

NATURAL HISTORY

Of plumes and plunder

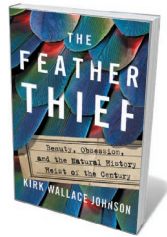
Stuart Pimm on the tragic tale of a hobbyist, a heist and a natural-history collection.

I'll never forget my first sight of a bird of paradise. On a hike in the central highlands of New Guinea one morning, I found an exquisite blue *Paradisaea rudolphi*, hanging upside down, puffing up its feathers, swaying and calling loudly. The birds' very names allude to the sixteenth-century assumption that their exotic feathers — and the lack of feet on skins that made it to Europe — showed that they were celestial beings. Founder of taxonomy Carl Linnaeus knew two species. He followed the myth, naming the greater bird-of-paradise *Paradisaea apoda* (*apoda* meaning 'without feet'). Naturalist Alfred Russel Wallace delivered the first scientific accounts of their behaviours in his 1869 book *The Malay Archipelago*. (Fellow Victorian scientist and ornithological artist John Gould named one species *Semioptera wallacii*.) And who can fail to be enthralled by David Attenborough's BBC films of their otherworldly displays?

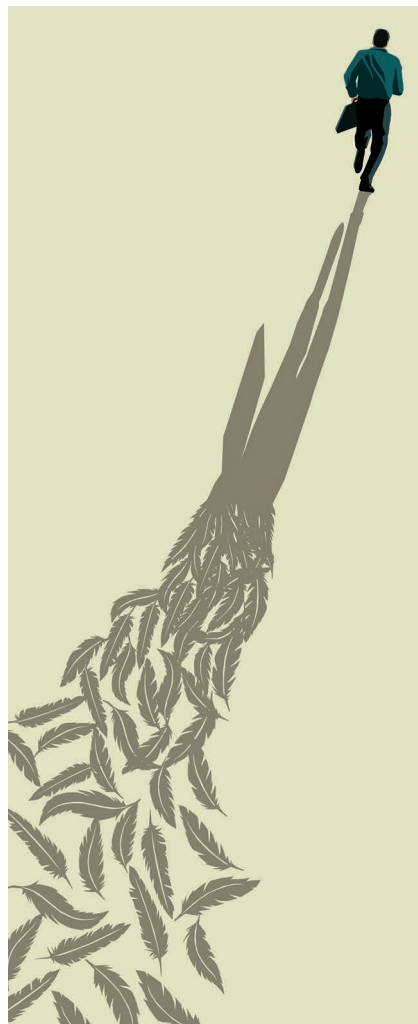
Given all that, it's appalling that museum specimens of these birds — including a number collected by Wallace — were stolen and plucked, and their unique associated data discarded. The culprit was Edwin Rist, practitioner of an arcane art: recreating Victorian ornamental salmon-fishing flies using rare feathers. That heist lies at the core of *The Feather Thief*, in which investigative writer Kirk Wallace Johnson recounts his quest to retrieve what remained of those specimens. Johnson's book also probes how the human yen for the exotic can in some cases harm species and what we know about them.

In June 2009, Rist, a 21-year-old US flautist then studying at the Royal Academy of Music in London, broke into the Natural History Museum's collection at Tring. He came away with 299 stuffed skins of brightly coloured birds, including birds of paradise, showy species of cotingids and quetzals. Rist sold some of the stolen feathers and skins, and used others for his own creations.

Johnson's interest in the story arose from



The Feather Thief: Beauty, Obsession, and the Natural History Heist of the Century
KIRK WALLACE JOHNSON
Viking (2018)

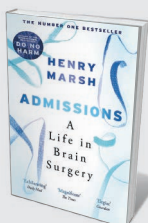


his own devotion to fly fishing. He took up the sport as respite from emotionally draining work helping Iraqis who had worked with US development agency USAID to relocate to the United States. Johnson writes of his fishing reveries: "Out in the river ... five hours would pass in what felt like thirty minutes." One day, his fishing guide told him about Rist and the community devoted to Victorian fly-tying.

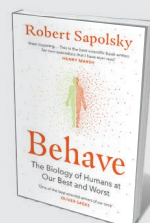
When I got to this part of the book, I needed help. My friend David Blinken is a professional fly-fishing guide on Long Island, New York (strictly catch and release). His understanding of fish natural history and behaviour is impressive, exceeded only by his ability to show even me how to catch fish. "Isn't the point of tying a fly to imitate whatever insect is on the water that day? Doesn't entomology matter?" I asked. Blinken replied: "Atlantic salmon are thinking only of reproduction and strike at gaudy objects reflexively. The flies aren't meant to resemble any insect."

I surmised that a salmon fly is so time-consuming to make that it might seem too precious to lose. Blinken said that I had guessed correctly. "Many will never get wet. Most are cherished works of art, enjoyed by a passionate group of collectors at the fringe of the fly-tying community. Attention to historical methods, style and detail are paramount."

As Johnson reveals, these enthusiasts revived the craft and formed an online community in the late twentieth century. Rist was involved from his early teens, recreating classic flies as a student and then a teacher. One fly might include the 'period-specific' feathers of the golden pheasant (*Chrysolophus pictus*) from China, the red-ruffed fruitcrow (*Pyroderus scutatus*), macaws and the plum-throated cotinga (*Cotinga maynana*) from South America, along with feathers of domesticated birds, such as chickens. But many of the wild birds are rare or endangered, and supply has dwindled to sources such as Victorian feather hats or moulted plumage from zoos. Traded feathers are hugely expensive. ▶



Admissions: A Life in Brain Surgery
Henry Marsh WEIDENFELD & NICOLSON (2018)
In this unflinchingly honest memoir, retired neurosurgeon Henry Marsh seamlessly intertwines his life experiences and surgical career. He reflects on both what he has learned by probing the brain, and our limited knowledge of mind, from emotions to consciousness.



Behave: The Biology of Humans at Our Best and Worst
Robert Sapolsky VINTAGE (2018)
Neurobiologist Robert Sapolsky tackles the question of why we behave in the ways we do — whether commendably or despicably. He explores the biology of violence, and examines what it can teach us about altruism.

► (My quick check online showed that pairs from three species of cotinga sell for US\$25 to \$45. I easily found feathers on sale from birds on the International Union for Conservation of Nature's Red List of Threatened Species.)

US thief Willie Sutton allegedly said that he robbed banks because “that’s where the money is”. Museums are where the feathers are. In July 2009, senior curator Mark Adams found the drawers with missing specimens; 16 months later, Rist was caught. He pleaded guilty to burglary and money-laundering. The court fined him £125,150 (US\$200,000 at the time), of which he had about 10%. He also got a mere 12-month suspended sentence, owing to a diagnosis of Asperger’s syndrome (an autism spectrum disorder).

Of the 299 skins stolen, police retrieved only 102 with the labels intact. More had been stripped of the essential data that such labels provide, and 106 were missing. Johnson’s exhaustive sleuthing tracked down some feathers in 2016, but nothing more.

Museum specimens are a unique, contextualized archive, as Robert Prys-Jones, a scientific associate at the Natural History Museum, makes clear in the book. They hold information about where and when species lived, who collected them and perhaps why; and they can be studied for visual and genetic clues. But after interviews with individuals in the fly-tying community, Johnson feels that only some are horrified by the theft. His investigations revealed that the bulk of the birds “dissolved into the bloodstream of the feather underground”, some realms of which seemed to trade in endangered species and flout the Convention on International Trade in Endangered Species of Wild Fauna and Flora. As Blinken told me, the art can become “a pursuit of perfection so intoxicating that its practitioners lose all sense of ethics”.

The Feather Thief is a riveting read. It also stands, I believe, as a reminder of how an obsession with the ornaments of nature — be they feathers, bird eggs or ivory — can wreak havoc on our scientific heritage. ■

Stuart Pimm is professor of conservation at the Nicholas School of the Environment at Duke University in Durham, North Carolina, and directs the non-profit group *SavingsSpecies*, www.savingspecies.org. He tweets at @StuartPimm. e-mail: stuartpimm@me.com



PHYSICS

Stop all the clocks

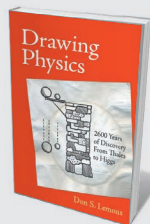
Andrew Jaffe probes Carlo Rovelli’s study arguing that physics deconstructs our sense of time.

According to theoretical physicist Carlo Rovelli, time is an illusion: our naive perception of its flow doesn’t correspond to physical reality. Indeed, as Rovelli argues in *The Order of Time*, much more is illusory, including Isaac Newton’s picture of a universally ticking clock. Even Albert Einstein’s relativistic space-time — an elastic manifold that contorts so that local times differ depending on one’s relative speed or proximity to a mass — is just an effective simplification.

So what does Rovelli think is really going on? He posits that reality is just a complex

network of events onto which we project sequences of past, present and future. The whole Universe obeys the laws of quantum mechanics and thermodynamics, out of which time emerges.

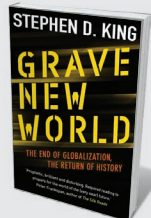
Rovelli is one of the creators and champions of loop quantum gravity theory, one of several ongoing attempts to marry quantum mechanics with general relativity. In contrast to the better-known string theory, loop quantum gravity does not attempt to be a ‘theory of everything’ out of which we can generate all of particle physics and gravitation. Nevertheless, its agenda



Drawing Physics

Don S. Lemons MIT PRESS (2018)

For millennia, drawings have elucidated chewy concepts in physics, providing a “pre-mathematical picture of reality”. Don Lemons delves into the archive for powerful sketches representing ideas and results from Isaac Newton’s colour theory to the Higgs boson.



Grave New World: The End of Globalization, the Return of History

Stephen D. King YALE UNIV. PRESS (2018)

Economist Stephen D. King’s analysis of globalization is searing and timely, offering historical lessons on how political narratives that abandon the global agenda, such as Brexit, threaten our economic order.