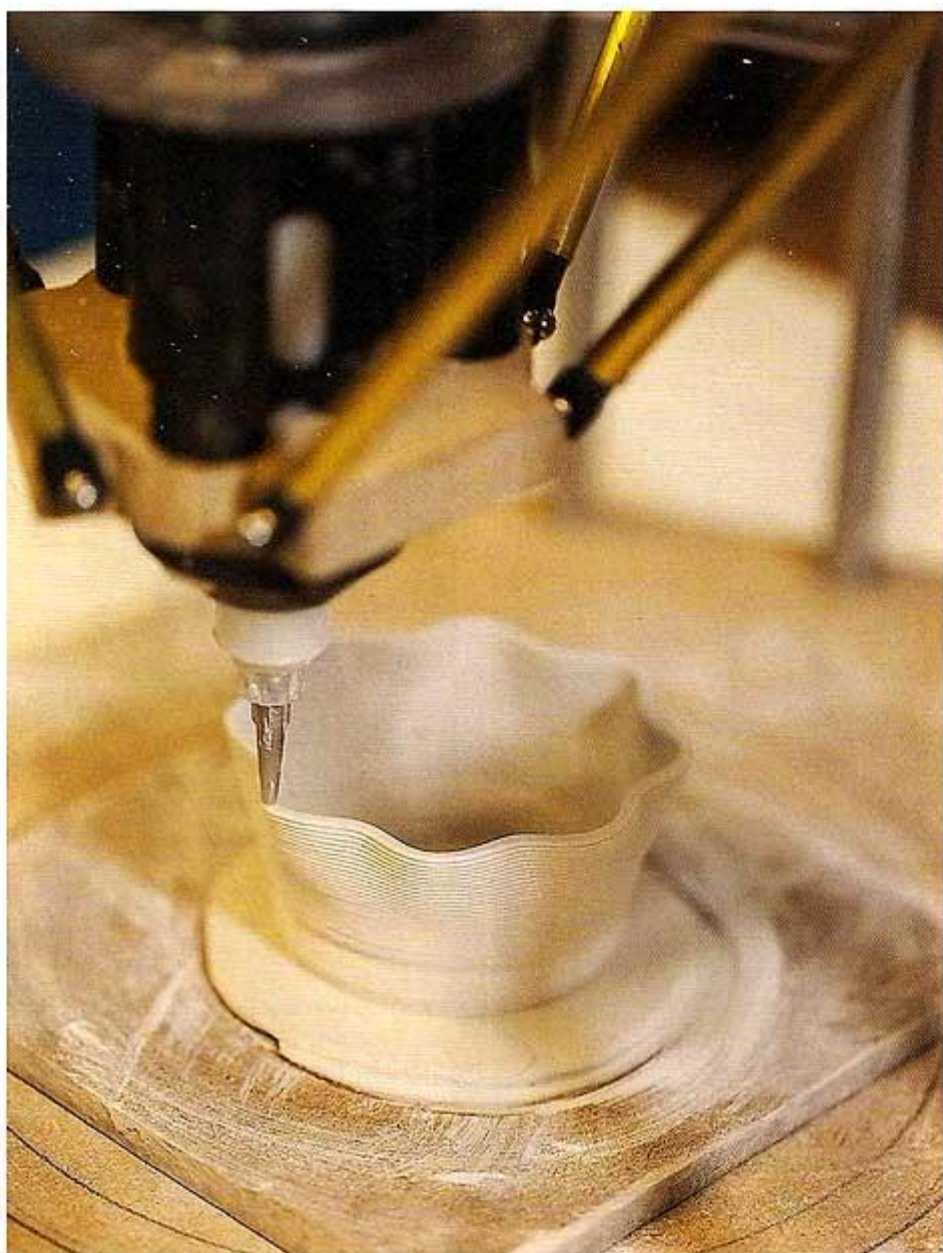
It's not what I expected at all. Made from porcelain – which is fast drying, therefore print-friendly – the results are quirky yet elegantly sculptural, closer to organic forms than something coldly devised by logic.

To create this printer, Jonathan – a traditional potter by trade – not only had to upgrade his DIY skills several notches, but also learn computer programming from scratch. He shows me a rather turgid looking screen of unintelligible numbers, more like an accounts sheet than a work of beauty. But what these numbers describe is something else.

"For an artist like myself who is interested in natural systems, patterns and the unseen numerical code that underpins all nature, this is a very interesting way to work," says Jonathan, as he clicks his laptop keyboard and transforms those numbers into a 2D pattern – his 'bug' series, in which lines form and expand in random mirror formation.

For a moment we are mesmerised by the mirrored lines growing into bugs, then monsters, then faces and so on.

"Paul Klee talks about taking a line for a walk," says Jonathan. "This is taking a pixel for a walk. I write the programme, the programme simulates natural patterns, and the art is in the selection process."



Reinventing the wheel

Jonathan Keep takes the ancient craft of pottery into the 21st century with his ceramic 3D printer. Lucy Etherington meets DIY Delta, robo-potter

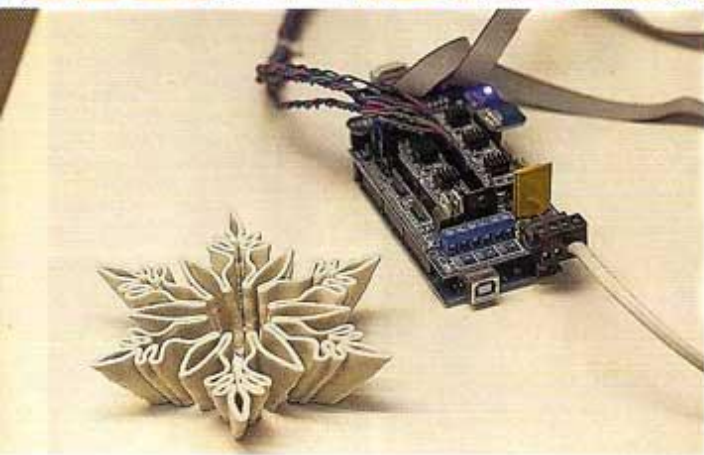
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It becomes 3D when the lines become meshes, or the pixels swell into blobs. The forms change and grow on the screen until Jonathan selects the stage he wants to print. He then transfers that information to the printer, which squeezes the porcelain through syringes, jerking and buzzing through the programme until an hour or so later, the form emerges. It

will then be fired and glazed in the traditional way.

Despite this extraordinary feat of technical wizardry combined with fine art, Jonathan insists he is essentially a potter.

He studied Fine Art in South Africa, where he was born, and has an MA from the Royal College of Art, London. He and his wife moved to Suffolk from South



Right; Jonathan Keep using his DIY Delta 3D printer. Top; inside Jonathan's studio. Above and left; artworks created using the printer. Far left; the printer making a bowl from a computer pattern



Africa in 1986, where he set up his studio and began producing hand thrown traditional crockery. He joined the Suffolk Craft Society where from 2009 until recently he was vice chair. He has exhibited all over the world – Istanbul, Copenhagen, Paris and Brussels included – and in July this year took part in the Agents of the 3D Revolution exhibition in Johannesburg.

As the Delta 3D jerks and buzzes away, Jonathan leads us through the garden to his house to show me some of the printed work he will be displaying at the major British Ceramics Biennial at Stoke-on-Trent, where he is one of 22 artists up for the AWARD prize. We pass some huge,

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smooth ceramic shapes in his garden, one of them with a serene Modigliani-esque face. Inside, his house is painted in bold bright colours and is full of art – prints, sketches, ceramics and sculptures.

My favourites are the tactile yet delicate Seed Pods, which also adorn the pages of the glossy art mag, Ceramic Review. There is nothing remotely mass produced about any of them – perhaps because the process is not about saving money or time, and more about randomness and imperfection than sterile uniformity.

His next plan is – with the help of his online community of fellow ‘geeks and enthusiasts’ – to create a machine that combines, develops and adapts the best elements of 3D printers for ceramics.

“It's very much in its early days,” he says. “But there is a revolution taking place online through a willingness to share knowledge. It's exciting that ceramics can play a part in that.”

Find out more

Jonathan's studio is open to the public (I took my nine-year-old son, who was enthralled) but please ring first. Tel: 01728 832901 For more on his digital pots and other work visit his website www.keep-art.co.uk

- To see video of the technique go to <http://www.youtube.com/user/jkpottery/videos>

- Jonathan is showing his work at the British Ceramics Biennial until November 19 www.britishceramicsbiennial.com

- His work is also on permanent display at the Suffolk Craft Society's shop Gallery 2, Town Hall Galleries, Ipswich, Suffolk, IP1 1DH. Visit his page on their website www.suffolkcrafsociety.org/scs-makers-their-work/ceramics/jonathan-keep/