



From this...

Panning for Pigments

The 100 Mile Art Project

By Elizabeth Howell

Anyone with grass stains on their jeans knows that plants in the backyard can produce bright and lasting colours that are hard to wash out of fabric. But for artist Christopher van Donkelaar that's a good thing. Van Donkelaar spent six months creating colours from plants and other materials found within 100 miles (160 km) of the Cambridge Centre for the Arts in Cambridge, Ontario. The result was a painting called *Adam Naming the Animals*, awash in various colours.

Mining, Growing, Sifting Colour

Cambridge is known for its clay soil, points out van Donkelaar, so all of the earthy colours like yellow, brown, and red were possibilities in the area. "I live in south-western Ontario, so basically you're dealing with a geographic location that isn't really varied," he says. "And it's very iron-rich, which can be great for your reds and your yellows."

Van Donkelaar even got two local Grade 7 classes to help. After the elementary school heard about his project, about 70 students waded into the river near his studio and collected all the river rocks they could find. "They marched up the hill to my studio and crushed the rocks and painted a mural with the colours that they found," he recalls. "In an hour and a half they found five very distinct brown ochre colours."

Red for the painting, however, came from a much longer



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process: First, van Donkelaar collected sand from a local beach and then separated the mineral magnetite from the sand using a powerful electromagnet. Next, he smelted it into iron ore; this meant building a bloomery (smelting furnace) that could reach temperatures of over 1100 °C! The resulting iron ore was dissolved in acid, carefully heated to just the right temperature, and a brilliant shade of red was created.

It's rare to find the colour blue in nature — unless you're looking at the sky, of course. Only a few types of flowers and berries display that colour, like the blueberry. But there are plants that produce an indigo dye, such as the woad plant.

So, with the help of his daughter, van Donkelaar seeded a field behind his house with the plant. To get blue, they cleaned the leaves, tore them up, and put them in a big pan of 80 °C hot water. After 10 minutes, van Donkelaar removed the leaves and wrung them out. They waited for the water to cool down to 50 °C, and then added a bit of sodium carbonate (baking soda) that had been dissolved in boiling water. The final process, which involved removing the liquid, resulted in an indigo dye.

Laying a Foundation

While putting together the colours, van Donkelaar also spent some time hunting for a piece of wood for the painting. One day, a Mennonite neighbour down the road called to say he'd cut down a large poplar tree in the woods, one of the most beautiful he'd ever seen.

So van Donkelaar took a piece of it home and carefully dried it. He piled weights on top to keep it flat, but kept a close eye on it, turning it around or over, so it would dry evenly.

Finally, van Donkelaar mixed egg yolk with the pigments to create the paint (egg yolk acts like glue, allowing paint to stick to the wood). Naturally, these eggs came from chickens that he and his kids feed in the backyard.

Now that van Donkelaar's work is all done, the artist says he'd love to do it again. This time, though, he hopes to "mine" a different area to learn even more colour techniques. "It's been wonderfully helpful both in reading the scientific papers and different people involved with the sciences who have come alongside, offering advice when things went unexpectedly or very wrong," van Donkelaar adds. "It wouldn't have happened without that help." You know what they say, it takes a community to create a 100 mile art project. ✈

Why 100 Miles?

The idea of "local" as being 100 miles comes from the "100 Mile Diet" campaign where two British Columbian writers decided to spend a year eating food from within 100 miles of their home. Van Donkelaar used the same limit to define local art.

"One person described it as a sort of adventure," says van Donkelaar with a laugh. But more seriously, he says he was pleased his art came from the area that he knows and loves well.

