

4. Nature writing: Connecting science, language, and literature

After his return to Europe, Alexander von Humboldt went on to become a bestselling author, reporting about his observations and experiments during his South America expedition. In contrast to the sober¹ and technical, scientific publications of his time, Humboldt paid a great deal of attention to the overall narrative and the choice of his language, sometimes slipping into poetic forms of description. He did not describe natural phenomena in isolation, but in reference to their impact on humans and their senses. With this approach, he influenced many scientists and literary authors after him – including Charles Darwin, Henry David Thoreau and John Muir – and provided us with the prototype of the genre of nature writing.

Biographer Andrea Wulf describes Humboldt's literary style of fusing² observation and emotion in one of his best-known books, *Views of Nature*:

[*Views of Nature*] would be one of Humboldt's most widely read books, a bestseller that was eventually published in eleven languages. With *Views of Nature*, Humboldt created a completely new genre — a book that combined lively prose and rich landscape descriptions with scientific observation in a blueprint for much of nature writing today. Of all the books he would write, this remained Humboldt's favourite.

In *Views of Nature* Humboldt conjured³ up the quiet solitude⁴ of Andean mountaintops and the fertility⁵ of the rainforest, as well as the magic of a meteor shower and the gruesome⁶ spectacle of catching the electric eels⁷ in the Llanos⁸. He wrote of the 'glowing womb of the earth' and 'bejewelled⁹ riverbanks. Here a desert became a 'sea of sands', leaves unfolded 'to greet the rising sun', and apes¹⁰ filled the jungle with 'melancholy howlings'. In the mists at the rapids¹¹ of the Orinoco, rainbows danced in a game of hide-and- seek — 'optical magic', as he called it. Humboldt created poetic vignettes¹² when he wrote of strange insects that 'poured¹³ their red phosphoric¹⁴ light on the herb-covered ground, which glowed with living fire as if the starry canopy¹⁵ of heaven had sunk upon the turf¹⁶'.

This was a scientific book unembarrassed by lyricism. For Humboldt the prose was as important as the content and he insisted that his publisher was not allowed to change a single syllable lest¹⁷ the 'melody' of his sentences would be destroyed. The more detailed scientific explanations — which took up a large part of the book — could be ignored by the general reader because Humboldt tucked¹⁸ them away in the annotations at the end of each chapter.

In *Views of Nature* Humboldt showed how nature could have an influence on people's imagination. Nature, he wrote, was in a mysterious communication with our 'inner feelings'. A clear blue sky, for example, triggers¹⁹ different emotions than a heavy blanket of dark clouds. Tropical scenery, densely²⁰ filled with banana and palm trees, has a different effect than an open forest of white-stemmed²¹ slender²² birches. What we might take for granted today — that there is a correlation between the external world and our mood — was a revelation to Humboldt's readers. Poets had engaged with such ideas but never a scientist.

(*The Invention of Nature*, pp. 153-4)

Humboldt's literary style artfully combined different perspectives and scientific disciplines. In his book *Cosmos*, he skillfully switched from describing planetary constellations to microscopic details:

Cosmos was unlike any previous book about nature. Humboldt took his readers on a journey from outer space to earth, and then from the surface²³ of the planet into its inner core. He discussed comets, the Milky Way and the solar system as well as terrestrial²⁴ magnetism, volcanoes and the snow line of mountains. He wrote about the migration of the human species, about plants and animals and the microscopic organisms that live in stagnant²⁵ water or on the weathered surface of rocks. Where others insisted that nature was stripped of its magic as

humankind penetrated²⁶ into its deepest secrets, Humboldt believed exactly the opposite. How could this be, Humboldt asked, in a world in which the coloured rays of an aurora²⁷ 'unite in a quivering²⁸ sea flame', creating a sight so otherworldly 'the splendour²⁹ of which no description can reach'? Knowledge, he said, could never 'kill the creative force of imagination' — instead it brought excitement, astonishment and wondrousness³⁰.

(*The Invention of Nature*, p. 276)

His approach to communicating science was very innovative at the time and so Humboldt's works became literary models for authors and scientists who came after him, for instance U.S.-American writer Henry David Thoreau (1817-62):

What kind of science was this, Thoreau asked, 'which enriches the understanding, but robs the imagination'? This was what Humboldt had written about in *Cosmos*. Nature, Humboldt explained, had to be described with scientific accuracy but without being 'deprived³¹ thereby of the vivifying³² breath of imagination'. Knowledge did not 'chill the feelings' because the senses and the intellect

were connected. More than any other, Thoreau followed Humboldt's belief in the 'deeply-seated bond' that united knowledge and poetry. Humboldt allowed Thoreau to weave together science and imagination, the particular and the whole, the factual with the wonderful.

Thoreau continued to search for this balance. Over the years, the struggle became less intense, but he remained worried. One evening, for example when he had spent a day at a river, scribbling³³ page after page of notes on botany and wildlife, he finished the entry with the sentence: 'Every poet has trembled on the verge of science.' But as he plunged into Humboldt's writing, Thoreau slowly lost his fear. *Cosmos* taught him that the

collection of individual observations created a portrait of nature as a whole, in which each detail was like a thread in the tapestry³⁴ of the natural world. Just as Humboldt had found harmony in diversity, so too did Thoreau. Detail led to the unified whole or, as Thoreau put it, 'a true account of the actual is the rarest poetry.'

(*The Invention of Nature*, p. 291-2)