IN RETROSPECT

The Malay Archipelago

David Quammen re-enters the ‘Milky Way of land masses’ evoked by Alfred Russel Wallace’s masterpiece of biogeography.

The Malay Archipelago: the land of the orang-utan, and the bird of paradise; a narrative of travel, with studies of man and nature

ALFRED RUSSEL WALLACE

Macmillan/Harper Brothers: first published 1869.

Alfred Russel Wallace was arguably the greatest field biologist of the nineteenth century. He played a leading part in the founding of both evolutionary theory and biogeography (see page 162). He was also, at times, a fine writer. The best of his literary side is on show in his 1869 classic, *The Malay Archipelago*, a wondrous book of travel and adventure that wears its deeper significance lightly.

The Malay Archipelago is the vast chain of islands stretching eastward from Sumatra for more than 6,000 kilometres. Most of it now falls within the sovereignties of Malaysia and Indonesia. In Wallace’s time, it was a world apart, a great Milky Way of land masses and seas and straits, little explored by Europeans, sparsely populated by peoples of diverse cultures, and harbouring countless species of unknown plant and animal in dense tropical forests. Some parts, such as the Aru group of islands, just off the coast of New Guinea, were almost legendary for their remoteness and biological riches. Wallace’s journeys throughout this region, sometimes by mail packet ship, sometimes in a trading vessel or a small outrigger canoe, were driven by a purpose: to collect animal specimens that might help to answer a scientific question. That question was: if species evolve, what is the mechanism?

His Malay expedition began in 1854, five years before the publication of Charles Darwin’s *On the Origin of Species*. As he pursued his goal, oblivious to Darwin’s slow, secret theorizing, Wallace suffered one disadvantage that, paradoxically, proved advantageous: a need to earn money. He had no family funds such as those that had eased Darwin’s way. He paid his expenses by selling select specimens — pretty beetles and butterflies, stuffed birds and occasionally mammal skins — to museums and amateur collectors through an agent in London. So he had reason to take multiple individuals of the more striking species. He collected series, not just samples. From a riverside in southern Celebes he brought away “six good specimens” of *Papilio androcles*, a rare and beautiful swallowtail butterfly. And in Waigiou he harvested “twenty-four fine specimens” of *Paradisaea rubra*, the red bird of paradise. One effect of this redundant, commercial collecting was that he saw intraspecific variation laid out before him. ▶

“Wallace paid his expenses by selling specimens. So he collected series, not just samples.”

Birds of paradise, as illustrated in *The Malay Archipelago* in 1869.

► At a time when essentialist thinking (every species fixed, an ideal type) and the idea of special creations (each species shaped in a particular way by God) prevailed, even among most scientific naturalists, to see intraspecific variation was to take the first step towards an evolutionary theory.

Wallace travelled continuously among the islands for eight years (until 1862), and his mishaps, his hardships, his long weeks of illness and loneliness, his near-death scrapes, as well as his collecting and observing, are recounted in this vivid, encompassing book. From his jumping-off point in Singapore he proceeded to Borneo, then to Bali, then across the narrow, deep strait separating Bali from Lombok. From there he looped up to the Dutch entrepôt of Macassar, on the southwest tip of Celebes, which became his hub for further voyages around the archipelago.

He zigzagged from island to island — out east to the Aru cluster, back west to Sumatra and Java, up into the northern Moluccas and down south to Timor — depending

on his own whims and interests, but also on which way the monsoon winds were blowing or the next mail ship was heading. He took note of people and cultures, and recorded what intrigued him in his affable, bemused voice. Those parts of his book are as chatty and engaging as Samuel Pepys's diaries or James Boswell's *Life of Johnson*. And he continued his biological collections: an exquisite birdwing butterfly here, a giant beetle there, and, whenever possible, multiple specimens of each.

When the time came to combine his collecting notes with his anthropological observations and the diary of his many adventures and misadventures, Wallace recast the zig-zaggy muddle into a linear geographical structure. *The Malay Archipelago* proceeds from west to east — Singapore to Aru.

This structure serves well the implicit subjects of the book: biogeography and

"This book is a joyride through one of the most exotic, most remote regions of Earth."

evolution. Comparing the fauna of Bali with that of Lombok, Wallace laid the groundwork for one of his major contributions: the concept of Wallace's Line, the deep-water division between two major faunal realms, the Indo-Malay and the Australasian. Moving from Sumatra to Java to Borneo, he suggested (correctly) that those islands must once have been connected to the Asian mainland, resting high and dry on what we now call the Sunda Shelf. And he supported Darwinian theory, subtly rather than explicitly, by showing, in case after case, that only dispersal of ancestral forms, followed by isolation and evolutionary change, could explain the patterns of faunal distribution that his long labours had revealed. Special creations and essentialism just couldn't make sense of the Malay Archipelago.

But this book is not just a subtle compilation of data and argument. It is also a joyride through one of the wildest, most exotic, most remote regions of Earth that any Victorian explorer ever visited. There are deft descriptions of sensory experience, such as this on the taste of durian, the East's most notorious fruit: "A rich butter-like custard highly flavoured with almonds ... but intermingled with it come wafts of flavour that call to mind cream-cheese, onion-sauce, brown sherry, and other incongruities." There are moments of breathless drama, mostly involving not physical danger (about which Wallace tends to be matter-of-fact) but small, important triumphs, such as when he caught a new species of birdwing butterfly: "On taking it out of my net and opening the glorious wings, my heart began to beat violently, the blood rushed to my head, and I felt much more like fainting than I have done when in apprehension of immediate death." From his high points of discovery to his low points of misery, and through all the miles and days in between, Wallace is a companionable narrator with a dry wit, a keen eye, an inexhaustible curiosity and not a trace of self-pity. What more can readers ask of a literary and scientific traveller?

One thing is curiously absent from this long, brimming book. In recounting his stay on Ternate, in 1858, Wallace declined even to mention the world-altering idea — his theory of evolution — that he put to paper there. He could have crowed: in this place, at this time, I co-discovered natural selection. Evidently he didn't feel the need. By 1869, when *The Malay Archipelago* appeared, Wallace himself was a Darwinist. ■

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Some of the tropical butterflies that Wallace collected during his travels.

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