



## Wallace – Life in Biology – Evolutions forgotten Hero

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*...never to accept the disbelief of great men  
or their accusations of imposture or of imbecility,  
as of any weight when opposed to the repeated  
observation of facts by other men, admittedly sane and honest...*

Alfred Russel Wallace, 1893

**A**lfred Russel Wallace was born on January 8th 1823 in village of Llanbadoc near Usk, Monmouthshire, Wales and died on November 7th 1913 in Broadstone, Dorset, England at the age of 90 years. He was a British naturalist, explorer, geographer, anthropologist but most of all biologist. He was the third of four sons and eighth of nine children of Thomas Vere Wallace and Mary Anne Greenel. He was the discoverer of thousands of new tropical species, the first European to study apes in the wild, a pioneer in ethnography and zoogeography, and author of some of the best books on travel and natural history ever written, including *A Narrative of Travels on the Amazon and Rio Negro* (1853) and *The Malay Archipelago* (1869). Among his outstanding discoveries is “Wallace’s Line,” a natural faunal boundary between islands separating Asian animals from those evolved in Australia. Wallace is best known in history of science as founder of biogeography sometimes even called the father of biogeography. What is less known is that he independently conceived the theory of evolution through natural selection in some views even before Charles Darwin!

Wallace grew up poor and was always “an outsider” in the “gentlemen’s club” that constituted the scientific world of his day. Wallace’s father was a lawyer who experimented in literary ventures and made a series of terrible investments. By the time Wallace was thirteen years old, the family went bankrupt and his parents could no longer meet the expenses of his education. He was then sent to London to live with his older brother John and after a while with his oldest brother William who offered him a job as apprentice surveyor. In London Alfred attended lectures and read books at the London Mechanics Institute, a public research university specialized in evening higher education. At the London Mechanics’ Institute he also heard lectures of Robert Owen, the Welsh social reformer, which turned him against the British class system. One of turning points in his life was when he, due to difficult economic conditions, left job as surveyor and was hired as a master at the Collegiate School in Leicester to teach drawing, mapmaking, and surveying. Wallace spent many hours at the public library in Leicester where he read *An Essay on the Principle of Population* by Thomas Malthus one of crucial books in forming his idea about natural selection. Moreover there he met an entomologist Henry Bates (later one of the greatest

British entomologists) who sparked in him love for nature and biology. Two men become lifelong friends and start planning an expedition in the manner of Alexander von Humboldt and Darwin, whose “*Voyage of the Beagle*” had been published in 1839. Also he discovered geology and botany, purchasing, in 1841, a pamphlet on the structure of plants published by the Society for the Diffusion of Useful Knowledge.

Around that time Wallace definitely decided that he wanted to travel abroad as a naturalist. Before departure Wallace gave himself a crash course in flora and fauna, making local collecting trips and numerous visits to the British Museum. He also read everything on natural history that he could find, including Robert Chambers’s hugely influential book “*Vestiges of the Natural History of Creation*”. This notorious work, published anonymously in 1844, blended science and creationism and argued passionately for “transmutation” – the notion that present life had evolved from previous forms. This was not a new argument – Darwin’s grandfather Erasmus had suggested as much as two generations earlier; the missing key, which both Darwin and Wallace would supply, was the way that evolution worked.

In 1848, Wallace and Henry Bates left for Brazil aboard the ship *Mischief*. They reached Belém do Pará in May 1848. Their intention was to collect insects and other animal specimens in the Amazon rainforest and sell them to collectors back in the United Kingdom which was very lucrative business back then. Wallace also hoped to gather evidence of “the transmutation” of species (19th century evolutionary ideas for the altering of one species into another that preceded theory of natural selection.

Wallace and Bates spent most of their first year collecting near Belém do Pará but after explored inland separately, occasionally meeting to discuss their findings. In 1849, they were briefly joined by another young explorer, botanist Richard Spruce, along with Wallace’s younger brother Herbert. Herbert died two years later from yellow fever in Bates’s camp. Wallace went up the unknown Rio Negro. From 1848 until 1852, Wallace collected, explored, and made numerous discoveries despite malaria and fatigue. Exhausted and suffering from malaria Wallace in 1852 boarded ship for England. With him went his precious notebooks and sketches, an immense collection of preserved insects, birds, and reptiles, and a menagerie of live parrots, monkeys, and other animals.

On 12 July 1852, Wallace embarked for the England on the brig *Helen*. After 26 days at sea, the ship’s cargo caught fire and the ship sank. Wallace and crew were forced to abandon ship. After floating in an open boat in the Sargasso Sea, seven hundred miles from shore for ten days Wallace and crew were rescued by the brig *Jordeson*, which was sailing from Cuba to London. All of the specimens Wallace had on the ship were lost. He could save only part of his diary and a few sketches while his entire

private collection, including several hundred species new to science, had gone down with the ship. Wallace later wrote about that misfortune even in his autobiography called *My life*, “I began to think that almost all the reward of my four years of privation and danger was lost”.

After less than two years in England with the insurance money he received for part of his lost collections, he immediately set out on a new expedition. He was better known this time, and had proved himself both as a collector and as a surveyor. (His map of the Uaupés River remained in use for more than fifty years.) This earned him also the backing of the Royal Geographical Society for a trip to the Malay Archipelago, the vast chain of islands that make up present-day Singapore, Malaysia and Indonesia.

Wallace arrived in Singapore in 1854; he was thirty-one years old and was to remain in the Malay Archipelago for another eight years, gathering, according to Shermmer’s biography (2002), an “almost unimaginable 125,660 specimens, including 310 mammals, 100 reptiles, 8,050 birds, 7,500 shells, 13,100 butterflies, 83,200 beetles, and 13,400 other insects, over a thousand of which were new species.” The book that Wallace later wrote about this period, “*The Malay Archipelago*” is filled with the thrill and wonder of the hunt, as when he caught his first specimen of the butterfly *Ornithoptera croesus*. Wallace collected natural history specimens with an extraordinary passion. As he recounts in *The Malay Archipelago*: “I found . . . a perfectly new and most magnificent species [of butterfly]. . . . The beauty and brilliancy of this insect are indescribable, and none but a naturalist can understand the intense excitement I experienced. . . . 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 . . . like fainting . . . so great was the excitement produced by what will appear to most people a very inadequate cause.”

Wallace mastered Malay and several tribal languages, for he was intensely interested in “becoming familiar with manners, customs and modes of thought of people so far removed from the European races and European civilization.” A self-taught field anthropologist, he made pioneering contributions to ethnology and linguistics and developed “a high opinion of the morality of uncivilized races.” He later recalled with satisfaction that while he lived among them he never carried a gun or locked his cabin door at night. In addition to collecting, Wallace also wanted to put the seemingly infinite variety of nature’s pieces together into a puzzle so that as a historical scientist he could solve the riddle of what his friend and colleague, Charles Darwin, called the “mystery of mysteries” – the origin of species.

Unsurpassed as a collector, Wallace was also becoming a great conceptualizer. Only a year into his trip, while living under the protection of the “white Rajah of Sar-

awak” – an eccentric Englishman who ruled a little fiefdom on the northern coast of Borneo and who, Slotten claims, provided the model for Rudyard Kipling’s “*The Man Who Would Be King*” – Wallace formulated what became known as “the Sarawak Law.” His idea, which he published in 1855, approached a full-blown theory of evolution, concluding that “**every species has come into existence coincident both in space and time with a preexisting closely-allied species.**” He preliminarily concluded that this “clearly pointed to some kind of evolution.”

Wallace still didn’t know how it happened, but he was getting close. The article didn’t generate the interest that he had anticipated, but it caught the attention of Charles Lyell, the great geologist whose work was indispensable to both Darwin and Wallace. Lyell was a friend of Darwin’s, and after reading Wallace’s paper he not only began keeping his own species notebook but urged Darwin to publish something. He recognized that Wallace was closing in.

In early 1858, Wallace, while based on the island of Ternate, where he had gone in search of the elusive birds of paradise, was gripped by a fit of malarial fever. As he recalled in his autobiography, “At the time in question I was suffering from a sharp attack of intermittent fever, and every day during the cold and succeeding hot fits had to lie down for several hours, during which time I had nothing to do but to think over any subjects then particularly interesting me.” In Wallace’s case, this meant the origin of species. Wallace recalled waiting for the chills and the fever to subside, his mind throbbing with all the reading he had done, including Malthus’s “*Essay on the Principle of Population*,” that dark assessment of the way in which disease and famine keep human populations in check, and Lyell’s “*Principles of Geology*,” which emphasized the vast age of the earth and the possibility of tiny incremental changes becoming amplified over eons. Swirling around with these theories was Wallace’s own experience as a collector, which had given him ample opportunity to note that within each species there were often minute variations, which – in the spans of time that Lyell wrote about, and exposed to the struggles that Malthus described – might become new species if circumstances were favorable. When the fever and shaking subsided, Wallace had it. The fittest variations would survive, the least fit would perish, and new species would thus come into being. During the next two days, he wrote “*On the Tendency of Varieties to Depart Indefinitely from the Original Type*.” He then mailed the paper off to the man most likely to appreciate it – Charles Darwin!

In his own words: “It was during one of these fits, while I was thinking over the possible mode of origin of new species that somehow my thoughts turned to the “positive checks” to increase among savages and others described . . . in the celebrated *Essay on Population* by Malthus . . . I

had read a dozen years before. These checks – disease, famine, accidents, wars, etc. – are what keep down the population. . . . [Then] there suddenly flashed upon me the idea of the survival of the fittest . . . that in every generation the inferior would inevitably be killed off and the superior would remain. Considering the amount of individual variation that my experience as a collector had shown me to exist . . . I became convinced that I had at length found the long-sought-for law of nature that solved the problem of the origin of species. . . . On the two succeeding evenings [I] wrote it out carefully in order to send it to Darwin by the next post.” – *My Life* A.R.Wallace.

Darwin had not been especially impressed with Wallace’s Sarawak paper; despite Lyell’s excitement, Darwin had written “nothing new” in the margin. That was not his reaction when, on June 18, 1858, he received a package from Ternate containing Wallace’s new paper. That very day, he wrote to Lyell expressing his shock: “I never saw a more striking coincidence. . . . Even his terms now stand as heads of my chapters.” He added desperately, “So all my originality, whatever it may amount to, will be smashed.”

What followed has been called the “Delicate Arrangement.” The term, drawn from a phrase used by Huxley’s grandson, provides the title of a 1980 book by Arnold C. Brackman arguing that Darwin received Wallace’s paper earlier than he acknowledged, incorporated aspects of it into his own work, and then sent it on to Lyell pretending that it had just arrived. Much poring over postmarks and manuscripts is involved in this argument, but the recent biographies all make it pretty clear that, at its root, this was primarily an instance – perhaps the greatest one – of great minds thinking alike. But there’s no question that Hooker and Lyell – Darwin’s friends, both of whom were powerful and noble members of the Royal Society – took action to protect Darwin’s “priority.” And although Darwin wrote to Lyell that “I would far rather burn my whole book, than that he or any other man should think that I had behaved in a paltry spirit,” he turned the matter over to Lyell and Hooker with enough hints to help them resolve things favorably for him. Lyell and Hooker arranged a reading, at a meeting of the Linnean Society, on July 1, 1858, of three items: the first was an unpublished sketch by Darwin written in 1844; the second was a letter Darwin had written to a Harvard biologist in 1857 describing aspects of his theory; the final, making a sort of conclusion to Darwin, was Wallace’s paper.

Wallace, still in the Tropics, did not even know about the meeting; nobody told him until it was all over. When he found out, he expressed the humble satisfaction of a servant invited to eat at the master’s table, writing to his mother, “I sent Mr. Darwin an essay on a subject on which he is now writing a great work. He showed it to Dr. Hooker and Sir C. Lyell, who thought so highly of it that they immediately read it before the Linnean Society. This

assures me the acquaintance and assistance of these eminent men on my return home”. One wonders what he might have written had he known the reason for such speedy publication. But later, when he had discovered more of the circumstances, he retained his generosity, adding only that he wished he had been given a chance to proof his article.

The announcement of the Darwin-Wallace theory of evolution by means of natural selection was read at the Linnean Society and published in its journal in 1858; the following year Darwin completed the *Origin of Species* and rushed it into print. Wallace was informed of these developments while still in the Moluccas, and he wrote that he happily and graciously approved. When he returned to England in 1862, Darwin was still anxious about Wallace’s reaction, and was relieved to discover his “noble and generous disposition.” Later Wallace maintained that even if his only contribution was getting Darwin to write his book, he would be satisfied. But the fact remains that Wallace was not given an opportunity to exercise his nobility or generosity, since the joint publication was decided without anyone consulting with him.

Wallace had sent his paper to Darwin to help get it published. Unluckily for him, he sent it to the one person in the world who had a vested interest in not seeing in print. Lyell and Hooker intervened and a reading was arranged instead. Darwin’s paper was read first and he is the one we now remember as the man who came up with the idea of natural selection. Wallace should have got priority, but it was Darwin, the man with the connections, who got the glory.

One of extreme points of view regarding origin of modern Evolutionary theory based on natural selection goes as follows. While Charles Darwin sat on his revolutionary theory for 20 years, terrified of his conservative contemporaries, Wallace boldly set out to solve the great problem of the origin of species. Not afraid to announce unorthodox views, Wallace published a radically innovative theory of evolution (sans natural selection) in an 1855 paper. Then, while on the island of Ternate and prompted by thoughts about the local races, Wallace hit on the idea of the struggle for existence and natural selection. He immediately wrote up his theory and posted it to Darwin on the next mail steamer. Darwin, however, withheld the paper for perhaps two weeks before he let it become known. During this time, according to some, Darwin stole some ideas to use in his own otherwise identical theory. Rather than having Wallace’s paper published immediately on its own, which was normal practice at the time, Darwin’s friends cooked up a scheme to rob the working-class Wallace of his priority and instead put their friend Darwin first. Papers by both men were read at a scientific meeting in 1858, but Darwin is remembered as the discoverer of the theory because his contribution was placed first.

Wallace returned to England in 1862 and in the spring of 1866 he married Annie, the twenty-year-old daughter of his friend the botanist William Mitten. Two of their children, Violet and William, survived to adulthood (a third died in infancy). Wallace did fairly well when he came back to Britain and he produced an extremely popular book, *The Malay Archipelago*, which provides a vivid, highly readable account of his travels in the East Indies. At one point he admits to sleeping comfortably one night “with half-a-dozen smoke-dried human skulls suspended over my head.” Also after the publication of Darwin’s *On the Origin of Species*, Wallace became one of its biggest advocates. However in the late 1860s and 1870s, Wallace was very concerned about the financial security of his family. While he was in the Malay Archipelago, the sale of specimens had brought in a considerable amount of money, which had been carefully invested by the agent who sold the specimens for Wallace. However, on his return to the UK, Wallace made a series of bad investments in railways and mines that squandered most of the money, and he found himself badly in need of the proceeds from the publication of *The Malay Archipelago*.

Despite assistance from his friends, he was never able to secure a permanent salaried position. To remain financially solvent, Wallace worked grading government examinations, wrote 25 papers for publication between 1872 and 1876 for various modest sums, and was paid by Lyell and Darwin to help edit some of their own works.

In 1876, Wallace needed a £500 advance from the publisher of *The Geographical Distribution of Animals* to avoid having to sell some of his personal property. Darwin was very aware of Wallace’s financial difficulties and lobbied long and hard to get Wallace awarded a government pension for his lifetime contributions to science. When the £200 annual pension was awarded in 1881, it helped to stabilize Wallace’s financial position by supplementing the income from his writings. Some see this as Darwin’s act of redemption.

Apart from having immense role in shaping of modern theory of evolution and founding biogeography Wallace was maybe one of last “Renaissance type of scholars” and for sure one of greatest naturalists of all time. His work and interests go far and beyond biology per se, evolution or biogeography. What is less known is that Wallace’s extensive work in biogeography made him aware of the impact of human activities on the natural world. In *Tropical Nature and Other Essays* (1878), he warned about the dangers of deforestation and soil erosion, especially in tropical climates prone to heavy rainfall. In a 2010 book, the environmentalist Tim Flannery claimed that Wallace was „the first modern scientist to comprehend how essential cooperation is to our survival“, and suggested that Wallace’s understanding of natural selection and his later work on the atmosphere can be seen as a forerunner to modern ecological thinking.



In 1864, Wallace published a paper, “*The Origin of Human Races and the Antiquity of Man Deduced from the Theory of “Natural Selection”*”, applying the theory to humankind. Darwin had not yet publicly addressed this subject. He explained the apparent stability of the human populations by pointing to the vast gap in cranial capacities between humans and the great apes. Unlike some other Darwinists, including Darwin himself, he did not “regard modern primitives as almost filling the gap between man and ape”. He saw the evolution of humans in two stages: achieving a bipedal posture freeing the hands to carry out the dictates of the brain, and the recognition of the human brain as a totally new factor in the history of life. Wallace was apparently the first evolutionist to clearly recognize that. For this paper he won Darwin’s praise.

In his later years Wallace was imprudently honest about his religious and political beliefs. Outraged colleagues wanted to dismiss him as a “senile crank” for his strong advocacy of utopian socialism, pacifism, wilderness conservation, women’s rights, psychic research, phrenology, and spiritualism, as well as his campaign against vaccination. Spiritualism strongly influenced his ideas on human evolution, causing him to differ with Darwin in 1869 on whether natural selection could explain “higher intelligence” in man. Wallace thought the human mind was supernaturally introduced into an evolved ape from “the unseen world of Spirit.” He also rejected Darwin’s concept of “sexual selection,” which he dismissed as merely a special case of natural selection. Wallace believed that natural selection cannot account for mathematical, artistic, or musical genius, as well as metaphysical musings, and wit and humor in men. He eventually said that something in “the unseen universe of Spirit” had intervened at least three times in history. The first was the creation of life from inorganic matter. The second was the introduction of consciousness in the higher animals. And the third was the generation of the higher mental faculties in humankind. He also believed that the *raison d’être* of the Universe was the development of the human spirit. These views greatly worried Darwin, who argued that spiritual appeals were not necessary and that sexual selection could easily explain apparently non-adaptive mental phenomena. While some historians have concluded that Wallace’s belief that natural selection was insufficient to explain the development of consciousness and the human mind was directly caused by his adoption of spiritualism, other Wallace scholars have disagreed, and some maintain that Wallace never believed natural selection applied to those areas. After 1880 Wallace’s attention was increasingly spread amongst ever wider areas including a land nationalization campaign, anti-vaccination campaign, urban poverty, socialism, private insane asylums, militarism and life on other planets.

In 1886, Wallace began a ten-month trip to the United States to give a series of popular lectures. His lectures

outlined the theory of evolution by natural selection and the evidence that supported it. These lectures formed the basis of one of his most important books, *Darwinism* (1889). The book was perhaps the clearest and most convincing overview of the evidence for evolution produced in the nineteenth century, next to Darwin’s *Origin of species*, and remains an outstanding overview even today. He also spent a week in Colorado, exploring the flora of the Rocky Mountains and gathering evidence that would lead him to a theory on how glaciation might explain certain commonalities between the mountain flora of Europe, Asia and North America, which he published in 1891 in the paper “*English and American Flowers*”.

Wallace’s 1903 book *Man’s place in the universe* was the first serious attempt by a biologist to evaluate the likelihood of life on other planets. He concluded that the Earth was the only planet in the solar system that could possibly support life as we know it, mainly because it was the only one in which water could exist in the liquid phase. More controversially he maintained that it was unlikely that other stars in the galaxy could have planets with the necessary properties (the existence of other galaxies not having been proved at the time). His treatment of Mars in this book was brief, and in 1907, Wallace returned to the subject with a book *Is Mars Habitable?* to criticize the claims made by Percival Lowell that there were Martian canals built by intelligent beings. Wallace did months of research, consulted various experts, and produced his own scientific analysis of the Martian climate and atmospheric conditions. Among other things, Wallace pointed out that spectroscopic analysis had shown no signs of water vapor in the Martian atmosphere, that Lowell’s analysis of Mars’s climate was seriously flawed and badly overestimated the surface temperature, and that low atmospheric pressure would make liquid water, let alone a planet-girding irrigation system, impossible. Richard Milner comments: “It was the brilliant and eccentric evolutionist Alfred Russel Wallace who effectively debunked Lowell’s illusionary network of Martian canals”.

In 1905 he published his lengthy two volume autobiography *My life*. It remains the principal biographical source on Wallace.

There are and still is controversy over many ideas that Wallace mused upon.

Wallace opposed eugenics, an idea supported by other prominent 19th-century evolutionary thinkers, on the grounds that contemporary society was too corrupt and unjust to allow any reasonable determination of who was fit or unfit. In the 1890 article “*Human Selection*” he wrote “Those who succeed in the race for wealth are by no means the best or the most intelligent ...”. In 1898, Wallace wrote a paper advocating a pure paper money system, not backed by silver or gold, which impressed the economist Irving Fisher so much that he dedicated his 1920 book “*Stabilizing the Dollar*” to Wallace. Wallace wrote

articles on other social and political topics including his support for women's suffrage, and the dangers and wastefulness of militarism.

In 1898, Wallace published a book entitled *The Wonderful Century: Its Successes and Its Failures* about developments in the 19th century. The first part of the book covered the major scientific and technical advances of the century; the second part covered what Wallace considered to be its social failures including: the destruction and waste of wars and arms races, the rise of the urban poor and the dangerous conditions in which they lived and worked, a harsh criminal justice system that failed to reform criminals, abuses in a mental health system based on privately owned sanatoriums, the environmental damage caused by capitalism, and the evils of European colonialism. Wallace continued his social activism for the rest of his life, publishing the book *The Revolt of Democracy* just weeks before his death.

In the early 1880s, Wallace was drawn into the debate over mandatory smallpox vaccination. Wallace originally saw the issue as a matter of personal liberty; but, after studying some of the statistics provided by anti-vaccination activists, he began to question the efficacy of vaccination. Another factor in Wallace's thinking was his belief that, because of the action of natural selection, organisms were in a state of balance with their environment, and that everything in nature, even disease-causing organisms, served a useful purpose in the natural order of things; he feared vaccination might upset that natural balance with unfortunate results. Wallace and other anti-vaccinationists pointed out that vaccination, which at the time was often done in a sloppy and unsanitary manner, could be dangerous.

In 1881, Wallace was elected as the first president of the newly formed Land Nationalisation Society. In the next year, he published a book, *Land Nationalisation; Its Necessity and Its Aims*, on the subject. He criticized the UK's free trade policies for the negative impact they had on working-class people. In 1889, Wallace read *Looking Backward* by Edward Bellamy and declared himself a socialist. After reading "*Progress and Poverty*", the bestselling book by the progressive land reformist Henry George, Wallace described it as "Undoubtedly the most remarkable and important book of the present century."

Still another reason for Wallace's obscurity has something to do with phrenology. Wallace cracked one of the greatest scientific mysteries of all time but continued to believe throughout his long life that a stranger had read the riddle of his character by feeling the bumps on his head. Phrenology was one of several commitments - like his campaign against vaccination and his credulous defense of spiritualist mediums - that did not endear him to the scientific establishment, or to posterity.

In his last book, *Social Environment and Moral Progress* (1913), Wallace cataloged the horrors of the urban poor, colonial exploitation, and unchecked greed: "It is not too much to say that our whole system of society is rotten from top to bottom, and the Social Environment as a whole, in relation to our possibilities and our claims, is the worst that the world has ever seen." He was deeply saddened and outraged, as he wrote in *The Wonderful Century* (1898), by "reckless destruction of the stored-up products of nature, which is even more deplorable because more irretrievable."

Personally one of most interesting episodes from Wallace life shows the erudition and wit of great naturalist. In 1870, a Flat-Earth proponent named John Hampden offered a £500 wager (equivalent to about £41000 in present-day terms) in a magazine advertisement to anyone who could demonstrate a convex curvature in a body of water such as a river, canal, or lake. Wallace, intrigued by the challenge and short of money at the time, designed an experiment in which he set up two objects along a 10 km stretch of canal. Both objects were at the same height above the water, and he mounted a telescope on a bridge at the same height above the water as well. When seen through the telescope, one object appeared higher than the other, showing the curvature of the earth. The judge for the wager, the editor of *Field* magazine, declared Wallace the winner, but Hampden refused to accept the result. He sued Wallace and launched a campaign, which persisted for several years, of writing letters to various publications and to organizations of which Wallace was a member denouncing him as a swindler and a thief. Wallace won multiple libel suits against Hampden, but the resulting litigation cost Wallace more than the amount of the wager and the controversy frustrated him for years.

At his death, some of Wallace's friends suggested that he should be buried in Westminster Abbey, next to Darwin, but his wife followed his wishes and had him buried in the small cemetery at Broadstone, Dorset. His grave in Broadstone Cemetery is uniquely marked by a fossilized tree. Several prominent British scientists formed a committee to have a medallion of Wallace placed in Westminster Abbey near place where Darwin had been buried. The medallion was unveiled on 1 November 1915.

Michael Shermer, a historian of science who also made his PhD on Wallace, made a quantitative analysis of Wallace's publications in 2002. He found that Wallace had published 22 full-length books and at least 747 shorter pieces, 508 of which were scientific papers (191 of them published in *Nature*). He further broke down the 747 short pieces by their primary subjects as follows. 29% were on biogeography and natural history, 27% were on evolutionary theory, 25% were social commentary, 12% were on Anthropology, and 7% were on spiritualism and phrenology.

Since 2000, at least five biographies have been published: “*The Forgotten Naturalist*” by John Wilson; “*Alfred Russel Wallace: A Life*” by Peter Raby; “*In Darwin’s Shadow*” by Michael Shermer; “*The Heretic in Darwin’s Court*” by Ross A. Sloten; and “*An Elusive Victorian*” by Martin Fichman. In addition, two recent anthologies of Wallace’s own writing – “*Infinite Tropics: An Alfred Russel Wallace Anthology*” edited by Andrew Berry and introduced by Stephen Jay Gould and “*The Alfred Russel Wallace Reader*” edited by Jane R. Camerini and introduced by David Quammen – give a sample of his consummate writing style.

Joseph Conrad kept Wallace’s classic “*The Malay Archipelago*” on his night table, drawing on it in several of his own books, most notably “*Lord Jim*”. More recently, Sir David Attenborough has admitted reading the book as a schoolboy and credits it with stimulating his interest in the natural world.

Wallace carried modesty to extremes, even calling his own book on evolution *Darwinism* (1889). Had he been more ambitious and less generous, evolutionary science might have become known as “Wallaceism.”

Wallace remains controversial figure in the history of science. But above all he remains an inspiration as someone who could achieve extraordinary things through hard work, enthusiasm and independent thinking.

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