



BRIAN BOYD



ART AS PLAY WITH PATTERN IT NEED NOT BE ADAPTIVE, BUT OFTEN IS

STARTING POINTS: COEVOLUTION AND ART

Entrances: New and Old Art

Enter a Yayoi Kusama installation and you find yourself taken out of a *discomfort* zone you hadn't known you were in: the world as it is. Kusama's room, with its yellow background and black dots on every patch of wall, floor and ceiling, and on the softly swollen forms afloat in this rectangular chamber, offers a new world, one shaped for our pleasure, *remade* on our terms. Or rather on *Kusama's* terms, which are somehow already ours. In nature, the combination of yellow and black has evolved as a warning sign, from bees to poisonous frogs. Here these big black dots on bright yellow remove all threat: *this* little world has been designed for us to feel so safe that we brim with joy. The variably sized dots seem randomly spaced but follow an elusive order.

Kusama toys with uncertainty, but in a way that dispels all anxiety. Kusama's installation announces five themes central to my take on the origin of art: *coevolution*, pattern, play, control and attention. Her dot-space designs emerged, in response to audience enthusiasm, from earlier works of hers that also deployed repetition, vibrant colour and transformed space: a coevolution of artistic effort and audience preference that, as we will see, characterises all art. Kusama overdoses us in *pattern* at its simplest—circles, contrasts, repetitions—and *plays* with it so as to rouse our own sense of play. She takes bold *control* of space on her terms. She commands our *attention*—and indeed as I wrote this I learned she was the world's most-viewed artist in galleries the previous year.¹



Jump back about half a million years to before *Homo sapiens*. By this time our forebears—*Homo erectus*, in the broad sense—fashioned flint hand axes much more refined than the first stone tools. Many show symmetry and smoothness worked to a degree far greater than needed for practical use. A few were made in seemingly impractical sizes, as large as 50 centimetres or as small as 5 centimetres. Was this the earliest art, or at least the earliest to survive?² Hand axes of this over-refined kind appear to have coevolved with a hominin taste for crafted shape. Symmetry stands at the core of many kinds of *pattern* in nature. The makers of showpiece hand axes *played* in scale and finesse with the design of functional hand axes. They demonstrated unusual *control* in knapping the stone patiently to satisfy their own preferences and their audience's. Since the noise of striking the flint could attract predators and the honing of such a showpiece would take hours, the makers must have worked in the company of some of their band, and earned their *attention* and presumably their admiration—the band had to tolerate one member's spending so much time on impractical ends—both for the painstaking process and for the elegant outcome.

Zoom forward to 'only' about fifteen thousand years ago, and the Mas d'Azil spear-thrower. Here we can be in no doubt we have art, and art of a high order. Microlithic tools made it possible to carve an antler into the shape not just of a typical doe, but of a particular animal at a specific and significant moment, apparently giving birth. Tastes have coevolved with performance: a mere smoothed hand axe would not satisfy this artist's audience. The carver deploys the natural pattern of doe and birth sac, and combines the delicately observed posture of a real doe with formal design: he places one of the back legs so that it elegantly continues the line of the spear-thrower shaft while the other rear leg crosses over delicately to support the animal's weight. The artist pointedly plays: not only is this non-functional, but the scene elicits a virtuoso arpeggio of emotions, the solicitude of the birth scene, amusement at the superfluity of the image, and awe at the invention and craft. The carving demonstrates human control in shaping a small piece of the world not to meet some external need but to appeal to our tastes. This carving rivets our attention as it must have done to that of its original audience, who permitted the artist to take the scores of hours the piece required in return for having their sense of human possibility enlarged.

Earliest Art?

Understanding the gestation, birth and infancy of art is itself in its infancy. A hundred and fifty years ago, we knew nothing of cave paintings. Thirty years ago, we thought the oldest were about seventeen thousand years old. Twenty years ago, after discovering cave paintings twice that age, we still did not know of engravings and ornaments about a hundred thousand years old, or consider that hand axes hundreds of thousands of years old might be proto-art. Until 2014 we did not know of a zigzag that a hominin hand carved on a mussel shell half a million years ago.³ How deep in the past should we look for the origins of art? In 2013, biologist Richard Prum proposed that we need to look far more broadly and deeply, well beyond the emergence of

Hand axe
Olduvai Gorge, Tanzania
Lower Paleolithic

Paphiopedilum sukhakulii, 'Lucy'

Spear-thrower (atlatl)
Le Mas-d'Azil, France, c. 13,000 BCE

² Marek Kohn & Steven Mithen, 'Handaxes: Products of sexual selection?' *Antiquity*, vol. 73, no. 281, September 1999, pp. 518–26; Geoffrey F. Miller, *The Mating Mind: How Sexual Choice Shaped the Evolution of Human Nature*. Doubleday, New York, NY, 2000, pp. 288–91.

³ Josephine C. A. Joordens, Francesco d'Errico & Frank P. Wesselingh et al., '*Homo erectus* at Trinil on Java used shells for tool production and engraving', *Nature*, vol. 518, 2015, pp. 228–31, DOI: 10.1038/nature13962



hominins or even primates.⁴ He sees art as occurring within a long lineage of forms that have coevolved through the feedback of ‘signals’ from living things, both plants and animals, to other living things that evaluate these signals. The signals evolve over time to better match the preferences of the animals evaluating them, while the preferences in turn alter as the signals provide a new range of choice. Flowers have evolved because plants are most efficiently pollinated by creatures flying directly from one plant to another of the same kind. Flowers’ bright colours, complex shapes and rich scents coevolve with the senses and preferences of the insects or birds attracted to them for their pollen or nectar. In birds, plumage, song, dance, and the bowers of bowerbirds have coevolved through what Darwin explained as sexual selection, an alternative to natural selection.⁵ No wonder humans have long adorned themselves with flowers, feathers and scents: these biological forms have already been shaped to appeal to senses often finer than our own.

Prum notes that coevolved aesthetic lineages need not be indicators of good genes—the prevalent hypothesis in modern sexual-selection theory, but not, he stresses, in Darwin’s. The signals and the preferences need only be coupled by feedback cycles to coevolve. Geoffrey Miller has explained art in terms of sexual selection, especially in terms of performance indicating good genes and therefore a desirable mate.⁶ Kusama checked herself into a psychiatric hospital, now lives there permanently, and has produced her best work in her sixties, seventies and eighties. She has had only one known romantic relationship, a ten-year sexless partnership with artist Joseph Cornell. But she creates art compulsively. Sexual selection for good genes is not the engine for art, though it may sometimes add another gear.⁷

For Prum *any* human product that coevolves through the interplay of makers efforts and appreciators’ aesthetic preferences falls within his generous notion of art. That includes buildings, clothing, furnishings, vessels and vehicles, if we choose them according to taste and not function. Such a range may at first seem too broad, but if we think of the Parthenon, the Alhambra, Maori *whare* and Renzo Piano’s Tjibaou Centre; carpets from ancient Persia to Faig Ahmed’s postmodern provocation *Liquid*; or pottery from Jomon or Lapita thousands of years ago to Sakiyama Takayuki now—from tribal cultures to modern urban design—the wide net seems warranted.

Listening to the Waves (Chōtō)
2004
Sakiyama Takayuki

Liquid
2014
Faig Ahmed

4 Richard O. Prum, ‘Coevolutionary aesthetics in human and biotic artworlds’, *Biology and Philosophy*, vol. 28, 2013, pp. 811–32; see also his ‘The Lande-Kirkpatrick mechanism is the null model of evolution by intersexual selection: Implications for meaning, honesty, and design in intersexual signals’, *Evolution*, vol. 64, no. 11, 2010, pp. 3085–100.

5 Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, Gibson Square Books, London, 2003 (first published 1871).

6 Geoffrey F. Miller, *The Mating Mind*.

7 Brian Boyd, ‘Evolutionary theories of art’, in Jonathan Gottschall & David Sloan Wilson (eds), *The Literary Animal: Evolution and the Nature of Narrative*, Northwestern University Press, Evanston, IL, 2005, p. 160.





Tjibaou Cultural Centre
Noumea, New Caledonia, 1998

Evolutionary Alternatives: Tight Genes

Since the rise of sociobiology in the 1970s and evolutionary psychology in the 1980s, and especially over the last twenty years, many have attempted to explain art with the help of evolution. Modern evolutionary thinking has emphasised genes and genetic adaptation. An adaptation is a feature of physiology, development or behaviour that has been encoded in a species' genes and improves individuals' chances of leaving more descendants, and therefore more copies of their genes, than they would have otherwise had.

Is art an adaptation?

Like other advocates of art as well as science, I tried to propose, in my *On the Origin of Stories*, that indeed it was.⁸ However, this central proposal, though possibly not wrong, remains, to put it gently, a long way from being established.⁹

To be an adaptation, a feature must show design modifications that yield benefits greater than its costs. I hypothesised a minimal adaptation: a human genetic motivation to play not only in physical ways, as we and other species do, but in cognitive ways, with the patterns of information through which minds interpret worlds. I also suggested many respects in which such a change might have benefited humans. None of these, as others have pointed out, have been empirically tested, nor are they easily empirically testable, in terms of reproductive fitness. But testing what may have made a difference many generations ago, in the case of a complex human behaviour that varies with context, can be extremely difficult. Nevertheless, it has to be said that I have not established the benefits such changes would have made.

If art cannot be shown to be an adaptation, is it an evolutionary by-product?

A by-product is a feature that emerges as a side effect of previous adaptations but does not involve further design modifications in the organism or offer it benefits. In one famous formulation Steven Pinker has argued that art is a by-product of our sensory pleasures, on the one hand, and, on the other, our technical capacity to find ways of 'pressing our pleasure buttons'. Art, he suggests, is 'cheesecake for the mind'.¹⁰ Just as we dream up cheesecake to offer ourselves high doses of sweet and fat—food sources we evolved strong appetites for, because they offer intense energy hits that were once hard to obtain—so we make art to offer ourselves high doses of sensory pleasure. We find it hard not to consume, even if its sumptuousness offers no benefits, given our already rich information diet.

To establish a by-product explanation requires proof that there *has* been no modification to the species design. Art as engaged in by humans is clearly a biologically novel behaviour, deeply rooted in our species, occurring across cultures and attracting children's engagement without the need for formal teaching. A by-product explanation for art would need to show that there has been no genetic modification for motivating our engagement in art—even more difficult than establishing that there has been genetic modification. We have good reason to think that although reading and writing have benefits and can be acquired by any normally developing human who is carefully taught, they are only recent cultural inventions, unknown to any population until the

8 Brian Boyd, *On the Origin of Stories: Evolution, Cognition, and Fiction*, Belknap Press of Harvard University Press, Cambridge, MA, 2009.

9 The most valuable critique is Jan Verpooten, *Art and Signaling in a Cultural Species*, University of Antwerp, Antwerp, 2015, pp. 19–32.

10 Steven Pinker, *How the Mind Works*, Norton, New York, NY, 1997, p. 525. In *The Blank Slate: The Modern Denial of Human Nature*, Viking, New York, NY, 2002, he adds a third adaptation that art is a by-product of, our 'hunger for status', p. 405. He modifies these positions in 'Toward a consilient study of literature', *Philosophy and Literature*, vol. 31, 2007, pp. 162–78.

last five thousand years, and not biological adaptations. We also have good reason to think that language is a human adaptation. Languages need to be learned, but they are learned compulsively and effortlessly in early childhood, unlike reading and writing. At the same age, children compulsively engage in pretend play, in arranging shapes and colours and modifying surfaces, in listening to and telling stories, in nursery rhymes and songs. As infants they respond to lullabies even before they understand language. Art seems closer to language, an adaptation, than it is to writing, a purely cultural invention. And as we will see in ‘Costs and Benefits’ (page 296), it seems implausible that art yields no net benefit.

Does art, then, arise from sexual selection?

If it produces no benefits in terms of survival, does it produce reproductive benefits by attracting the opposite sex? Peacocks’ exuberant tails supposedly inflict survival costs, making the birds more conspicuous to predators and less nimble in escaping them. But because the plumage appeals to peahens, peacocks with more extravagant displays can mate with more females, producing more offspring: not only males likely to sport showy tails but also females with strong preferences for them. Artworks could be, ultimately, our species’ peacock tails.

Given the strong emphasis on genes in late-twentieth-century evolutionary biology, sexual selection has been assumed to indicate good genes: the flamboyant peacock tail, or high artistic prowess, signals good genes and therefore the preference has arisen and spread. That often seems an untested assumption even in biology¹¹ and, as the example of Kusama indicates, it need not be the case in art. Indeed, artists often apply themselves to their art to compensate for other deficiencies (Kusama has said many times she would have killed herself but for her art); mental instability, depression and substance abuse tend to be higher among artists than in the general population;¹² and large-scale studies show that artists, unlike the flashiest peacocks, do not produce more offspring than average.¹³

Geoffrey Miller’s version of sexual selection (page 193) reflects the over-emphasis on genes since Crick and Watson discovered the structure of DNA and its capacity to pass on complex genetic information (see ‘Evolution Now’, page 287). But sexual or social selection need not be for good genes. As Prum points out, in the case of art, all that needs to drive its development is the coevolution of ‘signals’—artistic displays—and of preferences.¹⁴ And the preferences need not be confined to displays by the opposite sex. We know that art moves people of both sexes, and is produced by both sexes, and moves us whether or not we know the sex of the artist. Because of women’s roles as mothers and men’s drive for dominance, men have historically produced most professional art. For the same reasons, most selection of public art—commissioning, collecting and reviewing—has been by males. In many public arts, therefore, men have historically played a greater role than women not only in producing art but also in shaping preferences. Women, on the other hand, have tended to dominate in some art forms, like weaving and textile arts, whereas males have tended to dominate in sculpture and carving.

11 See Richard O. Prum, ‘The Lande-Kirkpatrick mechanism is the null model of evolution by intersexual selection’.

12 Simon Kyaga, Mikael Landen & Marcus Boman et al., ‘Mental illness, suicide and creativity: 40-year prospective total population study’, *Journal of Psychiatric Research*, vol. 47, 2012, pp. 83–90. In this study of more than

a million Swedish patients, Kyaga et al. found that authors had higher rates of schizophrenia, bipolar disorder, depression, anxiety disorders, substance abuse and suicide.

13 Miriam A. Mosing, Karin Verweij & Guy Madison et al., ‘Did sexual selection shape human music? Testing predictions from the sexual selection hypothesis of music evolution

using a large genetically informative sample of over 10,000 twins’, *Evolution and Human Behavior*, vol. 36, 2015, pp. 359–66, DOI: 10.1016/j.evolhumbehav.2015.02.004: on average those with greater musical ability scored lower on the measures of mating success.

14 Richard O. Prum, ‘Coevolutionary aesthetics in human and biotic artworlds’, p. 818ff.



A bushman elder acts out a story as a group sit around him
Kalahari Desert, central-southern Africa, 1947

In arts like music, dance and storytelling, both sexes have participated more or less equally wherever cultural constraints have not skewed the picture.

Miller seems less interested in an open inquiry into art's origins, range and conditions than determined to win at all costs what he envisages as a fight for sexual selection as the driveshaft of art. He cannot see, or chooses not to see, the sea of sociality in which humans swim. Humans live in multigenerational groups: the protracted development of big and energetically expensive brains during a very long childhood has required cooperative breeding, requiring the support not just of mothers but of whole bands.¹⁵ Cooperative breeding has enabled humans to improve our mutual understanding, creating the conditions for language and allowing the transmission of ideas and practices that has made cumulative culture possible (see 'Evolution Now', page 287). And human bands themselves have needed to stay together and even to grow to outnumber and compete successfully against rival bands, and to find ways of motivating their cohesion on a larger scale through shared narratives, beliefs, practices and markers.

None of the non-human species whose sexual signals Miller offers as keys to human art is highly social. In none of them is the display produced for a wide audience that includes offspring well before sexual maturity and parents already in long-term pairings. In all of the species he considers, the signals are not optional but fixed, biologically obligatory, highly seasonal, and lead to the signaller's immediate copulation with those females who rate his display highest. In none of these cases is evaluation social as well as individual, in multi-male, multi-female groups, and tempered or animated by discussion. In none of them is the sexual display supported by others, either of the same or a different sex or generation, or produced communally, or traded or exchanged.

In every one of these features non-human sexual signals and human art differ radically. Art Spiegelman, the comics artist featured in 'Why Comics?' (page 303), has fostered and published other comics artists, including Chris Ware, who some may argue has replaced Spiegelman as the leading creator of serious comics. Such support for fellow artists is normal in the human world, and without parallel in the competition for copulation in non-human sexual display. Or to shift tack: human song and dance promote feelings of social cooperation much more than they do competition. A slew of recent studies show that music and synchrony allow rapid social bonding within large-scale groups by generating endorphin release and feelings of inclusion, connection and positivity.¹⁶ This helps explain the role of song and dance both in tribal cultures, in creating larger cohesive groups, and in the modern world where music unites thousands or millions. Or again: in countries where families still live together in multiple generations, children, their parents and their grandparents will commonly watch soaps on television together, just as African hunter-gatherers of different generations and both sexes gather around an old storyteller—who Miller would have us believe must be advertising and selling his peak sexual potency.

¹⁵ Sarah Hrdy, *Mothers and Others: The Evolutionary Origins of Mutual Understanding*, Belknap Press of Harvard University Press, Cambridge, MA, 2009.

¹⁶ See for instance Daniel Weinstein, Jacques Lanay & Eiluned Pearce et al., 'Singing and social bonding: Changes in connectivity and pain threshold as a function of group size', *Evolution and Human Behavior*, vol. 37, no. 2, March 2016, pp. 152–58, DOI: <http://dx.doi.org/10.1016/j.evolhumbehav.2015.10.002>; Eiluned Pearce, Jacques Lanay & Robin I.M. Dunbar, 'The Ice-breaker effect: Singing together mediates fast

social bonding', *Royal Society Open Science*, 28 October 2015, DOI: 10.1098/rsos.150221, <http://rsos.royalsocietypublishing.org/content/2/10/150221>; and Eric Clarke, Tia DeNora & Janna Vuoskoski, 'Music, empathy and cultural understanding', *Physics of Life Reviews*, vol. 15, 2015, pp. 61–88, and their 2010–15 musical references.

Miller selects only the examples in animal display and human art and life that suit his narrow case. He ignores that the closest approach to art in the lineages closest to us are socially cooperative, like duetting in pair-bonded gibbons, or rain dances in chimpanzees. He ignores humans' high intragroup cooperativeness and high between-group competitiveness, which together have shaped whose genes survive. He ignores evidence against greater average reproductive success for artists.¹⁷ He ignores how minuscule even an advantage for a few of the most successful artists would be when compared with what has been possible for men with physical or purchasing power, who can obtain, constrain and retain mates in harems, concubinage or polygamy.¹⁸ He ignores the evidence of life history, the human engagement in art from infants responding to their mothers' lullabies to singalongs or shuffle-dances in rest homes. In his essay here, he ignores whole arts, like storytelling,¹⁹ where mothers and grandmothers have always played a major role. Even in professional storytelling, in the last century Agatha Christie, Barbara Cartland and Danielle Steel have outsold all other novelists.* And he ignores whole aspects of art, like the religion and ritual that appear to have shaped much of human art for most of human history.

* Only Barbara Cartland and her ilk, incidentally, have the sort of overwhelmingly female audience for their art that a sexual-selection account of art favours—except that *writers of romance* contradict the theory's predictions because they are almost invariably female.

Miller challenges those who would explain art in terms of evolution to invoke signalling theory. Prum makes signalling theory central and, in his account, which depends on more than a skewed sample of evidence, human art is usually socially—not just sexually—selected. Social selection, not just by potential mates, but also by others in multiple social relationships with the signaller, can act powerfully within an ultra-social species like ours: from infancy we compete for favourable attention from others because we depend so much on one another.²⁰ Social selection leads to rapid, innovative, diversifying, unending, perhaps even runaway evolution, especially in 'signalling'.²¹ And once art has become established as normal human behaviour, individuals' marked inability to respond to *any* art would be likely to be strongly socially selected against, to lead to their being shunned as unresponsive and dull,²² while artists of both sexes have powerful motivation to earn the admiration of many or all others in their group, not only fecund and sexually available females.²³

17 See Miriam A. Mosing et al., 'Did sexual selection shape human music?', pp. 359–66.

18 See Laura Betzig, *Despotism and Differential Reproduction: A Darwinian View of Human History*, Aldine, New York, NY, 1986.

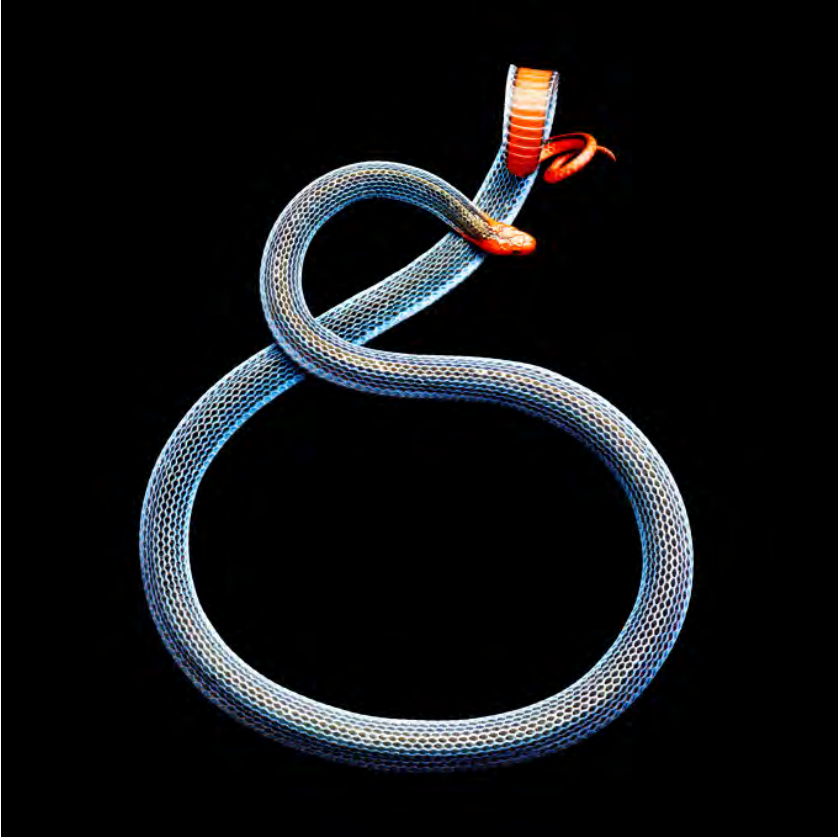
19 He does discuss this in Geoffrey F. Miller, *The Mating Mind*.

20 Sarah Hrdy, *Mothers and Others*.

21 Mary Jane West-Eberhard, 'Sexual selection, social competition, and speciation', *Quarterly Review of Biology*, vol. 58, no. 2, 1983, pp. 155–83; Randolph M. Nesse, 'Runaway social selection for displays of partner value and altruism', *Biological Theory*, vol. 2, no. 2, 2007, pp. 143–55; Bruce E. Lyon and Robert Montgomerie, 'Sexual selection is a form of social selection', *Philosophical Transactions of the Royal Society B*, 2012, pp. 1–8.

22 Stephen Davies, *The Artful Species: Aesthetics, Art, and Evolution*, Oxford University Press, Oxford, 2012, pp. 118, 144–45.

23 Miller does concede a larger role for females as artists in his essay here, but against the grain of his own insistent sexual selection logic.



MIDPOINTS: EVOLUTION, HUMAN ART AND CUMULATIVE CULTURE

Evolution Now

Most evolutionary accounts of art have emphasised genes and evolutionary fitness: the spread and maintenance of genes within populations. That now seems to have been shortsighted. New thinking within evolutionary theory has become less gene-centric.²⁴ Genes can function only within bodies and within environments, and both bodies and their environments can alter whether or not, or the degree to which, or the way in which, genes become active as organisms develop.²⁵ Other strands of recent evolutionary theory that also put genes in their place stress:

- gene–culture coevolution (most famously, lactose tolerance in later life has evolved in peoples that became herders); and
- culture itself as a powerful inheritance system that works in the same way as genetic evolution, through variation, selection and differential reproduction, through some ideas or designs spreading further and lasting longer than others.²⁶

Our genes have changed little, across the whole species, over the hundred and fifty thousand years or more since the emergence of *Homo sapiens*, but our capacity for cumulative culture, already established before we began to spread from Africa, has had ever greater effects, to the point where we have become the dominant species across the earth. A large part of that cumulative culture has involved art.

But what do we mean by ‘art’?

Art as Cognitive Play with Pattern

Some have felt that there can be no evolutionary account of ‘art’ if the term means all the arts, from music and storytelling to every kind of visual design, from painting and sculpture to architecture and basketry. Each may need its own account, since musical and visual arts appeal to different senses, and fiction and verse appeal, only *by way of* the senses, to other cognitive levels.²⁷

When it comes to explaining particular arts, traditions, artists or works, we do need much more specific detail, but accounting for art in terms of coevolved signals and preferences makes it possible to see all the arts together, and even to group them with biological processes and forms that few had understood as art.

But we rightly differentiate human art from what Prum calls ‘biotic art’, like flowers and fine plumage. What makes our art so compulsive, moving and consequential for us, and such a central part of cumulative culture? I propose that what distinguishes human art is that it always involves cognitive play

24 See Cecilia Heyes, ‘New thinking: the evolution of human cognition’, *Philosophical Transactions of the Royal Society B*, vol. 367, 2012, pp. 2091–96 for an overview of the ‘new thinking’ and an introduction to a special issue on the topic.

25 For a popular discussion of the implications within biological theory, see Denis Noble, *The*

Music of Life: Biology Beyond Genes, Oxford University Press, Oxford, 2006.

26 Robert Boyd & Peter J. Richerson, *Culture and the Evolutionary Process*, University of Chicago Press, Chicago, IL, 1985; Peter J. Richerson & Robert Boyd, *Not by Genes Alone: How Culture Transformed Human Evolution*, University of Chicago Press, Chicago, IL, 2005;

and Heyes ‘New thinking’, and the contributors to her special issue.

27 Stephen Davies, *The Artful Species*.



with pattern. Play exposes us to uncertainty, but in safe contexts and with the promise of better control. Pattern, play and control are particularly strong human preferences that shape human art.

Pattern

All creatures, and even plants, understand their environment through patterned information that tracks regularities in the world. But while other animals depend on physical capacities such as speed, strength or agility for their survival, we humans—not swift, strong or particularly stable—thrive especially through our superior handling of information.

But information is costly to acquire and complex to process. To be efficiently processed for real-time responses, information has to be sifted into patterns. Humans, uniquely dependent on information, have a unique appetite for pattern: we are ‘alone in the animal kingdom in just how aggressively we constantly search for patterns, and even in how they may be a source of so much pleasure’.²⁸

We take pleasure in natural patterns we recognise: in particular, in distinct patterns that are quickly apprehended, like firm outlines, bright colours, precise sound tones, in the kinds of complex combinations we find in flowers, butterflies or birdsong. And because understanding natural regularities in open-ended ways has offered humans real advantages over others, pattern attracts us even in things we don’t recognise, like microscopic seeds, or in things we might instinctively recoil from, like snakes. Much art, especially visual art, reflects and concentrates our pleasure in natural patterns and their interrelationships. Rich traditions of representational art—which always highlights patterns in nature—are found in cultures throughout the world. Japan, for instance, with its heritage of reverence for nature as well as for art, has particularly fine traditions of figurative art, in the work of master painters like Ogata Kōrin, Itō Jakuchū and Katsushika Hokusai.

Not all patterns are equal. Being human, we pay attention especially to the not easily definable but unmistakable patterns that distinguish one face from another, or one kind of expression or gesture from another. Our heightened sensitivity to faces and their differences from others or from themselves in different moods has affected art, in the accentuation of heads through headdresses, make-up, scarification and facial tattoos, in the exuberant traditions of masks across tribal cultures or in urban cultures like those of Bali or Japan, in portrait sculpture and painting from Europe to Africa—as in the majestic heritage within what is now Nigeria, in Nok, Ife and Benin traditions. Because ‘the cost of missing a face is higher than the cost of declaring a non-face to be a face...face recognition is an adaptive sensory bias’.²⁹ Around the world, caricatures, masks, portrait paintings and sculptures have therefore been made to provide what biologists call a super-stimulus to the fusiform gyrus, the area of our brain specialised to interpret human faces.³⁰

Red and White Plum Blossoms
c. 1700
Ogata Kōrin

Nandina and Rooster
from the series ‘Colourful Realm of Living Beings’
c. 1761–65
Itō Jakuchū

Birds and Chrysanthemums by a Stream, with Rocks
from the series ‘Colourful Realm of Living Beings’
c. 1760
Itō Jakuchū

28 Daniel Bor, *The Ravenous Brain: How the New Science of Consciousness Explains our Insatiable Search for Meaning*, Basic Books, New York, NY, 2012, p. 149.

29 Jan Verpooten & Mark Nelissen, ‘Sensory exploitation: Underestimated in the evolution of art as once in sexual selection theory?’ *Boston Studies in the Philosophy of Science*, vol. 282, 2012, pp. 189–216.

30 See Dan Sperber & Lawrence A. Hirschfeld, ‘The cognitive foundations of cultural stability and diversity’, *Trends in Cognitive Science*, vol. 8, 2004, pp. 40–46.





LEFT TO RIGHT

Ko wai Koe (Who Are You?)
from the series 'The Odyssey of Captain Cook'
2005
Marian Maguire

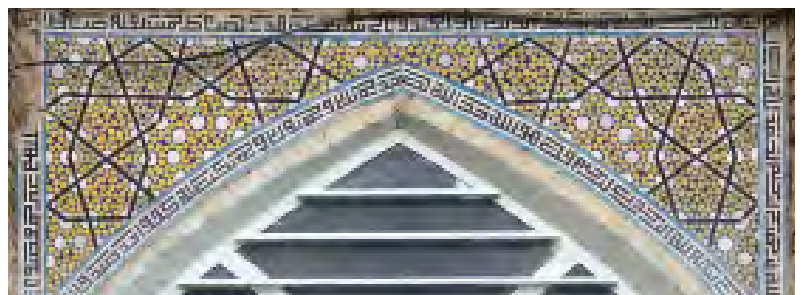
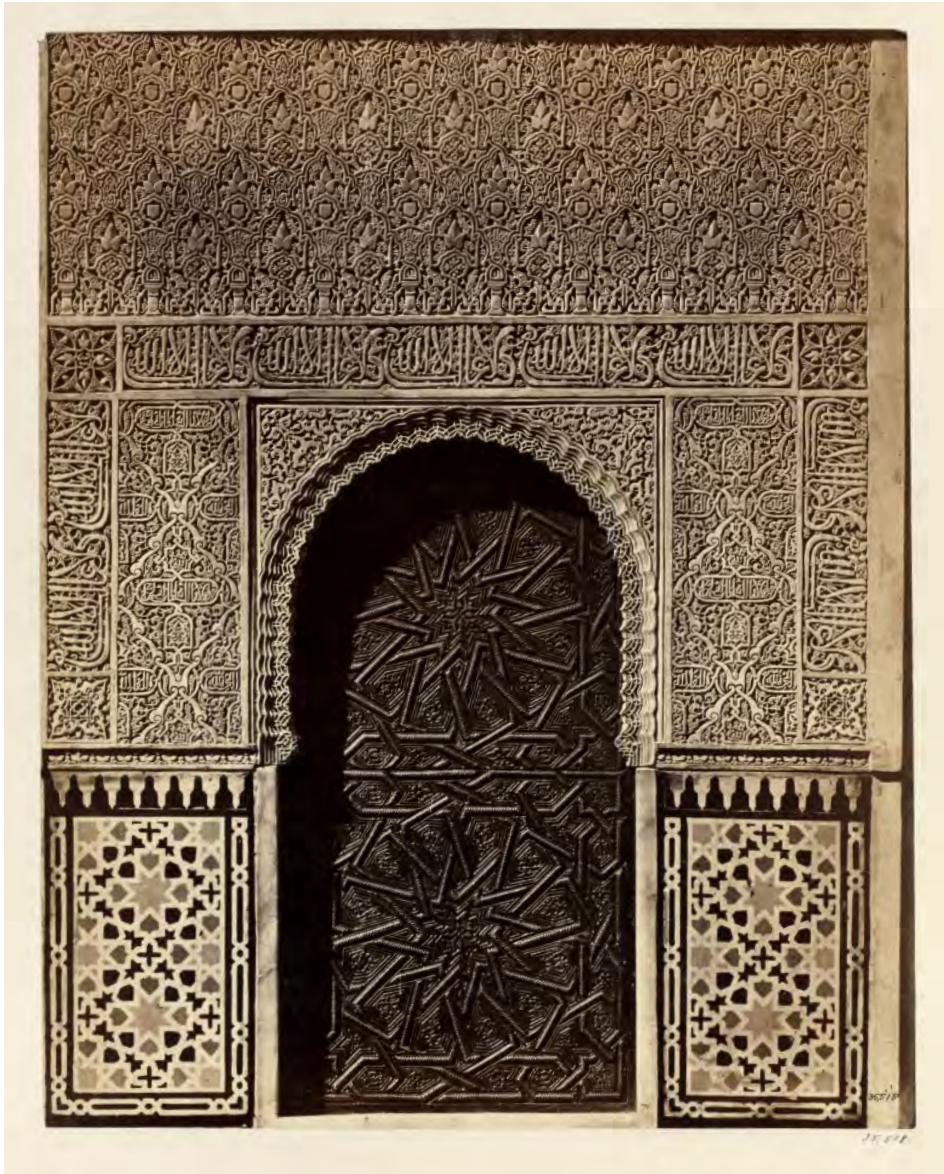
Whakapakoko (Madonna and Child)
c. 1840
Attributed to Pataromu Tamatea, Te Arawa

Head representing ruler
Ife, Nigeria, Yoruba people, c. 14th–15th century

Figure
Nok, Nigeria, 400 BCE – CE 200

Mask-shaped hip pendant
Benin, Nigeria, 16th century







However, not all the patterns that fascinate us are natural. We also love abstractions—patterns of patterns: from straight lines engraved on mussel shells half a million years ago or a child’s first compulsive drawings of circles to the geometric glories developed under restrictions against representation in Islamic arts. Such design provides another super-stimulus, this time to a part of the brain’s visual cortex that sorts out lines and their orientation, early in the chain of visual processing.³¹ Little wonder that geometric abstraction has taken so many forms. Straight lines and dots can be combined in so many ways that culture after culture has developed characteristic arrays of such patterns closely tied to their group identity, for example, the simple string lines of Jomon culture, the delicate cross-hatchings of Lapita pots, the circle-and-line combinations of Anasazi culture or the Zapotec stone fretwork in Mitla. Contemporary Tongan artist Filipe Tohi endlessly reinvents, in multiple 2D and 3D media, the simple patterns formed by the taut string—mere crossed straight lines—of traditional Tongan lashings.

Photograph of the Alhambra—Gate in the Hall of Justice
1859
Charles Clifford

Girih tiling on an interior archway at Yeşil Cami, the Green Mosque of Mehmed I
Bursa, Turkey, 1424

Girih tiling on a spandrel at the shrine of Darb-e Imam
Isfahan, Iran, c. 1453

Zapotec stone fretwork
Mitla, Oaxaca, c. 1200 CE

31 Vilayanur S. Ramachandran & William Hirstein, 'The science of art: a neurological theory of aesthetic experience', *Journal of Consciousness Studies*, vol. 6, 1999, pp. 15–51; Derek Hodgson, 'Understanding the origins of Paleart: The neurovisual resonance theory and brain functioning', *Paleoanthropology*, 2006, pp. 54–67; Jan Verpooten & Mark Nelissen, 'Sensory exploitation', p. 205.



Play

Most, perhaps all, vertebrates play. Play trains animals in behaviours, like flight and fight, that they especially need in moments of urgency. It allows them to experiment and extend skills and moves during non-urgent moments. Because repeated, fully engaged practice develops better responses in critical encounters, play has become part of the repertoire of species after species, despite the costs it incurs in time, energy, and the greater risks of injury or predation. Those animals more inclined to rehearse behaviour in non-urgent contexts fared better on average than those less inclined, so that this inclination deepened and became established as play, as irresistibly self-motivating, as *fun*. Humans play physically, but our great advantage over others is not in speed, strength or agility, but in our intelligence. We therefore have also the cognitive play with pattern that we call art.

Because humans are highly social, we naturally provide one another with greater security for play than most other species, and more chances to learn ways of playing from others. Children play compulsively not only physically but also with patterns, shapes and sounds using make-believe games and stories, often picking up cues from their social environment through instruction or mere exposure, like the Surma girls photographed by Carol Beckwith and Angela Fisher enjoying their patterns of body decoration.³²

Adults as well as children make toys that appeal to children's fascination with pattern, contrast, shape and sound; and they tell stories or create nursery rhymes that appeal to children's love of play and pattern. Dr. Seuss's *The Cat in the Hat* offers an invitation to play in its story and every feature of its telling. The appeal of play can make the avant-garde—often uninviting to non-experts—open to all, as seen in the films of Len Lye, the installations of Kusama, and the graffiti-cum-graphic art of Keith Haring.

Montreux Jazz Festival poster
1983
Keith Haring

Surma children with body paint
Carol Beckwith and Angela Fisher

³² Art's connection with play was first discussed at length in Friedrich Schiller's *On the Aesthetic Education of Man in a Series of Letters*, 1794. It has been emphasised by Ellen Dissanayake, from her 'A hypothesis of the evolution of art from play', *Leonardo*, vol. 7, 1974, pp. 211–17, to *What Is Art For?*, *Homo Aestheticus: Where Art Comes from*

and *Why*, and *Art and Intimacy: Where the Arts Began*, University of Washington Press, Seattle, WA, 1988, 1995, 2000 respectively, and by Francis Steen & Stephanie Owens, 'Evolution's pedagogy: An adaptationist model of pretense and entertainment', *Journal of Cognition and Culture*, vol. 1, 2001, pp. 289–31.

Control

Control might seem the reverse of play. But in play and games we expose ourselves to uncertainty, often exuberantly, within a safely demarcated space and time, precisely in order to develop control. Control is a prime aim for any organism, the antithesis of the panic and peril of helplessness.

Art can emphasise control over the uncertainty of life and show the human power to shape things on our own terms.³³ Lullabies around the world allow mothers to reassure infants that, despite the dangers of the dark, those looking after them can direct what happens, shaping sounds and taming time in reassuringly gentle and protracted patterns. Music in general, by its sustained repetitions and the modulations of the patterns it establishes, affirms our human command over slices of time.

If pattern allows us to understand much of the buzzing, blooming confusion of the information around us in real time, narrative, especially, offers ways for our minds to automatically integrate pattern upon pattern, to understand what has happened and what might happen next. Patterns of location, object, kind, situation, personality, emotion, intention, action and reaction let us infer much about what is happening from very little, as in the deliberately inartistic film that psychologists Fritz Heider and Marianne Simmel made to demonstrate just how far, and how fruitfully, patterns (here shape, size, movement, stasis, similarity and difference) can prompt us to leap beyond the evidence yet land on target.³⁴

Like a rollercoaster hurtling down a track as if to danger, fiction repeatedly plunges us into uncertainties, only to show that they can be resolved. We may come away from the story with trembling limbs and pounding hearts, but we remain unscathed. We fear, though, that *death* offers no safe end. It threatens us ahead as our ultimate loss of control, when the environment, and decay, can do what they will with us and we are powerless to resist. A whole psychological subfield, Terror Management Theory, argues that much of our motivation and action consists of attempts, often unconscious, to manage the terror of death.³⁵ Both artists of all kinds and the owners of artworks (whether communities or private collectors) have long sought immortality through art. For a chillingly wry modern take on death and the immortality of art, see Art Spiegelman's introduction to *MetaMaus*.³⁶

Costs and benefits: Cumulative culture

Explanations of art as adaptation or by-product, and even explanations by way of sexual selection for good genes, are required to show that the benefits—in strict neo-Darwinian terms, benefits in terms of the spread of genes—outweigh any cost. But art as coevolved signals and preferences need not produce benefits to become a reliably inherited system. Nevertheless, any such system may produce benefits that can cause it to move in non-arbitrary directions:³⁷ Beneficial effects to individuals or groups, to artists or audiences, 'might influence the evolution of art on a secondary level', and, crucially, they may also change over time and circumstance.³⁸

33 This aspect of art is discussed in Ellen Dissanayake, *What Is Art For? Homo Aestheticus* and 'What art is and what art does: an overview of contemporary evolutionary hypotheses', in Colin Martindale, Paul Locher & Vladimir Petrov (eds), *Evolutionary and Neurocognitive Approaches to Aesthetics, Creativity, and the Arts*, Baywood, Amityville, NY, 2007, pp. 1–14.

34 Fritz Heider & Marianne Simmel, 'An experimental study of apparent behavior', *American Journal of Psychology*, vol. 57, 1944, pp. 243–59.

35 Sheldon Solomon, Jeff Greenberg & Tom Pyszczynski, *The Worm at the Core: On the Role of Death in Life*, Random House, New York, NY, 2015.

36 Art Spiegelman, *MetaMaus: A Look Inside a Modern Classic*, Pantheon, New York, NY, 2011. For a discussion of this introduction, see Brian Boyd, 'Experiments with experience: Consilient multilevel explanations of art and literature', in Joseph Carroll, Dan P. McAdams & Edward O. Wilson (eds), *Darwin's Bridge: Uniting the Humanities and Sciences*, Oxford University Press, Oxford, 2016, pp. 223–44.

Human art certainly involves costs to individuals and societies, in time, energy and resources, like the centuries, and the materials, it has taken to build some of the largest cathedrals.³⁹ Pinker sees art's costs; does art produce benefits, as he seems to deny? If cumulative culture has driven the multiplication of humans and their genes across the planet, has art played *no* part in that escalating growth?

This seems highly improbable. Indeed the fact that art exists across cultures suggests that it has benefits that outweigh the obvious costs, or at the very least that its costs can be easily borne by individuals and societies. But since its costs can be so high in terms of time, energy, and resources that could otherwise be used for immediately practical ends, it seems likely that if art did not offer more benefits than costs then, over tens of thousands of generations, individuals or societies would have emerged with a resistance to art and the costs it imposed.⁴⁰ Their advantageous immunity would have spread genetically or culturally to others, and costly and useless art would have ceased to characterise *Homo sapiens*. Manifestly, that has not happened: we live in a world ever more saturated with almost effortlessly available art.

Recent mathematical modelling suggests that the key to cumulative culture is not, as we might suspect, fresh invention, modification of existing forms, or new combinations of old forms, but rather the faithful transmission of cultural elements.⁴¹ Adaptations for language and for social learning (high cooperativeness, including cooperative breeding; improved understanding of other minds; imitation; teaching) have provided most of humanity's capacity for faithful transmission. But art has also helped pass on socially accumulated knowledge and skills: it has served as a kind of school long before schools existed.

For tens of thousands of years, deep and accurate knowledge of the kind eventually discovered through the sciences was not readily available. Yet local ecological, technological and social mastery could be passed on through the accessibility and memorability of story and through the appeal and impact of art. Even without science, we had ready ways to reassure ourselves about what we feared we might need to know. Beliefs that we understand hidden agent-like causes behind surface facts have for thousands of generations offered us a sense that we can tame some of the world's uncertainties. Religion may not have offered true answers, but it offered answers that at least allowed groups to function together with confidence.⁴² It arose from one art—storytelling—and drew on other arts most often in ritual, where practices that please us are assumed, therefore, to be pleasing to the agents posited by our religion.

37 Prum 'Coevolutionary aesthetics in human and biotic artworlds', p. 819; cf. also Jan Verpooten & Mark Nelissen, 'Sensory exploitation', p. 212: 'benefits are not prerequisite for art to evolve'.

38 Jan Verpooten & Mark Nelissen, 'Sensory exploitation', p. 212. Benefits to individuals and/or groups: cf. p. 207: 'benefits on any kind of unit of selection'. To artists and/or audiences: cf. p. 209: art 'may, however, subsequently be exapted by delivering benefits to art producers and/or experiencers'. Change over time: cf. p. 208: 'At certain times and places throughout human evolution, producing and experiencing iconic representations may have been neutral or even maladaptive, depending on specific conditions...It is a well-known fact in evolutionary biology that the evolutionary function(s) of

a particular trait often change substantially over time (cf. Reeve & Sherman, 1993); p. 212: 'one would expect adaptiveness to differ considerably in populations across time and place (cf. Reeve and Sherman, 1993)'. Hudson K. Reeve & Paul Sherman, 'Adaptation and the goals of evolutionary research', *Quarterly Review of Biology*, vol. 68, pp. 1–32.

39 Ernst Gosse, *The Beginnings of Art*, Appleton, New York, NY, 1897, was the first to see the fact that art is ubiquitous despite its high costs as a reason it might be adaptive. See also the work of Ellen Dissanayake, and Brian Boyd *On the Origin of Stories*.

40 Katja Mellmann, 'The multifunctionality of idle afternoons: Art and fiction in Boyd's vision of evolution', *Journal of Literary Theory*,

March 9, 2010, <http://www.jltonline.de/index.php/reviews/article/view/170/530>, objects that selection against art 'would have to eliminate the biological substrates'. No, it would only need to change human motivation to engage in art.

41 Hannah M. Lewis and Kevin N. Laland, 'Transmission fidelity is the key to the build-up of cumulative culture', *Philosophical Transactions of the Royal Society B*, 2012, vol. 367, pp. 2171–80.

42 See David Sloan Wilson, *Darwin's Cathedral: Evolution, Religion, and the Nature of Society*, University of Chicago Press, Chicago, IL, 2002, for an explanation of religion's being adaptive for its effects on social cohesion and social motivation, even if it generates untruths.



Y'KNOW, MAUS HAS HAD A FAR LARGER IMPACT IN THE WORLD THAN I EVER EXPECTED!



25 YEARS AGO I'D ONLY HOPED IT MIGHT BE DISCOVERED SOMETIME AFTER I DIED.



IT'S SWELL TO GET RECOGNITION... BUT IT'S KINDA HARD TO BE SEEN BEHIND A MOUSE MASK!



THE BOOK SEEMS TO LOOM OVER ME LIKE MY FATHER ONCE DID.



JOURNALISTS AND STUDENTS STILL WANT ANSWERS TO THE SAME FEW QUESTIONS...







In the First Peoples Gallery of the Melbourne Museum, an installation called *Bunjil's Wings* combines modern technology with the power of immemorial arts—story, song, music, sculpture, colour and movement—to retell the local Aboriginal origin narrative. It piles pattern upon pattern:

- light and colour and shape, as projected onto Bunjil's eagle wings;
- the haunting white ribs of the stylised wings themselves, still and moving, naturalistic and abstract;
- environmental, vocal, instrumental and electronic sounds;
- movement and dance.

Informing these stand the patterns in nature that the people of this area wove together into the Bunjil narrative in order to provide a sense of meaning and control within their world. The interplay between the story patterns, the sensory patterns of the sculpture, and the patterns of natural seasons and life cycles is so effective that visitors quite unfamiliar with the Bunjil narrative cannot help being deeply moved by its harmonies.

Art has worked in concord with belief, each feeding the other, for eons. *Bunjil's Wings* exemplifies this, not only in incorporating old modes but also in refreshing them in new forms (just as Renaissance painters incorporated what were then the most novel artistic techniques for the Christian stories in *their* traditional beliefs). Which steers us back toward the present.

Art has helped drive cumulative culture forward to a world where religion's dominant role within enclosed societies has given way to commerce and travel, to science and technology. Art provided much of the earliest impetus for trade and discovery. Before bulk transport, the first long-distance traders preferred portable prestige items like jewellery and tapestry.⁴³ The strongest early motive for chemistry was the search for new pigments to colour textiles and ceramics.⁴⁴ Among the earliest machinery of complex interlocking parts were warp-weighted looms, dating back to the Neolithic. Long before science had fully emerged, the arts taught us how to think in sustained ways beyond the here and now, and provided us with specific imaginative models, skills, techniques, and a confidence in exploring new possibilities. Even now the major drivers for the refinement of motion picture, audio, television and animation technology, computers and portable electronic devices have been fiction films, music and video games.

The core condition for cumulative culture—faithfully transmitting what a culture has already achieved—has now been solved not only by language and ritual, then further by writing and print, libraries and archives, but also by photography, film, sound recording, and digital storage and access. With transmission fidelity secure, the other motors of cumulative culture—innovation, modification and combination—can accelerate the pace of change, with the imaginative prompts of the arts constantly fuelling creativity.

OH, ROY, YOUR DEAD HIGH ART IS BUILT ON DEAD LOW ART!... THE REAL POLITICAL, SEXUAL AND FORMAL ENERGY IN LIVING POPULAR CULTURE PASSES YOU BY. MAYBE THAT'S SOB-WHY YOU'RE CHAMPIONED BY MUSEUMS!



HIGH ART LOWDOWN

(This review of the MoMA's "High & Low" show is not sponsored by AT&T.)

AT THE MO.M.A... I'VE SEARCHED HIGH AND LOW, CHIEF-ALL I SEE HERE IS THEIR PERMANENT COLLECTION.



THEY MADE MYOPIC CHOICES, NOT DARING THE RISKS THAT COME WITH A "RISKY" TOPIC!



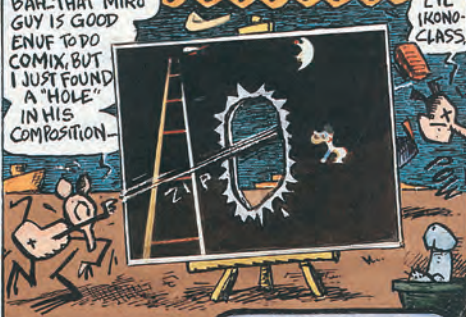
WELL, "MOUSIE," ANOINTED BY THE ARTWORLD AT LAST, EH? THOSE "CAKE EATERS," WE'RE A SAFE BET, PRAISED BY EVERYONE FROM E.E. CUMMINGS TO UMBERTO ECO--NOT TO SAY WE DON'T DESERVE IT, BUT...



EVEN WE ARE REDUCED TO BEING MERE FOOTNOTES IN THE HEROIC HISTORY OF PAINTING-- "HIGH N' "LOW" IS A QUESTION OF CLASS/ECONOMICS, NOT AESTHETICS.



BAH. THAT MIRO GUY IS GOOD ENUF TO DO COMIX, BUT I JUST FOUND A "HOLE" IN HIS COMPOSITION-- L'I'L IKONO-CLASS.



Believe It and Nod!



THIS POPULAR 1903 SUBWAY AD WAS YEARS AHEAD OF ITS TIME! NOT ONLY DID IT INSPIRE PABLO PICASSO'S FAMOUS PORTRAIT IN 1906, BUT IT THEREBY INFLUENCED AN ENTIRE GENERATION OF CARICATURISTS!!

GIANT OSTRICH IN NYC... LAYS A BIG EGG, BUT NOT VERY NOURISHING!



BRAIN TEASER SINCE ART IS A SUBSET OF CULTURE, HOW CAN YOU COMPARE APPLES AND FRUITS?!

\$700 A TICKET! GIVE IT TO THE HOME-LESS WHO LIVE RIGHT NEXT TO THE MOMA!

GRAFFITI, 1990. Blood on Brick, (28" x 52"). Anonymous. Note the powerful calligraphy.

CHOP SUEY. BORGES IMAGINED A CHINESE ENCYCLOPEDIA THAT DIVIDED ANIMALS INTO "A. BELONGING TO THE EMPEROR, B. EMBALMED, C. TAME, D. SUCKING PIGS, E. SIRENS, F. FABULOUS, G. STRAY DOGS, H. INCLUDED IN THE PRESENT CLASSIFICATION, I. FRENZIED, J. INNUMERABLE, K. DRAWN WITH A VERY FINE CAMEL HAIR BRUSH, L. ETC., M. HAVING JUST BROKEN THE WATER PITCHER, N. THAT FROM A LONG WAY OFF LOOK LIKE FLIES." THE HIGH AND LOW SHOW IS ORGANIZED AROUND SIMILAR PRINCIPLES!



MISSING!	
ART SPIEGELMAN	ALL HIS FRIENDS
JOHN HEARTFIELD	GEORGE GROSZ
MILT GROSS	JOSE POSADA
TOULOUSE-LAUTREC	VLADIMIR MAYAKOVSKY
HANS HAACKE	EDUARDO PAOLOZZI
JIM NUTT	KOMAR & MELAMID
REGINALD MARSH	THE WPA
FRANS MASEREEL	KENNY SCHARF
ETC, ETC., ETC.	YOUR NAMES HERE
HARVEY KURTZMAN	ALL OF CINEMA
CINDY SHERMAN	BARBARA KRUEGER

© 1990 art spiegelman

If art has new benefits within cumulative culture, it may also have new costs. The supersaturation of compulsively attention-engaging and time-consuming narrative arts, in fiction, television, film and video games, might unleash an epidemic of cultural diabetes in the undisciplined or provide, for too many, an illusion of social connection that only intensifies actual isolation.

Art has some costs, but to deny its many benefits seems to ignore what it was and is, what it did and does.

END POINTS: REPLAY



Why Comics?

An explanation of the origins of art that does not help explain art—its artiness, compulsiveness, playfulness, sociality and humanness, and its full range, from simple beginnings to the modern panoply, and the dynamics of the emergence of new arts and new works—would seem sadly deficient. I want in this section of the essay and the exhibition to focus on one art, comics; and one comics artist in particular, Art Spiegelman.

Why a special focus, late in the piece, on comics? Six reasons:

- ① We cannot spotlight precisely the origins of our major modes of art, but we *can* pinpoint the origins of one pervasive and popular art form. Comics have precursors stretching all the way back to cave art, but they were born as a distinct art form in the 1890s and allow us to zoom from their origins to the creation of masterpieces in a decade and to the avant-garde within only a few decades more.
- ② Comics combine features of three of the major modes of art: visual, verbal and narrative. Of course other arts, like opera, musicals and music videos, also combine modes. But while most narrative arts are hard to represent in an art exhibition, comics often tell stories that can be gulped down at a glance.
- ③ Comics allow us to see pattern, play and control with special clarity, as well as three other terms essential to my account of art: attention, costs and benefits.
- ④ Evolutionary accounts of the arts have often been dismissed as unable to address anything but human universals. Although people read comics everywhere, no one mistakes them for a human universal.
- ⑤ Comics have a reputation as a ‘low’ form of art, or, in the 1950s, were not considered art at all but a putrid threat to the minds and morals of American children. Evolutionary approaches to art are sometimes accused of focusing exclusively or mainly on high art. The prime focus of the comics section in my part of the exhibition, Art Spiegelman, a child in the 1950s when comics were so often deemed lower than low, reveres, ridicules and riffs on high and low art alike, gleefully producing his own ‘high’ art within a ‘low’ form.
- ⑥ If we can explain art as the coevolution of signals and the audience’s aesthetic preferences, Richard Outcalt, the founder of modern comics, offers a perfect specimen, as we will see, and Spiegelman a typical and

FIRST CHAMPIONSHIP GAME OF THE HOGAN'S ALLEY BASEBALL TEAM.



THE YELLOW KID MAKES A CENTURY RECORD.



a special case. Many great artists grow up as passionate audiences of their favourite art, developing their own spectrum of preferences that will later shape their work. Spiegelman documents the personal origins of his art in exuberant comics (how else?), such as *A Portrait of the Artist as a Young %@&*!*. Like other great artists, he then sets out in his own mature work to reshape audience preferences, not only as a creative artist, not only in comics, but also as critic and analyst (in comics or prose), as historian, memorialist, obituarist,⁴⁵ and by reaching out to young children or to crossover audiences in dance, music and architecture.

Comics: Origins and Ends

I have called art cognitive play with pattern, in the service of control. All these features will be readily apparent in the comics you know or discover here. Comics also illustrate three other terms I have emphasised here and elsewhere: *attention*, *costs* and *benefits*.⁴⁶

By appealing to coevolved preferences, artists can command the attention of vast audiences. But to hold attention, in face of the pressing demands of everyday life and the competitive market for leisure time, and to retain it through a long work or a long series, requires careful crafting and fresh invention. Since our brains cease to respond to prolonged or repeated stimuli, artists, aiming at the attention without which art dies, need to provide continual novelty.⁴⁷

But the degree and the nature of the novelty depend on the balance of costs and benefits. Comics began in 1895 as *play*, with Richard Outcault's madcap tableaux of children causing mayhem in New York's rougher neighbourhoods, as seen in *Hogan's Alley*.⁴⁸ Outcault paved the road to comics by appealing to our preferences for rapid visual and verbal information and for humour, especially our indulgent humour at the antics of children.

But his comic panoramas of New York life pack within a single frame so many different ideas, pratfalls, and absurd childish deformations or subversions of adult ways, that they can be exhausting to read. Each part of the picture rewards our attention, but the effort of searching for the next details to focus on, and then the next, with no sense of progression, demands too much. Outcault dropped the comprehension cost and upped the appeal of his tableaux by introducing *The Yellow Kid*, whose central position, bright colour, jug ears, irrepressible smile and direct address to us—often in words written on his absurd tunic—rapidly made him an attention anchor and an audience favourite. When Outcault helped sales of Joseph Pulitzer's *New York World* climb, William Randolph Hearst swiftly poached him for the *New York Journal*. There Outcault slowly developed sequential frames, creating one core element of modern comics, but others overtook him in the other key innovation: speech bubbles. By the end of 1897 he found himself usurped in the market for attention by the lower-attention-cost mayhem of Rudolph Dirks's *Katzenjammer Kids*. Audience preferences had evolved faster than the first comics artist.

First Championship Game of the Hogan's Alley Baseball Team
1896

Richard F. Outcault

The Yellow Kid Makes a Century Record
1897

Richard F. Outcault

45 See for instance, Spiegelman's 'A Furshlugginer Genius', *New Yorker*, 29 March 1993, a moving obituary of Harvey Kurtzman, and his 'Abstract Thought is a Warm Puppy', *New Yorker*, 14 February 2000, composed as Charles Schultz was dying; both reproduced in Spiegelman, *Co-Mix: A Retrospective of Comics, Graphics, and Scraps*, Drawn and Quarterly, Montreal, QC, 2013.

46 See Brian Boyd, *On the Origin of Stories*, 2009, and Brian Boyd, 'Art and evolution: The avant-garde as a test case: Spiegelman in *The Narrative Corpse*', *Philosophy and Literature*, vol. 32, 2008, pp. 31–57.

47 See Colin Martindale, *The Clockwork Muse: The Predictability of Artistic Change*, Basic Books, New York, NY, 1990.

48 See Brian Boyd, 'On the origins of comics: New York double-take', *The Evolutionary Review: Art, Science, Culture*, vol. 1, 2010, pp. 97–111.



The Katzenjammer Kids Could Not Tell a Lie.

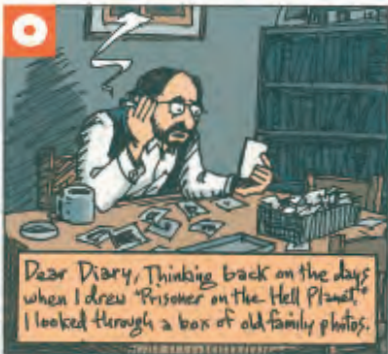
Copyright, 1906, by W. R. Hearst. Great Britain Rights Reserved.



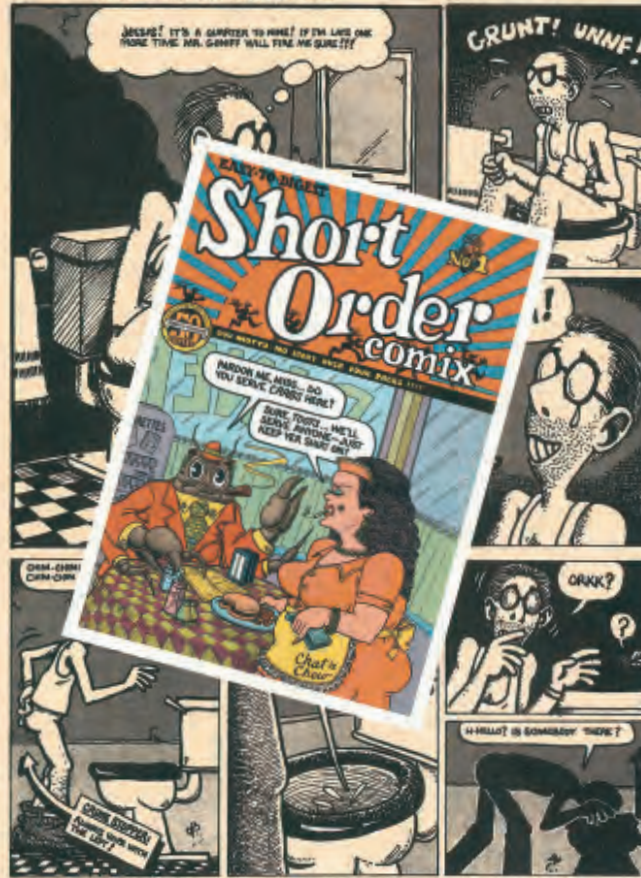
Artists and audience preferences continued to coevolve comics, honing their language, their visual vocabulary and syntax. As daily strips, comics could soon offer near-instant benefits for near-zero costs: familiar characters and situations, from *The Katzenjammer Kids* to *Calvin and Hobbes*—a swift story quickly surprising even well-oiled expectations and resolving them with a laugh, all for mere seconds of attention. No wonder comic strips at their peak earned hundreds of millions of readers.

Spiegelman rouses laughter, but not easy laughs, and often uneasy ones. He was prepared to pay higher costs for richer artistic rewards in his increasingly experimental comics of the 1970s, such as *Don't Get Around Much Anymore*, but as his experiments pushed on, his audience shrank. He decided to aim at a wider readership, and to tell the story that loomed over his family: his parents' attempts in German-occupied Poland to elude Auschwitz. The result was the two-volume graphic novel *Maus*, whose success outstripped even his ambitious expectations. Here he subverted the tradition of cute comics mice by portraying Jews as mice and Germans as cats, turning the Nazi characterisation of Jews as vermin inside out, since in every frame, the mouse-Jews are unmistakably, utterly human. Seeking to alter the audience for adult comics, Spiegelman was ready to pay extraordinary composition costs to lower the attention costs and challenges for his readers. He succeeded in giving his work a mainstream feel and accessibility, despite the originality in every visual, verbal and narrative choice.

By September 11, 2001, Spiegelman was the most lauded comics artist there had ever been. His daughter was at school near the World Trade Center when the planes slammed into the towers. He rushed to bring her home, and for years remained in a panic of paranoia as he tried to cope with his experience and with America's, and its president's, pugnaciously paranoid response to the attacks. He sought calm in the comics published in New York at the time its first skyscrapers were constructed, *The Yellow Kid* and *The Katzenjammer Kids*—in the heritage, that is, of the art that his city had spawned. Because of his fame, he could now expect an audience prepared to pay attention and comprehension costs much higher than those of *The Yellow Kid* itself. He created *In the Shadow of No Towers* to be as fractured, disturbing and assaulting as its subject. By returning to the origins of comics, he could showcase how his chosen form could serve unforeseen new ends. Spiegelman gives full scope to the radical uncertainties of his world, but at the same time he affirms the control he can find through his art, and he offers the lasting heritage of creativity in his art and his city against the destructiveness of 9/11.



WHEN WALTER COONS SPOKE, HOLLAND LISTENED! BY BEACHES 13 YEAR OLD GIRLS WOULD ROCK SAND IN HIS FACE? HE WAS JUST AN INCOMPETENT WIMP... JUST ANOTHER REGRESSIVE...
JUST A PIECE O' SHIT!
 ...BUT ALL THIS MORE ABOUT TO COME!!!... PAGE 10 OF 247



* "Just a Piece o' Shit" (a four-page story about a talking turd), an aptly named specimen of the artist's early work. Inset: His cover for the underground comic where it and "Prisoner on the Hell Planet" were both first published.





Portrait of the Artist as a Young %@&! 2008 Art Spiegelman

Don't Get Around Much Anymore 1973 Art Spiegelman



THE NEXT DAY CAME IN TWO GIRLS CARRYING FOOD. WITH THEM CAME HASKEL, A CHIEF OF THE JEWISH POLICE.

THE TWO GIRLS HE SENT BACK TO THE KITCHEN.

(LOOK, VLADEK. I CAN GET YOU AND YOUR WIFE OUT- EVEN YOUR NEPHEW. BUT YOUR IN-LAWS ARE TOO OLD. THEY'LL NEVER GET PAST THE GUARDS.)

PLEASE! WE'LL MAKE IT WORTH YOUR WHILE.

QUICK, BOY. GRAB THIS EMPTY PAIL AND CARRY IT OUT WITH ME.



FROM THE WINDOW WE SAW LOLEK GO.

MY GOD, VLADEK...

YOU MUST GET MATKA AND ME OUT TOO. GIVE YOUR COUSIN THIS GOLD WATCH, THIS DIAMOND- ANYTHING!

OF COURSE I-I'LL DO EVERY-THING I CAN.

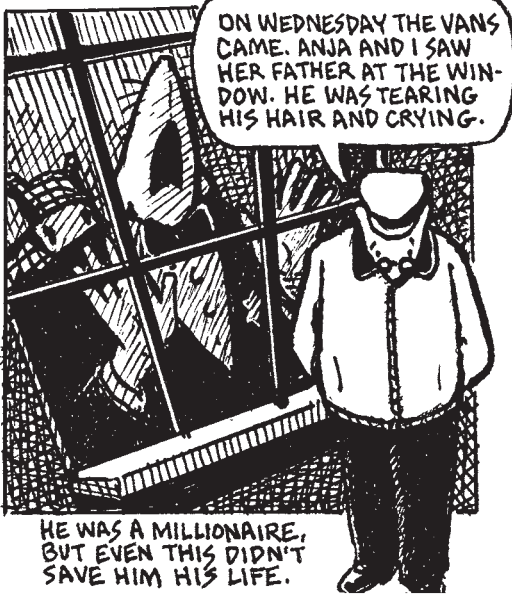


THE DAY AFTER, ANJA AND I CARRIED PAST THE GUARDS THE EMPTY PAIRS.

ON WEDNESDAY THE VANS CAME. ANJA AND I SAW HER FATHER AT THE WINDOW. HE WAS TEARING HIS HAIR AND CRYING.

HASKEL TOOK FROM ME FATHER-IN-LAW'S JEWELS. BUT, FINALLY, HE DIDN'T HELP THEM.

HE WAS A MILLIONAIRE, BUT EVEN THIS DIDN'T SAVE HIM HIS LIFE.





IN THE SHADOW OF NO TOWERS

SYNOPSIS:
In our last episode, as you might remember, the world ended...

REVEALED: 19TH CENTURY SOURCE FOR 21ST CENTURY'S DOMINANT METAPHOR!



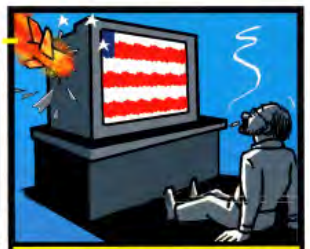
My wife, my daughter and I are rushing from the bomb site. We hear a roar, like a waterfall, and look back. The air smells of death—



Those crumbling towers burned their way into every brain, but I live on the outskirts of Ground Zero and first saw it all live—unmediated.



Maybe it's just a question of scale. Even on a large TV, the towers aren't much bigger than, say, Dan Rather's head...



Logos, on the other hand, look enormous on television; it's a medium almost as well suited as comics for dealing in abstractions.

Many months have passed. It's time to move on... I guess I'm finally up to about September 20th.

I still see the glowing tower, *Awesome* as it collapses—

Okay! Let's say it's *NOT* September anymore...

I'm hunched over the drawing table in my Lower Manhattan studio, with my fingers tightly crossed...

I was sure we were going to die! I've always *sorfa* suspected it, but that morning really convinced me...

...It's hard to hold a pen this way...

...but I'd feel like such a jerk if a new disaster strikes while I'm still chipping away at the last one...

19/11/01-2/15/02
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EXIT

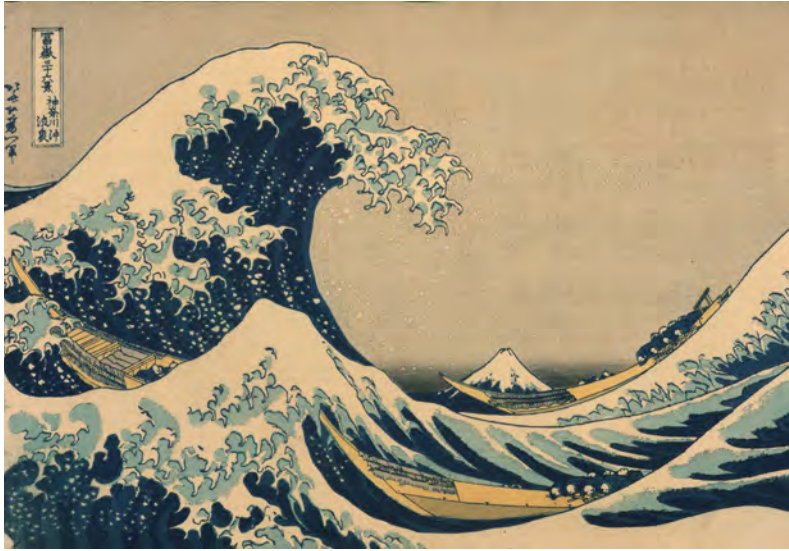
I began with an artist who has recently appealed more than any other to museum and gallery visitors around the world. I will end with her compatriot, Katsushika Hokusai, and with the most famous image of non-western art. Hokusai was astonishingly prolific, right into his ninetieth year. What makes *The Great Wave off Kanagawa* stand out so much, not only from a portfolio packed with masterpieces but from all Japanese and even world art?

Here Hokusai marshals pattern with unprecedented aplomb to engage our attention and emotions in a flash. We may call waves mountainous, but this wave threatening to engulf the fishermen dwarfs not only their frail skiffs but even Mount Fuji, Japan's tallest and proudest peak. The artist hurtles us into a moment of tension, as if we were right there with all these lives held in desperate balance. The stakes are high, the comprehension costs low, the impact immediate—including the delayed impact of the wave that, in the world controlled by his art, never actually falls.

But for all its immediate impact, Hokusai's art also *plays* with its patterns and rewards our lingering attention to his craft. Perhaps on seeing this for the first time, and not knowing it is one of his 'Thirty-six Views of Mount Fuji', we might even mistake the blue-and-white peak in the distance for another wave, like the smaller one to the left, below the Great Wave. The eyes first zoom in, after all, on the imminent threat, the giant wave about to crash on the boats, its froth like the innumerable claws of a merciless predator. Even a Japanese viewer, seeing the print for the first time and out of context, might need to do a double-take to distinguish Fuji between wave and wave, before feeling the magnitude of the Great Wave amplified still further by its towering not just over the boats but over the mountain itself. For those who know the whole 'Thirty-six Views', the print stands radically at odds with the serene reassurance that Fuji provides in the rest of the series and throughout Japanese landscape tradition. Hokusai's originality of composition engulfs us in wave after rapid wave of recognition.

All the same, the playful echo of one natural pattern with another, like that of Fuji and the smaller wave, also pays homage to a standard device of Japanese pictorial art, not least Hokusai's own. Take, for instance, one of the masterpieces of his ninetieth year, *Tiger in the Snow*, where the puffy, snow-laden fir branches and their protruding needles smilingly echo the claws and soft paws of the smiling tiger. The tiger's stripes on a densely muscled body have turned into fluffy outlines of seemingly weightless cushiony shapes that echo the snow puffs on the branches.⁴⁹

Back in the world within *The Great Wave*, chaos threatens, but in the print, all is control: the great sweep of the waves on both sides cupping Fuji, the curves of their slopes echoing one another and repeated in the curvilinear boats; the circles of white spray from the Great Wave echoing the round, white heads of the fishermen rowing for dear life. The blue-and-white palette, evoking the blue and white so characteristic in Japanese textile design, and in the distance disguising and disclosing Japan's most revered landscape icon, pits human order and national culture against hostile nature. Hokusai confronts us with



the abrupt uncertainties of life, but he also invites us to discover more and more of the play with pattern that allows art to stand a little outside life, to exert control on our terms even in a world that we have not made and that will one day utterly unmake us.

Great Wave off Kanagawa
from the series 'Thirty-six Views of Mount Fuji'
c. 1830–32
Katsushika Hokusai

Old Tiger in the Snow
1849
Katsushika Hokusai

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