

Science in culture

The sound of extinction

Poets and scientists join forces in the name of conservation.



Peter Bennett

"They've made it again, which means the globe's still working," wrote the poet Ted Hughes about the arrival in Britain of swifts in May. The dawn chorus has similarly inspired poets for centuries.

In *Silent Spring*, Rachel Carson warned of the dangers that pollution, especially persistent pesticides, posed to the environment. First published in 1962, the title still resonates, a powerful evocation of a world where the changing seasons are devoid of birdsong. The book was a bestseller and helped to galvanize the environmental movement of the 1960s and 1970s into successfully demanding legislation to control pesticide use. The current imperative for conserving biodiversity, one of the greatest challenges of the twenty-first century, has its roots in the notions of personal responsibility and action advocated by Carson.

The fortieth anniversary of the book's publication inspired a new collection of poems, *Wild Reckoning: An Anthology Provoked by Rachel Carson's 'Silent Spring'*, edited by John Burnside and Maurice Riordan (Calouste Gulbenkian Foundation, 2004). Unusually, poets have worked together with scientists in its gestation. I was one

of the scientific advisers, to poet Simon Armitage, who shared my concern over the fate of the blue macaws, a group of four magnificent bird species on the brink of extinction. I was fortunate to observe hyacinth macaws feeding on palm nuts in the Pantanal region of Brazil in 1988. They left a deep impression. The plight of the Spix's macaw — the last wild bird (above) disappeared in 2000 — is a notorious example of how the unsustainable collecting of wildlife can threaten a species' survival. We discussed these issues in front of the hyacinth macaw flight at London Zoo.

When Simon sent me his contribution to the anthology, he explained: "It's written almost as a parable. The scene is a boundless cornfield, being threshed in an ever-decreasing circle. It depicts what used to be known as the tragedy of the commons, i.e. the overuse of freely available land until no value remains. In agricultural folklore, the fertility goddess was said to hide in the last few stalks of corn at the end of cropping. Childless couples would be offered the chance to throw the scythe at the stalks, then make from them a corn dolly. In the poem, a bird suddenly breaks from this last clump of corn. The bird is very much out of context and out of colour with its

surroundings — a blue macaw, miles from home — and terrifies the gleaners because it is the last of its kind in the world. A horrible omen. A symbol of infertility and extinction."

Here's his poem:

The Final Straw

Corn, like the tide coming in. Year on year,
fat, flowing grain, as it had always grown.
We harvested clockwise, spiralling home
over undulations of common land
till nothing remained but a hub of stalks
where the spirit of life was said to lurk.

So childless couples were offered the scythe —
the men invited to pocket the seed,
the women to plait dolls from the last sheaf.

But a Spix's macaw flapped from the blade,
that singular bird of the new world, one
of a kind. A rare sight. And a sign, being
tail-feathers tapering out of view, being

blueness lost in the sun, being gone.

(Simon Armitage, February 2003)

Commentators have drawn parallels between the work of Armitage and Hughes. The inspiration they have derived from wildlife has led to powerful, accessible and important poems. It has been argued that Hughes' short experience of working at London Zoo led to some of his most influential work, including *The Jaguar*. Like Carson, his later work emphasized our responsibility to protect the environment.

Poetry and wildlife are similarly inspirational — if only we could keep the silent sound of extinction at bay.

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after study, he has shown that the picture was much more complex. Here, some of his key papers, which have been published in journals and academic works since 1987, are brought together in one volume. They show just how original and monumental is his contribution to our understanding of science in the Ottoman Empire.

The Ottomans ruled a vast empire that once stretched from the far shores of the Black Sea and the Persian Gulf in the east to Budapest in the north and Algiers in the west. They inherited, and were inspired by, developments in science and learning that took place in Muslim civilization during its

zenith, and looked towards this rich tradition for solutions to their intellectual and technical problems. And because they considered their own research and education systems to be self-sufficient, they were initially not keen to import science from Europe. This made sense because at the time science was at a similar level in Europe and the Ottoman Empire.

The Ottoman chief astronomer in the sixteenth century, Taqi al-Din, illustrates this rather well. The observatory he built in Istanbul during the reign of Sultan Murad III (1574–95) was one of the largest observatories in the Islamic world and was equipped

with the best instruments of the time. The elaborate structure included, besides the observatory itself, residential quarters, offices for the astronomers and a library. It was comparable to Tycho Brahe's Uraniborg Observatory, built off the coast of Denmark in 1576, and some of Taqi al-Din's instruments, in particular his sextant, bore striking similarities to those later invented by Brahe.

During this period, the Ottomans followed developments in the West with particular interest. They were quite adept at identifying new European technology that they needed. So they freely borrowed war technology and mining techniques, and