Who was Sir Ronald Ross?

The man behind the LSHTM's Ronald Ross Medal[1]

Sir Ronald Ross was born in 1857 at the British Army's Almora hill station in the North-West of India. At the age of 8 he was sent to live on the Isle of Wight with a great-uncle for schooling, entering St Bartholomew's medical school in 1874. He joined the Indian Medical Service in 1881, serving in India until 1899, although his time in India included two periods of furlough in Britain in 1888 and 1894. During the first period of furlough, he met and married his wife, Rosa Bessie Ross (neé Bloxam), with whom he had four children, and in the second period of furlough he met with Sir Patrick Manson, founder of the LSHTM, to discuss malarial transmission.

Work

Ross is most well-known for his work on malarial transmission and this work is the reason the LSHTM awards a medal in his name. On the 20th of August 1897, Ross discovered that mosquitos he had personally hatched from larvae were infected by the malaria parasite after feeding on the blood of an infected human. The following year, he was then able to demonstrate that newly infected mosquitos could go on to infect new hosts through the saliva in their bite. This was a landmark discovery in the prevention of malaria transmission and infection. As a result of his work in this area, Ross was elected to the Royal Society in 1901, awarded the Nobel Prize for medicine or physiology in 1902 (the first Briton to receive one), and knighted in 1911.

Apart from his medico-scientific work, Ross was also heavily engaged in mathematical investigations, which he began during his time in Madras c.1882 (Ross, 1923, p. 46). Ross was particularly interested in establishing a mathematical model of malarial transmission, about which he corresponded with Karl Pearson.

Ross was also a prolific writer of both novels and poetry, expressing in his *Memoirs* (1923) a regret that he did not spend more time on these passions. He meticulously kept the material he produced over the course of his lifetime, selling his personal archive in 1928 to Lady Houston D.B.E. for £2,000 (LSHTM – Ross/146/30). His poetry was collated into four main volumes: *Fables* (1907 and 1928), *Selected Poems* (1928), *In Exile* (1931), and *Lyra Modulata* (1931). Although much of his poetry remains unpublished and can only be accessed in the Ross Archive at the LSHTM and Ross Collection at the Royal College of Physicians & Surgeons of Glasgow, his poems can also be found scattered throughout his *Memoirs*. Whilst Ross's most notable novels include *The Child of Ocean* (1889), *The Spirit of Storm* (1896), and *The Revels of Orsera* (1920). *The Revels of Orsera* (1920) is described as having a cult following amongst some modern fantasy readers (Mcainsh, 2014). Alongside these accomplishments Ross was also involved in spelling reform, and was an amateur artist (Mcainsh, 2014). Ross's *Memoirs* (1923) reveals that much of this work was conducted during his spare time in India.

Charlotte Orr (2019) has looked at how Ross also used *Memoirs* to present himself as a pioneer for the rights of scientific researchers, particularly with respect to proper payment to cover the costs of research and additional researchers. Ross himself petitioned the British Government multiple times for financial remuneration after his discovery of the mosquito as the vector of transmission for malaria (Orr, 2019). In *Memoirs*, he also argued for better recognition and use of the results of scientific

[1] This research forms part of a wider project of ongoing work on the LSHTM's colonial origins and of key figures associated with the LSHTM in the colonial period.

research, lamenting the deaths that might have been prevented during the delayed implementation of Robert Koch's work on Cholera (Ross, 1923).

Connection to LSHTM

Ross, although he never taught or studied here, was professionally connected to the London School of Hygiene and Tropical Medicine in two ways. The first is in his relationship to LSHTM founder Patrick Manson, who has been described as a mentor to Ross (Taylor-Brown, 2014). Manson and Ross met in 1894, just before Ross returned to India in 1895, when Manson shared his theories about malaria transmission with Ross (Orr, 2019; Bynum, 2004). The two then corresponded regularly on the topic between 1895 and 1899, with Manson reporting the news of Ross's discovery to the British Medical Association and ensuring it was covered by *The Lancet* and the *BMJ*. W. F. Bynum has theorised that, had sharing Nobel prizes been the norm in 1902, "Ross would have shared his prize with one or two others" who had helped him work on the problem of malarial transmission, one of whom may have been Patrick Manson. However, their relationship later soured with a "jealous" Ross disparaging Manson's influence on his malaria work in Ross's 1930 publication *Memories of Patrick Manson* (Bynum, 2004).

The second connection between Ross and the LSHTM lies in the incorporation of the Ross Institute and Hospital for Tropical Diseases, originally based in Putney, into the School. The Ross Institute, founded in 1926, was formally incorporated as part of the School in 1934. The Institute's main role was the provision of medical support to colonial businesses, mostly mines and plantations, with the aim of reducing the number of working hours lost to illness.

Role in British colonialism

Ross's involvement in British colonialism extended into both personal and professional aspects of his life. Empire was almost a family business; W.F. Bynum tells us that "Ross's great-great-grandfather was a director of the East India Company, and his grandfather, father, and an uncle were soldiers in the Bengal army… [with] three of Ross's brothers continuing the family military tradition" (Bynum, 2004). Perhaps as a result of this family immersion in colonialism, Ross's *Memoirs* show a casual and throwaway approach to the concept of empire, usual amongst similar papers of this time, in his rendition of all the members of the Ross family who previously "went to India" (Ross, 1923, p. 3). This kind of language reveals that Ross saw the imperial military interventions, in which these family members would have been engaged, as both normal and unproblematic. However, Ross expressed his own interest in India in terms of disease prevention and cure, aiming to "banish… the ills which now afflict them by… scientific methods" (Ross, 1923, p. 44). Ross looked to achieve this both through his work in the Indian Medical Service and in the establishment of the Ross Institute, discussed above.

Ross, like many of his contemporaries, held views on the "natural" superiority of European, and particularly British, peoples in comparison to their Indian "subjects" – views on race and racial hierarchy which a larger majority would now find abhorrent today (Ross, 1923, p.17). Ross claimed that the British introduced "honesty, law, justice, order, roads, posts, railways, irrigation, hospitals, defence from external enemies, and, what is essential for civilisation, a final superior authority" to India (Ross, 1923, p. 17). However, Ross also described the Indian population and his various servants as "intelligent", "capable", "honest", and "hard-working" (Ross, 1923, pp. 42-43). This language is double-edged; whilst complimentary it also demonstrates paternalism rather than respect for those considered equal. In fact, he praised his own father for harbouring "no delusions about the equality and liberty of men" (Ross, 1923, p. 16).

This complexity in Ross's relationship with the British colonial project can be seen again in Ross's objection to what he considered to be the display made of Indian soldiers recuperating in Bournemouth. Ross argued that it was not acceptable "for our Indian soldiers to be kept on view like wild beasts" (LSHTM – Ross/134/35, p. 2), which can again be considered a form of benevolent paternalism, although rooted in a perceived superiority. However, the framing of this objection also displays Ross's concern for his self-image, demonstrating concern that he might be thought improper for allowing this treatment. It is possible that this objection was rooted not in a paternalistic concern for the welfare of Indian colleagues but in a concern that Ross's professional work might be linked to the display of individuals in freak shows in the late-nineteenth century, from which modern medicine had actively tried to distance itself (Marlene Tromp, *Victorian Freaks* (Columbus: Ohio State University Press, 2015)).

Views on women's suffrage

Ross also maintained views which we would emphatically support today. He expressed clear support for the women's suffrage movement in his 1920 speech to the annual meeting of the British Women's Patriotic League, in which he emphasised women's contributions during wartime, as well as previous failures in male leadership (Fullerton-Frost, 2015). In a piece for *Science Progress* titled 'Woman's Place in Nature', published under the pseudonym O.A. Craggs, and another for *Nation* titled 'Man and Women', Ross also extoled the value of women's work and their biological capabilities in comparison to the roles, actions, and abilities of men. Ross's sentiments here are again coloured by wider perceptions of the time, this time in relation to gender roles and differences; in all of these pieces he still argued that women were fundamentally different, although equally important, to men. Although these are views which emphasise differences between man and woman, Ross used them to demonstrate his point about an equal claim to suffrage. Today's feminism uses a similar tactic, turning back to some recognition of gendered bodily differences to argue for parity in medical care. However, our modern conception of these differences is not at all social, relating instead primarily to the production of hormones and their impact upon medication and medical trials (see Alison McGregor, *Sex Matters* (London: Quercus, 2020), pp. 141-152).

Ross was clearly a brilliant scientist whose contributions to public health were enormous and long-lasting. While the School's medal celebrates those achievements, it is important to do so in full recognition that Ross's colonialist beliefs and attitudes would be seen as abhorrently racist today.

Dr R. Martin
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Further reading

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