

Nature's Artists

David Rothenberg connects biology with beauty

Bushwhacking my way through the Australian rainforest, I stumbled on what appeared to be the remains of a picnic – a pile of blue plastic spoons. “Who would leave their trash in the middle of this pristine forest?” I asked my guide, the noted ornithologist Syd Curtis.

“Rubbish?” he laughed. “What are you talking about? That’s a profound thing you’re looking at right there. It’s the oldest artwork in the world.”

“What do you mean?”

“Look right behind the spoons. You can see what’s left of a structure made of dried grasses.”

I squinted. He was right. There were two walls built there, with a bit of a walkway in between, like a country road guarded by two short parallel hedges. “Who built this?” I wondered.

“A male satin bowerbird,” Syd smiled. “This creation is called his bower. It’s not a nest, but an artwork he builds in the hope he can attract a female to visit it, observe his performance in and around the bower, and then – if he’s lucky – mating just might occur!”

I still didn’t get it. “What about the spoons?”

“Ah, I almost forgot,” said Syd. “It’s not enough for our boy to build a bower. He has to decorate it with something blue. Blue flowers, blue shells, the blue feathers of rollers and parakeets. Sometimes they paint the things they use with blue pigment that they grind up from fruit pulp with their beaks. Nowadays, they’ll raid picnic tables up to 12 kilometres away to find ready-made blue decorations. The latest thing! Of course they haven’t always had plastic to work with. You see, bowerbirds have been building bowers for 50 million years. But clearly they have adapted to the times.”

Bowerbirds, say biologists, are unique. There is perhaps no other creature besides human beings who is known to create things so beautiful beyond their function – structures that we have a hard time calling anything else but art: the arrangement of objects that please us. Bowens are built to attract females, but they are far from the simplest solution to such a problem. Yet a male

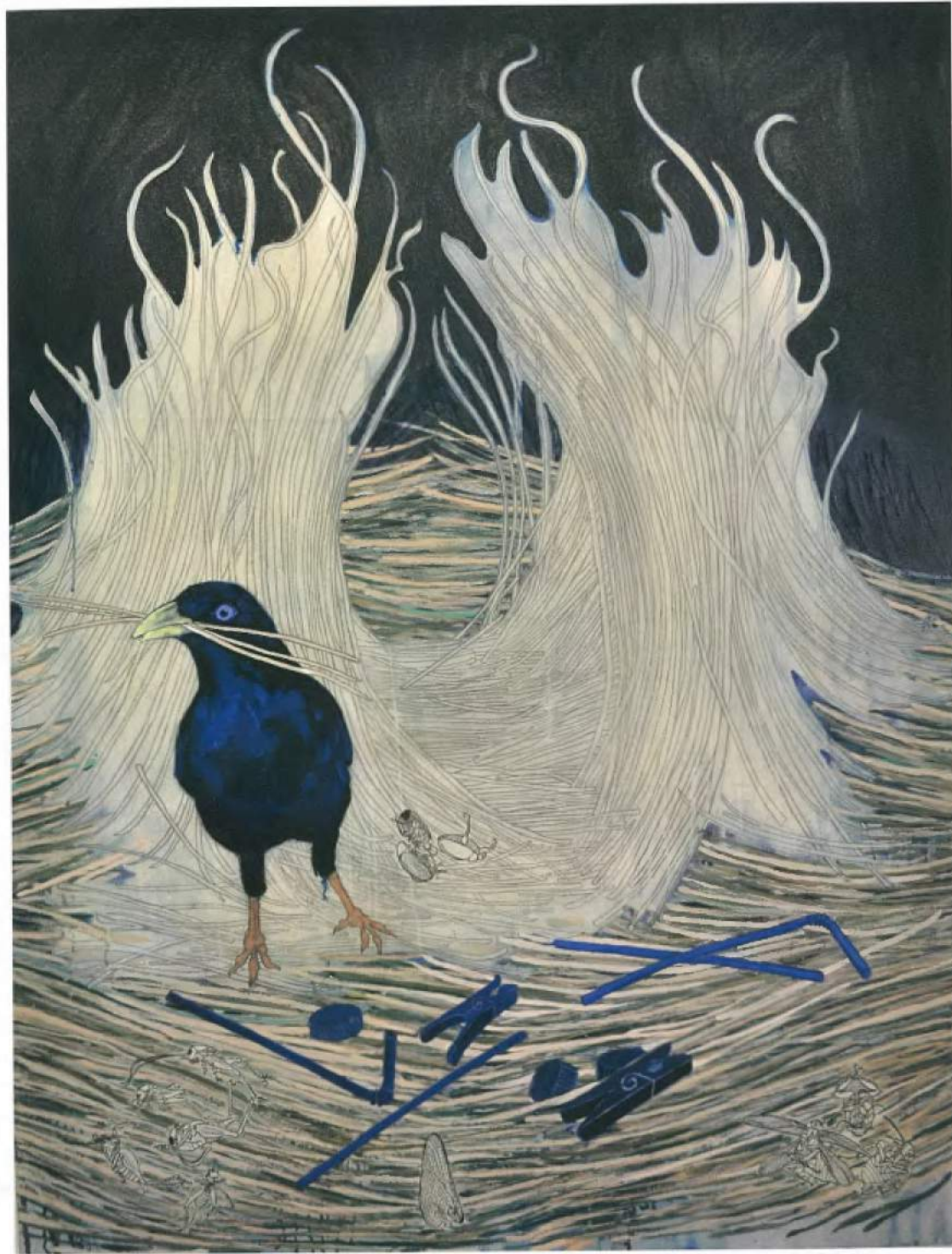
won’t get a female without one. And somehow, evolution has led them to build their bowers in exact and precise ways.

Charles Darwin knew well the amazing artistic will of the bowerbird. He knew that each species had evolved to make radically different works. And the differences between the constructions of each bowerbird species have been compared to the distinct styles of individual human artists or schools of art.

The Vogelkop bowerbird builds a tepee-like mound around a pole like a broomstick and surrounds it with a series of small piles of flowers, seeds and bird of paradise feathers. In some areas he builds a wide hut around the base of the bower. MacGregor’s bowerbird makes the most elaborate structure, an exploding Christmas tree like a frozen firework, decorated with hanging ornaments of moss and lichen. The spotted bowerbird builds something similar to the ‘avenue’ constructed by the satin bowerbird, but he decorates his with avocado berry, prickly berry, solanum berry, capped-spiny berry, lime berry, eucalyptus nut, brigalow pod, mother of millions leaf, carissa sprig, pigweed stem, bottletree leaf, emu eggshell, itchy grub case, green slime, reptile skin, snail shell, spider egg case, aluminium foil, red plastic, white plastic, wire and bone.

Building the bower is a rigorous, step-by-step process. The male satin bowerbird first plucks away all the leaves on bushes and low branches that keep the sun away from his chosen site. Then he clears a one-square-metre patch of all debris. Then he brings in his own debris: hundreds of little twigs and sticks, which he tramples into the dirt to create a woody platform upon which the walls of the bower will be erected. The platform, once matted, is as strong as a nest, and has even been carried away by scientists in one piece.

The platform resembles some strangely deformed nest, and the technique behind its construction is not so different from the more familiar nest-building. The male satin now collects very long twigs, around a foot in length, and places hundreds of these in two rows, leaving



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Bowerbird II by Maria Hildrick www.mariahildrick.com

space for himself in the middle. (No nest-building birds position twigs vertically.) When he is done, each wall is about as thick as the bird himself (and he is about the same size as a hefty crow).

Next, the male satin decorates the sunny, northern-exposed open side of the bower with anything blue that he can find. Blue blossoms and parrot feathers are traditional, but the blue colour, always so rare in Australia's eucalyptus environment, can be especially hard to source; hence the satin bowerbird's love for blue plastic.

From inside the mind of the bowerbird, it may be the beauty that matters more. If a satin bowerbird raised in captivity is unable to find something blue to decorate his bower, he will become extremely agitated and flustered. His eyes will dart all over the aviary, hoping (and needing) to see the colour of his dreams. If he happens to spy any small blue bird – a motmot, say, or a bunting – he will go for it and attack just to secure this tint of blue. The normally peaceful and vegetarian bowerbird will kill the first blue bird he finds. And it is solely this

need for blueness that can drive him to such violent action – never a direct fight for a mate or to prevent a rival from filching a decoration from his bower.

The male then waits patiently in his bower for a female to approach, at which point he begins a song-and-dance display, designed to impress her, both in front of and inside the bower. Often the female just flies away on a continued search for the most complete and best-decorated bower, usually the creation of an older, more experienced male. (In one territory, the five most assertive out of thirty-three males managed 56% of all the matings.)

The female satin bowerbirds base their decisions about the 'quality' of males on what they see in their bowers and what they hear and witness from the song-and-dance displays. Sexual selection says that what they are looking for is good genes: the strongest, most attractive bird, based on what he can create.

If this is so, what if bowerbirds actually attract, mate and procreate for the propagation of bowers, not offspring? The male bowerbird evolved into an artist for the simple function of attracting a female to take a look at his beautiful creation. "Come up and see my etchings..." says the old artist to the innocent young student. It's an old clichéd story, and one that has guided biology since the dawn of evolutionary theory!

While some features produced by evolution seem to be useful and adaptive, others appear to clearly exhibit an evolution of incomparable beauty, a world of life forms far more spectacular than function alone can easily explain.

Why, for instance, are zebras covered in stripes? Why do hornbills have enormous horns on their beaks that make eating, snapping and flying so much more difficult? Why those particular patterns on the peacock's tail? Why this colour, this crest on the back of the lizard? And toughest of all to explain, why should bowerbirds have evolved the ability to make art? No other animal makes artworks that have no clear function. And might there be a clue to the evolution of human arts in the world of the bowerbird?

To me it is an essential fact of evolution – the key, perhaps, to proof that art-making, in performance or constructing, for any species, including our own, is something that evolution has suggested and then produced. Extremes may be the examples that matter most. Nature is so diverse that perhaps every species is a special case of its own, extreme enough to define the attributes of one specific form of life to the exclusion of others.

Our present conception of sexual and natural selection sidesteps the importance of the aesthetic: art either indicates some other kind of general fitness, or else it is the by-product of more serious, adaptive forces. These two explanations avoid taking the secret of beauty seriously. Art is important to Nature, and we get no closer to grasping why by explaining it away.

We have to wonder why a sped-up humpback whale song sounds just like a nightingale. Very different routes of evolution have led to similar aesthetic preference. Mere accident? Don't

tell a bowerbird the bower he spends many hours building according to exact aesthetic rules is at all arbitrary. For the artist immersed in his or her style it is the most necessary act in the world. These birds cannot live and thrive without art, and most humans probably feel the same way.

The unique constructions of bowerbirds have been known to the West for more than two centuries, but there is now a compelling reason why we ought to be taking them more seriously. The aesthetics of human art have changed tremendously in the last hundred years, as images, music and literature embrace the abstract, trying to cast away the rules and styles that have been evolving over the centuries. One consequence of this that is rarely talked about is that love of abstraction makes so much more of the beauty of Nature appear as art: the black-and-white contrast of tree

shadows on snow, the crazy textures of metamorphic rocks, the dizzying complexities of winter wrens' songs. The more human conventions we explode, the more art we find in the natural world.

With today's growing appreciation for art made out of natural or environmental materials, we see art in the wild, where

previously we might have seen tendencies toward art, or 'primitive' artworks. With the whole ritual of bowerbirds painting and decorating their bowers, dancing and strutting in the presence of females, we have a multifaceted example of Nature's own performance artists, combining a range of talents in some weird mixture that is not just visual art, or dance, or theatre, but some whole new medium encompassing all three, yet with its own standards of appreciation.

As we come to take human art of this kind more seriously, we are obliged to take Nature's art more seriously as well. Human culture has evolved to be able to appreciate the depth of bowerbird activity beyond the desire of biology or science to fit it into the basics of reason and behaviour. Nature is far more remarkable than that. Extreme examples – like bowerbirds, and like humans – push the aesthetics of life ever closer to the forefront, as we realise that beauty, all around us, in appearance, in action, cannot be brushed away as mere accident.

What Iris Murdoch wrote about human art applies equally here: "The pointlessness of art is not the pointlessness of a game; it is the pointlessness of life itself, and form in art is properly the simulation of the self-contained aimlessness of the universe." The best art, she believed, melds "the minute and absolutely random detail of the world together with a sense of unity and form".

Evolution may indeed be aimless, but it produces wonderfully coherent creatures with odd but essential behaviours. More importantly, I believe that our understanding of Nature increases if we spend more time wondering about all this useless beauty. R

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